

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10001.

Comment Date: December 16, 2010 20:18:13PM

Solar Energy Development PEIS

Comment ID: SolarD10001

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

It's so easy to open up these lands to build huge black monstrosities on, and while were at it, to build these gigantic white fanblades on, however it is near impossible to KEEP OPEN the land for a guy to enjoy it's beauty and ride an atv across... Why is that?

Thank you for your comment, chris Engler.

The comment tracking number that has been assigned to your comment is SolarD11500.

Comment Date: April 14, 2011 08:07:29AM

Solar Energy Development PEIS

Comment ID: SolarD11500

First Name: chris

Middle Initial: J

Last Name: Engler

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Yay solar!

Thank you for your comment, Thomas Rogers.

The comment tracking number that has been assigned to your comment is SolarD11501.

Comment Date: April 14, 2011 08:31:42AM
Solar Energy Development PEIS
Comment ID: SolarD11501

First Name: Thomas
Middle Initial:
Last Name: Rogers
Organization: Sierra Club, National Parks Association
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

To whom it may concern:

It is important in moving to use natural and renewable energy sources that due consideration be given to siting facilities so that they do not compromise other natural beauty or assets, e.g., National Parks, National Monuments, National Recreation Areas, etc., should not be 'intruded' upon visually or by proximity to such facilities to degrade experiences in these national treasures. Wise decisions made early in planning and siting can and should eliminate or minimize deleterious impacts to preserve the national assets and irreplaceable treasures for future generations.

Thank you for your comment, April Atwoodr.

The comment tracking number that has been assigned to your comment is SolarD11502.

Comment Date: April 14, 2011 08:53:08AM
Solar Energy Development PEIS
Comment ID: SolarD11502

First Name: April
Middle Initial: D
Last Name: Atwoodr
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support an amended Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

I think that four of the proposed Solar Energy Zones (SEZ) should be changed because they threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. And finally, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Solar development is important, but our national parks are even more important and they need to be protected as natural areas for the public to enjoy, not developed as industrial areas to exploit. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Cuprzinski.

The comment tracking number that has been assigned to your comment is SolarD11503.

Comment Date: April 14, 2011 09:00:54AM
Solar Energy Development PEIS
Comment ID: SolarD11503

First Name: Michael
Middle Initial: A
Last Name: Cuprzinski
Organization:
Address: 80-000 Avenue 48,
Address 2: Space #47
Address 3:
City: Indio
State: CA
Zip: 92201
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm currently being trained to be a solar energy technician and should be receiving my NAB-CEP certification within the next few weeks. How would I go about becoming employed on a solar energy related project?

Thank you for your comment, Michael Cuprzinski.

The comment tracking number that has been assigned to your comment is SolarD11504.

Comment Date: April 14, 2011 09:01:17AM
Solar Energy Development PEIS
Comment ID: SolarD11504

First Name: Michael
Middle Initial: A
Last Name: Cuprzinski
Organization:
Address: 80-000 Avenue 48,
Address 2: Space #47
Address 3:
City: Indio
State: CA
Zip: 92201
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm currently being trained to be a solar energy technician and should be receiving my NAB-CEP certification within the next few weeks. How would I go about becoming employed on a solar energy related project?

Thank you for your comment, Ann Kennedy.

The comment tracking number that has been assigned to your comment is SolarD11505.

Comment Date: April 14, 2011 09:03:23AM
Solar Energy Development PEIS
Comment ID: SolarD11505

First Name: Ann
Middle Initial:
Last Name: Kennedy
Organization: Blue Sky Travel
Address: P O Box 1963
Address 2:
Address 3:
City: Telluride
State: CO
Zip: 81435
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I have visited the National Parks under consideration & know their beauty, serenity & uniqueness. Please conserve what we have for future generations, while doing the best possible thing for our environment, producing energy from the sun.

Thank you for your comment, Steve Mendoza.

The comment tracking number that has been assigned to your comment is SolarD11506.

Comment Date: April 14, 2011 09:09:38AM
Solar Energy Development PEIS
Comment ID: SolarD11506

First Name: Steve
Middle Initial:
Last Name: Mendoza
Organization:
Address:
Address 2:
Address 3:
City:
State: CT
Zip: 06067
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Renewable energy production in the most important issue concerning the survival of ours and many other's species. It seems logical to get going on this while we still have breathable air.

Thank you for your comment, doug franklin.

The comment tracking number that has been assigned to your comment is SolarD11507.

Comment Date: April 14, 2011 09:21:43AM
Solar Energy Development PEIS
Comment ID: SolarD11507

First Name: doug
Middle Initial:
Last Name: franklin
Organization:
Address: 195 D. Creek lane
Address 2:
Address 3:
City: Hayesville
State: NC
Zip: 28904
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I feel more effort should be placed on putting solar panels in peoples back yard or on their roof instead of concentrating them in large areas. This would eliminate redoing the national grid system with all the expense and destruction of the landscape. Doug F.

Thank you for your comment, Brian Ainsley.

The comment tracking number that has been assigned to your comment is SolarD11508.

Comment Date: April 14, 2011 09:29:59AM
Solar Energy Development PEIS
Comment ID: SolarD11508

First Name: Brian
Middle Initial:
Last Name: Ainsley
Organization:
Address: 5640 E. Bell Road
Address 2: #1052
Address 3:
City: Scottsdale
State:
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, National Wildlife Federation Action Fund.

The comment tracking number that has been assigned to your comment is SolarD11509.

Comment Date: April 14, 2011 09:39:04AM
Solar Energy Development PEIS
Comment ID: SolarD11509

First Name: National Wildlife Federation
Middle Initial:
Last Name: Action Fund
Organization: National Wildlife Federation Action Fund
Address: 11100 Wildlife Center Dr
Address 2:
Address 3:
City: Reston
State: VA
Zip: 20190
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: National Wildlife Federation Action Fund - 10401 Signers on Solar Energy Development PEIS - 4-13-2011.pdf

Comment Submitted:

The following comments are from 10,401 people who signed onto them through the National Wildlife Federation Action Fund. The names of all 10,401 signers is attached.

=====

Subject: Make Solar "Smart from the Start" to Protect Wildlife Habitat

The recently released Solar Energy Draft Programmatic Environmental Impact Statement is an important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal.

The Solar Energy Draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones.

While a process should be established to formally identify and review additional solar zones, until then additional public land outside the 24 zones should not be developed because:

- 1) the need for additional space for development has not been demonstrated and
- 2) the additional land has not been thoroughly examined for possible wildlife conflicts.

I also encourage the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development.

I believe that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy PEIS, we can ensure that we set the best precedent for solar energy development in our country.

Solar Energy Development PEIS Comments**National Wildlife Federation Action Fund****Names of 10,401 people who submitted identical comments**

Number	Last Name	First Name	Street	City	State	ZIP
1	Crouse	Gerrit	38 4th Ave	Nyack	NY	10960-2119
2	Landon	Thomas	200 E 33rd St	New York	NY	10016-4874
3	Pound	Don	1224 Hunt Club Ln	Media	PA	19063-2003
4	McKee	Sarah	9 Chadwick Ct	Amherst	MA	01002-2825
5	Girard	Ginger	58 Sadler St	Windsor Locks	CT	06096-1728
6	Ringgold	Chris	10 Marks Manor Ct	Randallstown	MD	21133-1304
7	Brown	Jeb P.	509 University Ave Apt 804	Honolulu	HI	96826-5008
8	Black	Celeste	4900 N Grand Ave Apt 207	Covina	CA	91724-1092
9	Steinhart	Carol	104 Lathrop St	Madison	WI	53726-4019
10	Stoy	Lucy N	2041 Sunburst Way	Reno	NV	89509-5811
11	Beale, Jr.	Howard K.	38 Bartlett St	Northborough	MA	01532-1635
12	Wiley	John	13025 Morehead	Chapel Hill	NC	27517-8449
13	Jones	Jane	610 Highland Dr	Rockwall	TX	75087-2835
14	Bernard	John	56 Mildred St	South Portland	ME	04106-2727
15	Gorrin	Eugene	2607 Frederick Ter	Union	NJ	07083-5603
16	Pilholksi	Frank	1 Nixon Rd	Framingham	MA	01701-3016
17	Ramirez	Trudy	320 Quincy St NE	Albuquerque	NM	87108-1345
18	Hale	Elizabeth	5348 E Decatur St	Mesa	AZ	85205-6504
19	Lowry	Lyn	6706 Poplar Ave	Takoma Park	MD	20912-4810
20	:Lewis	Alan	340 Avenida De Las Rosas	Encinitas	CA	92024-4716
21	A	Sandy	Gopher	St.Paul	MN	55128
22	A'Becket	Suzanne	21163 Patriot Way	Cupertino	CA	95014-5707
23	ADAMS	SPENCER	3707 Clarington Ave	Los Angeles	CA	90034-5843
24	ANSELL	MARTIN	8715 W West Knoll Dr	West Hollywood	CA	90069-4117
25	ARNETT	RENEE	310 W Nicholai St	Hicksville	NY	11801-3864
26	Aaron	Frank	5801 Pisa Ln	Frisco	TX	75034-2275
27	Aarsvold	Matthew	668 N Coast Hwy Ste 516	Laguna Beach	CA	92651-1513
28	Abadia	Betty	171 Goldfinch Ln	New Bern	NC	28560-9375
29	Abadia	Teos	708 NW Skyline Crest Rd	Portland	OR	97229-6833
30	Abair	Jacob	16519 Pomona Dr	Redford	MI	48240-2447
31	Abate	Alessandro	1291 Nightingale Ave	Miami Springs	FL	33166-3832
32	Abate	Andrew	253 Kramer Dr	Lindenhurst	NY	11757-5409
33	Abbott	Barbara M	147 Pilgrim Rd	Haverhill	MA	01832-2900
34	Abbott	Lawrence	433 Harlan St Apt 307	San Leandro	CA	94577-3541
35	Abboud	Donna	984 E 900 S	Saint George	UT	84790-5665
36	Abdelmonem	Christine	1000 Windsor Shores Dr	Columbia	SC	29223-1717
37	Abel	Judith	Zimmerhof	Basel	MI	48028
38	Abell	Martha	390 Pleasant Street	rome	PA	18837-9431
39	Abella	Olga	12129 N 675th St	Robinson	IL	62454-4227
40	Abendroth	James	11 River Rd	Bloomingtondale	NY	12913-1700
41	Abrams	Al	828 Beech Ave	Findlay	OH	45840-5002
42	Abrams	Alan	823 Marbella Ln W	Lantana	FL	33462-4746

Thank you for your comment, National Wildlife Federation Action Fund.

The comment tracking number that has been assigned to your comment is SolarD11510.

Comment Date: April 14, 2011 09:46:34AM
Solar Energy Development PEIS
Comment ID: SolarD11510

First Name: National Wildlife Federation
Middle Initial:
Last Name: Action Fund
Organization: National Wildlife Federation Action Fund
Address: 11100 Wildlife Center Dr
Address 2:
Address 3:
City: Reston
State: VA
Zip: 20190
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: National Wildlife Federation Action Fund - 171 Customized Comments on Solar Energy Development PEIS - 4-13-2011.pdf

Comment Submitted:

Attached are comments from 171 people who submitted customized comments on the solar energy development PEIS through the National Wildlife Federation Action Fund.

Their comments urge the Department of Interior to make solar energy "smart from the start" to protect wildlife habitat.

Thank you.

Solar Energy Development PEIS Comments

National Wildlife Federation Action Fund

Names of 171 people who submitted customized comments

No.	First Name	Last Name	Street	City	State	ZIP	Comment Text
1	Susan	Westervelt	PO Box 223	Deary	ID	83823-0223	The Solar Energy Draft Programmatic Environmental Impact Statement can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. A process should be established to formally identify and review additional solar zones, but public land outside the 24 zones should not be developed until the need for additional space is demonstrated, and additional land has been thoroughly examined for possible wildlife conflicts. I encourage the Department of the Interior to make sure that crucial wildlife habitats for big game and sage grouse are placed off-limits to development. I believe that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take steps to make sure that America's solar industry is wildlife-friendly.
2	Vince	L	129	oviedo	FL	32765	The Solar Energy Draft Programmatic Environmental Impact Statement is a very important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal. The Solar Energy Draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. While a process should be established to formally identify and review additions solar zones, until then additional public land outside the 24 zones should not be developed because: 1) the need for additional space for development has not been demonstrated and 2) the additional land has not been thoroughly examined for possible wildlife conflicts. I also encourage the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development. I believe that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy PEIS, we can ensure that we set the best precedent for solar energy development in our country.
3	Matthe w	Lipschik	1780 E 13th St	Brooklyn	NY	11229-1956	The Solar Energy Draft Programmatic Environmental Impact Statement is an important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal. The Solar Energy Draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. While a process should be established to formally identify and review additions solar zones, until then additional public land outside the 24 zones should not be developed because: 1) the need for additional space for development has not been demonstrated and 2) the additional land has not been thoroughly examined for possible wildlife conflicts. I also encourage the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development. There is no doubt that solar energy must be developed quickly in the United States; however, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy PEIS, we can ensure that we set the best precedent for solar energy development in our country.
4	Frances	O'Brien	335 NE Fircrest Pl	McMinnville	OR	97128-9016	The Solar Energy Draft Programmatic Environmental Impact Statement is an important step forward for solar energy development in the U.S. because it encourages renewable energy development while protecting wildlife. The designation of 24 Solar Energy Zones is one important way that the Solar Energy Draft PEIS accomplishes this goal. This draft PEIS can be made even stronger by limiting solar energy development to only the 24 Solar Energy Zones. A process should be established to formally identify and review additional solar zones, but until then additional public land outside the 24 zones should not be developed because: >>> need for additional space for development has not been demonstrated >>> additional land has not been thoroughly examined for possible wildlife conflicts. Also, I urge the Department of the Interior to make sure that in cases where crucial wildlife habitats for big game and sage grouse overlap with Solar Energy Zones, these critical habitat areas are also placed off-limits to development. Solar energy must be developed quickly in the United States. The best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is wildlife-friendly. With a strong Solar Energy EIS, we can ensure that we set the best precedent for solar energy development in our country.

Thank you for your comment, Hillary Buckingham.

The comment tracking number that has been assigned to your comment is SolarD11511.

Comment Date: April 14, 2011 09:50:05AM
Solar Energy Development PEIS
Comment ID: SolarD11511

First Name: Hillary
Middle Initial: G
Last Name: Buckingham
Organization: Self
Address: 173 Warburton Avenue
Address 2:
Address 3:
City: Hastings on Hudson
State: NY
Zip: 10706
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar development, but I agree with environmental groups that this must be done carefully. They should be developed in "Solar Energy Zones" that don't compromise the sanctity of our parks. That means listening to leading environmental groups to ensure that neither wildlife nor resources are harmed in the pursuit of solar energy. Overall however, I am pleased that solar energy is being expanded. We just need to do it in the right way.

Thank you for your comment, Naomi Zurcher.

The comment tracking number that has been assigned to your comment is SolarD11512.

Comment Date: April 14, 2011 10:09:49AM
Solar Energy Development PEIS
Comment ID: SolarD11512

First Name: Naomi
Middle Initial:
Last Name: Zurcher
Organization:
Address: 161 Columbia Hts
Address 2:
Address 3:
City: Brooklyn
State: NY
Zip: 112012154
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am pleased to learn that the Federal Government is embarking on Solar PEIS to identify locations that could support solar energy development.

As a forestry professional and a concerned citizen, I would suggest that siting an SEZ on wild or roadless lands or in areas with critical habitat for endangered or threatened flora and / or fauna or in areas where the SEZ would compromise water resources or wildlife corridors would be highly unacceptable and would greatly diminish those already depleted National Treasures, such as Death Valley and Joshua Tree National Parks and natural resources such as California's Iron Mountain.

I would therefore appreciate a thorough evaluation of each site with full consideration for existing sensitivity or usage before these lands are leased as an SEZ.

Thanking you, in advance, for your consideration of these comments and suggestions.

Thank you for your comment, Bruce & Michelle Hanson.

The comment tracking number that has been assigned to your comment is SolarD11513.

Comment Date: April 14, 2011 10:19:45AM
Solar Energy Development PEIS
Comment ID: SolarD11513

First Name: Bruce & Michelle
Middle Initial:
Last Name: Hanson
Organization:
Address: 12720 27th Ave N
Address 2:
Address 3:
City: Plymouth
State: MN
Zip: 55441
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My wife and I use the protected areas of our country, The National Parks, as our main source of travel and recreation. Recreation means to recreate oneself. In these sacred places we do just that. Everyone can benefit personally and spiritually from these places (our country's monumental buildings and holy cathedrals) only if they remain protected by all forms of pollution and development. Please find locations for our necessary solar and wind energy pursuits that do not compromise the best idea in American history.

Thank you for your comment, Bill Stokes.

The comment tracking number that has been assigned to your comment is SolarD11514.

Comment Date: April 14, 2011 10:34:02AM
Solar Energy Development PEIS
Comment ID: SolarD11514

First Name: Bill
Middle Initial:
Last Name: Stokes
Organization:
Address: 301 2nd St. N.
Address 2:
Address 3:
City: St. Petersburg
State: FL
Zip: 33701
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy must be fully utilized in our public lands since the present mentality in Washington is to drastically cut any significant incentives for the private sector. The public sector must set the example for the private to follow in terms of alternative energy utilization so the economy and effectiveness can be in plain view for all to see and demand this option to be universally available at an affordable cost. This shift can also create many jobs and lessen our reliance on fossil fuels, thus reducing pollution.

Thank you for your comment, Gerald Orcholski.

The comment tracking number that has been assigned to your comment is SolarD11515.

Comment Date: April 14, 2011 10:45:02AM
Solar Energy Development PEIS
Comment ID: SolarD11515

First Name: Gerald
Middle Initial:
Last Name: Orcholski
Organization:
Address: no postal mail
Address 2:
Address 3:
City: Pasadena
State: CA
Zip: 91104
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It would seem deserts are a perfect place for solar panels, but care must be taken to assure the life of desert tortoises and other wildlife living in the desert. We need to proceed with green energy, but we must give careful thought to it so we don't make our environment worse off.

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife.

Thank you for your comment, Ashlee McMillan.

The comment tracking number that has been assigned to your comment is SolarD11516.

Comment Date: April 14, 2011 10:49:53AM
Solar Energy Development PEIS
Comment ID: SolarD11516

First Name: Ashlee
Middle Initial: N
Last Name: McMillan
Organization: Green Energy News
Address: 2313 Bobby Ln
Address 2:
Address 3:
City: Santa Ana
State: CA
Zip: 92706
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe that, while renewable energy is a great alternative to dirty coal and oil, implementation should only occur when it doesn't compromise wildlife, scenery, water resources, archaeological sites, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. Please consider the environment and the American public when you make a decision on where these solar projects should be located. Thank you very much for your time.

Thank you for your comment, E Harris.

The comment tracking number that has been assigned to your comment is SolarD11517.

Comment Date: April 14, 2011 10:55:48AM
Solar Energy Development PEIS
Comment ID: SolarD11517

First Name: E
Middle Initial: T
Last Name: Harris
Organization:
Address: 47 High Street
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 191442116
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Andrea Guajardo.

The comment tracking number that has been assigned to your comment is SolarD11518.

Comment Date: April 14, 2011 10:55:55AM
Solar Energy Development PEIS
Comment ID: SolarD11518

First Name: Andrea
Middle Initial:
Last Name: Guajardo
Organization: Conejos County Clean Water, Inc.
Address: P.O. Box 153
Address 2:
Address 3:
City: Antonito
State: CO
Zip: 81120
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Public Comment Solar Energy Zones.doc

Comment Submitted:



Solar Energy PEIS

Argonne National Laboratory

9700 S. Cass Avenue

EVS/240

Argonne, IL 60439

April 15, 2011

To Whom It May Concern:

Conejos County Clean Water, Inc. ("CCCW") wants to thank the Bureau of Land Management (BLM) and Department of Energy (DOE) for the opportunity to comment on the Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in six southwestern states. CCCW would like to thank the agencies for commitment to real solar development as a way to improve overall energy management in the United States of America.

Please accept this as a formal public comment and statement of inquiry from CCCW related to the Draft Solar PEIS specifically pertaining to the two sites located in Conejos County, Colorado: Los Mogotes East, and Antonito Southeast. CCCW is a 501(c)(3) non-profit citizens' group, based in Antonito, Colorado, that is incorporated under the laws in the State of Colorado.

Background of CCCW and relationship to the Affected Environment

In June of 2010, concerned citizens incorporated into a Colorado non-profit organization, called CCCW. CCCW incorporated to promote awareness around health and environmental issues that affect residents in Conejos County. CCCW is comprised of ranchers, teachers, small business owners, and concerned citizens. CCCW has a thirteen board member steering committee, and 402 general members.

The San Luis Valley (SLV) in south central Colorado is one of the largest sub-alpine Valleys in the world, encompassing over 8,100 square miles. Hemmed in on the west by the San Juan Mountains, and on the east by the Sangre de Cristo Mountains, the SLV ranges in elevation from 7,000 to over 14,000 feet, and contains the headwaters of the Rio Grande River. The Rio Grande River rises in the San Juan Mountains to the west of the SLV, flows south into New Mexico and Texas and empties into the Gulf of Mexico.

The SLV has many unique biological features, including areas identified as Natural Heritage areas, and is home to six endemic insect species.

The SLV is 122 miles long and 74 miles wide. This largely agrarian and ranching community is a relatively stable population. Many of the residents are eighth-generation. The oldest parish in Colorado, Nuestra Señora de Guadalupe, Our Lady of Guadalupe, lies at the southern end of Conejos County. Conejos County is part of the Sangre de Cristo National Heritage Area. About sixty percent (60%) of Conejos County's population is minority, and pride in the Hispanic heritage is evident in everything from the names of the rivers, mountains, and towns, to the local Spanish/English radio

station. The median household income is less than half the national average at \$24,744, and 38 percent of the children live in poverty (US Census 2000).

The SLV is known for its potatoes and alfalfa, and also grows barley, lettuce, wheat, peas, and spring grains. It has been a farm and ranching community for over 150 years, and many of the residents work in agriculture, following in the footsteps of their parents and grandparents. Many of the farmers and ranchers still practice traditional methods. It is the highest irrigated mountain plateau in the world, with about 7000 high-capacity wells – over half of which are irrigation wells.

The SLV contains over 5 million acres, of which 3.1 million acres – about 59 percent -- are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). Conejos County contains over 825,000 acres, of which 528,000 acres - about 64 percent – are publicly owned (Forest Service, BLM, Fish & Wildlife Service, National Park Service, or state). This creates an important relationship between the public and private sectors in dealing with air and water quality issues in the SLV and Conejos County.

There are 18 incorporated towns in the SLV, many of which are located along the Rio Grande or its many tributaries. Six counties lie within this large geographical boundary. They are Alamosa, Rio Grande, Saguache, Mineral, Costilla, and Conejos. There are 21 villages and five incorporated towns in Conejos County. Conejos County is among the poorest counties in the country, and unemployment levels run above the state and national averages (Conejos County 10.5%; as of 2008-not including the chronically unemployed).

Conejos County is a populated area within the SLV where the Draft Solar PEIS was conducted; specifically, the Los Mogotes East and Southeast Antonito sites are in Conejos County near the incorporated towns of Romeo and Antonito respectively.

Draft Solar PEIS Document

CCCW recognizes this is a programmatic effort and much will have to be worked out in future site-specific National Environmental Policy Act (NEPA) analysis; however, CCCW sees many questions that are now “ripe” for evaluation and decisions. CCCW understands the Draft Solar PEIS is very broad-scale and aims primarily to decide:

1. Which BLM lands are not suitable for solar development
2. Which BLM lands are suitable for:
 - Solar Energy Zones (SEZ) = smaller area 21,000 acres all in the SLV
 - Zones Plus= larger area 150,000 acres in SLV and elsewhere in Colorado
 - Under “No Action” almost all BLM lands would remain open to solar development unless direct conflicts (wetlands, wildlife refuges, military, etc.)
3. Under what conditions (mitigations) should BLM and DOE decide to proceed into the next round of NEPA? For instance, BLM and DOE are already proposing:
 - No high-profile “power tower” systems
 - Be careful with bird impacts
 - No high water use systems
 - All projects need to go through local planning and zoning processes

Many of Conejos County members speak Spanish only or Spanish as their first language, and it would be helpful to provide project information to them in the regional colloquial Spanish. We respectfully request public meetings in Conejos County with a local Conejos County Spanish translator. Thank you for the detailed and thorough preparation of the Draft Solar PEIS document. The document was very large and expensive to print out. CCCW would like to respectfully request that a summary document for each state be created, comparative tables summarizing proposal and impacts for SLV only be created and both documents be available for the public to review and understand at public meetings. Of our 402 members only 70 have access to email and Internet, so CCCW would like to respectfully request that project documents be placed in libraries and post offices in Conejos County.

Purpose and Need

CCCW would like to inquire if the Draft Solar PEIS assumes a traditional “Large Utility” development model that devalues local efforts, and promotes a boom-bust energy cycle creating: maximum environmental impacts, least local benefits, and a push for additional transmission over La Veta Pass? Additionally, CCCW inquires if the Final Solar PEIS will include the “Distributed Generation” (DG) model for solar development as a viable approach in the SLV, recognize that locally based generation and use is a way to promote reliability and redundancy, and evaluate unfair regional business models that make DG difficult to integrate into local and regional grids?

Array of Alternatives

CCCW would like to inquire about the two action alternatives proposed in the Draft Solar PEIS, is it presumed that massive new transmission over La Veta Pass is approved? Will the Final Solar PEIS include a No- La Veta Pass Alternative that recognizes that project may not be approved?

CCCW has reviewed the project documentation for Los Mogotes East and Antonito Southeast, CCCW notices in both Affected Environment and Impact Assessment for Proposed Solar Energy Zones in Colorado that both transmission and storage need to be upgraded. With the above two questions unanswered CCCW would like the BLM and DOE to consider another alternative (No – La Veta Pass Alternative) in their analysis:

- Cap the total power generation goal in the SLV, from sources, to equal the amount needed locally (at reduced rate?) plus the amount that can reasonably be transmitted out of the SLV over Poncha Pass. This does not force the development of the La Veta Transmission, since that project is undecided at this point in time.
 - So if SLV needs 150 MW locally, and we can transmit 400 MW out of the SLV over Poncha Pass, then the SLV cap should be 650 MW generation.
 - Emphasize efficiency, conservation, and “smart grid” technologies.
 - Consider mini-hydro and other technologies to round out energy portfolio.
 - Add energy storage at all substations

- Phase in energy development to promote long-term jobs and revenue.
- Work with governor's office and DOE to better understand options.
- Use zoning, annexation, and other incentives to guide energy-related companies to locate offices on "Main Street" rather than in construction trailers on county or federal lands.
- Use incentives to guide energy-related companies to hire local staff and construction workers. When importing labor, companies should give priorities to families who would live in town rather than "man-camps."
- Schedule energy construction work to avoid harvest season to expand opportunities for local workers.
- Any new or existing infrastructure upgrades be performed in a way that eliminates the exposure of Conejos County residents to electromagnetic frequencies.

Infrastructure

CCCW would like to inquire if the Final Solar PEIS will identify and evaluate different infrastructure layouts in the SLV comparing; 1) large utility scale solar development and 2) locally based DG combined with BLM based DG capped at Poncha Pass transmission potential? Will the Final Solar PEIS consider other transmission options including toward the south? Will the Final Solar PEIS consider improving transmission over Poncha Pass including: 1) allowing power to flow out of the SLV as well as in, 2) "Reconductoring" the existing lines, and 3) Power storage at all substations?

Socio-Economics

CCCW welcomes solar development and is interested to learn more about the socio-economic impacts of solar development.

For example, job creation and the inquiry that there is a boom-bust cycle in job-development models now shared in the media. Please answer in the Final Solar PEIS if:

- Solar development on BLM lands will require cautious phasing that would promote long-term, locally based jobs in Conejos County? If BLM lands could be developed over 10-20 years for instance?
- The BLM and DOE will discuss job-multipliers in more detail and what could be expected in Conejos County?
- The BLM and DOE will discuss the effects of solar materials created or assembled in the SLV versus imported from elsewhere?
- The BLM and DOE will consider that local firefighters, first responders, and the La Jara hospital would need to be equipped with the proper gear and training to handle any hazardous materials incidents?

Another example, revenue and the inquiry that BLM and DOE solar development would occur under Right of Way (ROW) contracts that offer less revenue-sharing opportunities than other approaches such as lease contracts. Please answer in the Final Solar PEIS if:

- The BLM and DOE will change the contracting approach to allow for more equitable revenue sharing?

- The BLM and DOE will offer guidance on successful revenue sharing approaches?
- Phasing will be addressed?
- The BLM and DOE will discuss the socio-economic impacts of ROW versus leasing contracts?
- The BLM and DOE will discuss what happens to the Payment in Lieu of Taxes to Conejos County?

A final example, Services – the BLM and DOE SEZs are in different parts of Conejos County and would thus strain various parts of the local service infrastructure differently. This includes schools, health/clinics including emergency services, road and bridge, and other municipal management. Please answer in the Final Solar PEIS if:

- The BLM and DOE will discuss phasing and better revenue sharing as discussed above, offer guidance on upgrading services particular to the solar industry?

Tourism and hunting are critical to the economic development and stability of our region, and people come to Conejos County for the peace and quiet it offers. CCCW requests that the following be considered to protect our already struggling economy:

- Emphasize DG projects that would create abundant power in smaller increments (<20MW) on lots of smaller pieces of ground that fit better into existing land use such as irrigation corners, sites that are already disturbed, as well as BLM lands. Also, please include smaller sites owned by towns, Conejos County, and school districts that can help reduce electrical costs.

- Phased approach of 10-30 MW per year for 10-20 years to avoid boom-bust and promote permanent jobs and revenues for Conejos County residents.
- Aim first to improve local efficiencies and generate enough power to satisfy local needs, and then build generation up to the total amount that can be transmitted out of the SLV over Poncha Pass.
- Encourage local power authority that can manage power so SLV is not beholden to regional power companies.
- Develop proactive revenue sharing methods so that reasonable funding can go to:
 - Conejos County school districts K-12; also technical training at local colleges
 - Conservation of water, soil, and wildlife habitat
 - Health and human services
 - Road and bridge
 - Conejos County

Natural Resources

CCCW appreciates the BLM and DOE citing effort that places the SEZs on land with relatively low ecological value but every acre is still part of the greater Conejos County and SLV ecosystem.

Geology and Soils

CCCW would like to let the BLM and DOE know that soils are shallow. Will there be a loss of remaining soil structure including carbon-capture mechanisms? CCCW

would like to request that BLM and DOE: prohibit typical over-lot grading (100% soil disturbance) and promote conservation of intact patches, stabilize disturbances immediately, and conserve and re-use all topsoil materials immediately.

Some residents who have already experienced large scale solar development in the SLV report that there is less sand blowing around near the solar development. CCCW would like to respectively request that BLM and DOE understand and access the patterns of wind and sand deposits in the Conejos County and the negative impacts that could be imposed on the agrarian community.

Water

CCCW agrees with BLM's and DOE's proposed call for low-water use facilities only and thank the BLM and DOE for avoiding wetlands and open water. CCCW would like to request that the BLM and DOE develop water-wise guidelines for solar development.

Vegetation/Landscape/Reclamation

It is very difficult to xeriscape in Conejos County and the SLV. CCCW would like to request that the BLM and DOE develop conservation guidelines including buffer strips and shrub windrows, and please maintain native vegetation along solar-panel drip lines.

Air Quality

Dust is a huge issue in Conejos County and the SLV. CCCW would like to request that the BLM and DOE: prohibit over-lot grading, promote conservation of existing soils and vegetation, use dust-inhibitors on open ground, and evaluate impacts on burning solar panels on air quality (wildfire situation).

Wildlife

Conejos County has enormous wildlife values that should not be reduced. Both SEZs in Conejos County would impact open range for large mammal movement including antelope. Solar development should be coordinated with wildlife conservation.

Our region is known for its game animal hunting grounds, and CCCW appreciates that the BLM and DOE assess any impacts to game animals, such as disruptions to rut and calving for the elk; and these sensitive cycles for the elk population are so significant and well known that particular roads are closed throughout Colorado during certain times of the year, particularly in the Spring, specifically to protect the calving areas, as tranquility during this time is critical for their survival.

Conejos County is in the avian flyway for migrating birds, so CCCW thanks the BLM and DOE for considering solar systems that consider bird impacts. The Migratory Bird Conservation Act (16 USC 712d) was legislated to protect birds in essential flyways; and there is an essential central flyway corridor in our area where, during Spring and Fall, our National Wildlife Refuges in southern Colorado attract more than 15,000 ducks, 8,000 Canada Geese, 5,000 Snow and Ross's Geese, and 2,500 Sandhill Cranes; and where some of the species are protected under the Endangered Species Act (e.g., Bald Eagle, Whooping Crane, Willow Flycatcher, Least Tern, and Mountain Plover); and where there are Candidate Species which are part of this historic range, as well as other Species of Concern (e.g., Pale Townsend Big-Eared Bat, Occult Little Brown Bat, Baird's Sparrow, Black Tern, Ferruginous Hawk, Loggerhead Shrike, Northern Goshawk, Broad-

billed Hummingbird, Gray Vireo, Peregrine Falcon, and Swift Fox) – all of whom could have their migrating patterns, mating patterns, and reproductive patterns negatively affected by tower systems, so again CCCW thanks the BLM and DOE for not considering “power tower” systems.

CCCW would like to request that BLM and DOE develop conservation design to promote continuous wildlife movement across SEZs, maintain pods of conservation habitat within solar facilities, and evaluate impacts of high-flying waterfowl mistaking solar facilities as water bodies.

Natural History and Cultural Resources Management

Conejos County has enormous natural history values including being part of the Sangre de Cristo National Heritage Area, and long human use. CCCW supports BLM’s and DOE’s efforts to assure all development is done with respect to natural history and cultural values. CCCW also supports BLM’s and DOE’s efforts to conserve areas of moderate to high probability of natural and cultural resources.

Visual Impacts

CCCW supports the BLM’s and DOE’s decision to avoid high-profile “power tower” type technologies.

Public Health

CCCW would like to request that any development adequately address the health impacts from exposure to electromagnetic frequencies, hazardous materials incidents, accidents by including protective buffers around facilities and transmission lines, develop proper guidelines for distances from homes, schools, etc., define

potential transmission corridors that avoid homes, schools, etc., and develop guidelines for communities to zone properly to maintain protections.

CCCW would like to request that a representative from the Town of Antonito, Town of Romeo and the Conejos County Board of Commissioners be added as cooperating agency officials for further NEPA analysis for SEZs. Thank you for your careful consideration of CCCW's comments and statement of inquiry. Please keep us informed of any upcoming public meetings in the SLV and Conejos County. We can be reached via email at info@conejoscountycleanwater.org or via phone at 720-939-9948.

Respectfully submitted,

Mary Alice Trujillo, Chair

Andrea Guajardo, Board Member

Cc:

Gail Schwartz – State Senator

Ed Vigil – State Representative

Erin Minks – Representative for U.S. Senator Mark Udall

Brenda Felmlee – Representative for U.S. Congressman Scott Tipton

Charlotte Bobicki – Representative for U.S. Senator Michael Bennet

John Sandoval – Conejos County Commissioner

Mike Trujillo – Antonito Town Mayor

Don Martinez – Romeo Town Mayor

Conejos County Clean Water Inc.
P.O. Box 153
Antonito, CO 81120
www.conejoscountycleanwater.org

Thank you for your comment, Carol Walker.

The comment tracking number that has been assigned to your comment is SolarD11519.

Comment Date: April 14, 2011 10:56:45AM
Solar Energy Development PEIS
Comment ID: SolarD11519

First Name: Carol
Middle Initial: A
Last Name: Walker
Organization:
Address: 29 Jefferson Street
Address 2:
Address 3:
City: Winthrop
State: MA
Zip: 021522169
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Four proposed solar energy zones are threatening our National Parks, so please take these steps the National Wildlife Federation has found to be necessary: reconfigure the Joshua Tree Nat'l park to lessen impact on wildlife corridors; remove the Iron Mtn. SEZ which severely impacts the same park; reduce or reconfigure the Amargosa Valley SEZ to reduce impacts to Death Valley's wilderness & precious water resources, including desert wetland where endangered species such as the Desert Hole's Pupfish; and at the Red Sands SEZ, fix the situation of the water resources being threatened along with critical impacts to wildlife and desert dunes at the White Sands Nat'l Monument.

Thank you for your comment, John White.

The comment tracking number that has been assigned to your comment is SolarD11520.

Comment Date: April 14, 2011 10:58:18AM
Solar Energy Development PEIS
Comment ID: SolarD11520

First Name: John
Middle Initial:
Last Name: White
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the Solar Energy Zones under the following conditions.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Thank you for your comment, Richard Cole.

The comment tracking number that has been assigned to your comment is SolarD11521.

Comment Date: April 14, 2011 11:02:30AM
Solar Energy Development PEIS
Comment ID: SolarD11521

First Name: Richard
Middle Initial: B
Last Name: Cole
Organization:
Address: 170 Short Hills Ave.
Address 2:
Address 3:
City: Springfield
State: NJ
Zip: 07081
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As an inveterate visitor to national parks, I would strongly support the Solar Energy Zone alternative for concentrating solar development on land areas that do not conflict with national park resources and sensitive desert ecology if it is suitably amended.

It seems that the Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

In addition the Iron Mountain SEZ should be removed in order to avoid impacts to Joshua Tree National Park.

Reduction and reconfiguration of the Amargosa Valley SEZ is also necessary in order to reduce negative impact on wilderness and precious water resources in Death Valley'.

Finally, the Red Sands SEZ seems to threaten water resources desert dunes at White Sands National Monument.

It would seem that any proposed solar projects sited within 15 miles of a national park boundary should trigger consultations with the National Park Service concerning impacts or threats to national park resources or visitor enjoyment.

It is also vital that the Bureau of Land Management include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Melissa Allen.

The comment tracking number that has been assigned to your comment is SolarD11522.

Comment Date: April 14, 2011 11:13:04AM
Solar Energy Development PEIS
Comment ID: SolarD11522

First Name: Melissa
Middle Initial:
Last Name: Allen
Organization:
Address: 8405 SW 156 Street
Address 2:
Address 3:
City: Palmetto Bay
State: FL
Zip: 33157
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joe Orr.

The comment tracking number that has been assigned to your comment is SolarD11523.

Comment Date: April 14, 2011 11:13:21AM
Solar Energy Development PEIS
Comment ID: SolarD11523

First Name: Joe
Middle Initial:
Last Name: Orr
Organization:
Address:
Address 2:
Address 3:
City: Floresville
State: TX
Zip: 78114
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects located within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Melissa Pappas.

The comment tracking number that has been assigned to your comment is SolarD11524.

Comment Date: April 14, 2011 11:21:33AM
Solar Energy Development PEIS
Comment ID: SolarD11524

First Name: Melissa
Middle Initial: H
Last Name: Pappas
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ada Southerland.

The comment tracking number that has been assigned to your comment is SolarD11525.

Comment Date: April 14, 2011 11:24:53AM
Solar Energy Development PEIS
Comment ID: SolarD11525

First Name: Ada
Middle Initial: L
Last Name: Southerland
Organization:
Address: 1101 Phil's Ridge Rd
Address 2:
Address 3:
City: Chapel Hill
State: NC
Zip: 27516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sean Sullivan.

The comment tracking number that has been assigned to your comment is SolarD11526.

Comment Date: April 14, 2011 11:56:07AM
Solar Energy Development PEIS
Comment ID: SolarD11526

First Name: Sean
Middle Initial: R
Last Name: Sullivan
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, chrisiina little.

The comment tracking number that has been assigned to your comment is SolarD11527.

Comment Date: April 14, 2011 12:06:29PM
Solar Energy Development PEIS
Comment ID: SolarD11527

First Name: chrisiina
Middle Initial:
Last Name: little
Organization:
Address: onekirkwoodct
Address 2:
Address 3:
City: mtlareel
State: NJ
Zip: 08054
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We have to protect this earth

Thank you for your comment, James Sorrells.

The comment tracking number that has been assigned to your comment is SolarD11528.

Comment Date: April 14, 2011 12:17:31PM
Solar Energy Development PEIS
Comment ID: SolarD11528

First Name: James
Middle Initial:
Last Name: Sorrells
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We have an obligation to future generations to protect and preserve our environmental resources. Any other course of action leaves them with a broken future. "National parks and reserves are an integral aspect of intelligent use of natural resources. It is the course of wisdom to set aside an ample portion of our natural resources as national parks and reserves, thus ensuring that future generations may know the majesty of the earth as we know it today."

--John F. Kennedy

Thank you for your comment, robin blier.

The comment tracking number that has been assigned to your comment is SolarD11529.

Comment Date: April 14, 2011 12:19:53PM
Solar Energy Development PEIS
Comment ID: SolarD11529

First Name: robin
Middle Initial:
Last Name: blier
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need to invest in more solar & wind energy.
Nuclear energy plants should be shut down.
They are too dangerous & expensive to operate as we have seen in Japan recently.

Thank you for your comment, susi fogli.

The comment tracking number that has been assigned to your comment is SolarD11530.

Comment Date: April 14, 2011 12:20:51PM

Solar Energy Development PEIS

Comment ID: SolarD11530

First Name: susi

Middle Initial: s

Last Name: fogli

Organization:

Address: apto. 1301

Address 2:

Address 3:

City: Ibiza

State:

Zip:

Country: ESP

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

solar energie is the only way to future.

Thank you for your comment, Stephen Dutschke.

The comment tracking number that has been assigned to your comment is SolarD11531.

Comment Date: April 14, 2011 12:32:30PM
Solar Energy Development PEIS
Comment ID: SolarD11531

First Name: Stephen
Middle Initial: W
Last Name: Dutschke
Organization:
Address: 4306 Darbrook Rd
Address 2:
Address 3:
City: Louisville
State: KY
Zip: 402072846
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jean Crossley.

The comment tracking number that has been assigned to your comment is SolarD11532.

Comment Date: April 14, 2011 12:39:52PM
Solar Energy Development PEIS
Comment ID: SolarD11532

First Name: Jean
Middle Initial:
Last Name: Crossley
Organization:
Address: Box 1185
Address 2:
Address 3:
City: Winters
State: CA
Zip: 95694
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I have had the privilege of seeing sea turtles lay their eggs. We must protect them.

Thank you for your comment, Charlene Rush.

The comment tracking number that has been assigned to your comment is SolarD11533.

Comment Date: April 14, 2011 12:46:54PM
Solar Energy Development PEIS
Comment ID: SolarD11533

First Name: Charlene
Middle Initial:
Last Name: Rush
Organization:
Address: 2670 Thoroughbred Ct. #835
Address 2:
Address 3:
City: Allison Park
State: PA
Zip: 15101
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our nation cannot afford to build nuclear power plants. If insurance companies will not insure them, what does that tell you about their safety? There is no safe radiation!!!

Thank you for your comment, Paula Menyuk.

The comment tracking number that has been assigned to your comment is SolarD11534.

Comment Date: April 14, 2011 12:58:13PM
Solar Energy Development PEIS
Comment ID: SolarD11534

First Name: Paula
Middle Initial:
Last Name: Menyuk
Organization:
Address: 162 Mason Terrace
Address 2:
Address 3:
City: Brookline
State: MA
Zip: 024462772
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed where it will not bring harm to the environment and wild life.

Thank you for your comment, Barbara Scholtz.

The comment tracking number that has been assigned to your comment is SolarD11535.

Comment Date: April 14, 2011 13:04:54PM
Solar Energy Development PEIS
Comment ID: SolarD11535

First Name: Barbara
Middle Initial: L
Last Name: Scholtz
Organization: National Parks Conservation Asso.
Address: 8439 Mizner Circle East
Address 2:
Address 3:
City: Jacksonville
State: FL
Zip: 322174326
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for installing solar energy in our National Parks. However, I urge the commission to involve the National Parks Coconservation Asso. in the decision as to where these solar panels will be installed so as not to negatively impact the animals and park flora and fauna.

Thank you for your comment, Jackie Branagan.

The comment tracking number that has been assigned to your comment is SolarD11536.

Comment Date: April 14, 2011 13:06:54PM
Solar Energy Development PEIS
Comment ID: SolarD11536

First Name: Jackie
Middle Initial: D
Last Name: Branagan
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I think solar energy in the parks is the very best thing we could do - for the clean economy, for the parks and all the visitors there, and for the environment.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11537.

Comment Date: April 14, 2011 13:18:04PM
Solar Energy Development PEIS
Comment ID: SolarD11537

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Herbert Vater.

The comment tracking number that has been assigned to your comment is SolarD11538.

Comment Date: April 14, 2011 13:18:29PM
Solar Energy Development PEIS
Comment ID: SolarD11538

First Name: Herbert
Middle Initial:
Last Name: Vater
Organization: Plattform für Demokratie
Address: Badallee 2
Address 2:
Address 3:
City: Tönning
State:
Zip:
Country: DEU
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy has to be developed quickly, that we can get out of nuclear energy as soon as possible.

Herbert Vater
Naturopath

Thank you for your comment, mindy bradburn.

The comment tracking number that has been assigned to your comment is SolarD11539.

Comment Date: April 14, 2011 13:21:43PM
Solar Energy Development PEIS
Comment ID: SolarD11539

First Name: mindy
Middle Initial:
Last Name: bradburn
Organization:
Address: 1770 nursery road
Address 2:
Address 3:
City: the woodlands
State: TX
Zip: 77380
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11540.

Comment Date: April 14, 2011 13:31:00PM
Solar Energy Development PEIS
Comment ID: SolarD11540

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment: Environment letter.docx

Comment Submitted:

Dear PEIS,

The desert is a wondrous place; one never knows what you will find here. This desert is made of sand but each grain of sand makes this place I call home. I have been raised here for the past fifteen years of my life. This is a place; one can raise a family away from the city life.

This desert is full of mountains and palm trees that leave its people in awe. Animals that come back for warmth this desert provides. For its everyday life that need this desert warmth. This is a place I feel safe and know that it's a place where I can feel the breeze go through my hair and think in silence.

There really isn't a need to build solar panels here. It will not only ruin this desert, but take away homes from our wildlife that resides here. Their homes would be destroyed for what more industrial building; we have little nature left why are we going to eliminate it. The Riverside County desert is home to approximately 170,000 people.

Building this can only lead to disaster if people aren't informed our desert is due to a major earthquake. What happens if the building causes more pollution than there already exist? If this causes more radiation, the increase of global warming are we just going to say sorry to the many people who live here?

If people really want to build these solar panels why don't build them where industrial exist already. Why does it have to be in the desert?

Thank you for your comment, Teresa Motley.

The comment tracking number that has been assigned to your comment is SolarD11541.

Comment Date: April 14, 2011 13:39:03PM
Solar Energy Development PEIS
Comment ID: SolarD11541

First Name: Teresa
Middle Initial: R
Last Name: Motley
Organization: Clark County Nevada Dept. of Aviation
Address: P.O. Box 11005
Address 2: 5757 Wayne Newton Blvd.
Address 3:
City: Las Vegas
State: NV
Zip: 891111005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Solar Energy PEIS Scoping.pdf

Comment Submitted:

LAS VEGAS



McCARRAN INTERNATIONAL AIRPORT

Department of Aviation

RANDALL H. WALKER
DIRECTOR

ROSEMARY A. VASSILIADIS
DEPUTY DIRECTOR

POSTAL BOX 11005
LAS VEGAS, NEVADA 89111-1005
(702) 261- 5211
FAX (702) 597- 9553
E-MAIL: webmaster2@mccarran.com

April 15, 2011

VIA ELECTRONIC FILING

Solar Energy PEIS Scoping
Argonne National Laboratory
9700 S. Cass Avenue – EVS/900
Argonne, IL 60439

RE: Clark County, Nevada Department of Aviation Comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

Dear Staff:

Clark County Department of Aviation (CCDOA) previously filed scoping comments in response to the May 29, 2008 Notice of Intent (NOI) for the Programmatic Environmental Impact Statement (PEIS) related to solar energy development on Bureau of Land Management (BLM) administered land in six western states. On September 14, 2009, CCDOA filed comments on Additional Public Scoping for the Programmatic Environmental Impact Statement to Develop and Implement Agency-Specific Programs for Solar Energy Development. CCDOA has reviewed the Draft PEIS and submits the following comments for consideration by the BLM and Department of Energy (DOE) as they finalize the PEIS.

AVIATION SAFETY ISSUES

- CCDOA appreciates BLM and DOE's attention to the potential aviation safety hazards associated with solar energy development in the vicinity of aviation facilities, particularly airports. *See* Draft PEIS at pp. 4-15, 5-18, 5-19. We are encouraged by the inclusion of a Glint and Glare Assessment, Mitigation, and Monitoring Plan as one of the design features to be considered with proposed solar energy projects. Appendix A at A-35, A-37, and A-39. In addition, we support the mitigation measures at Section 5.6.3 ("Potentially Applicable Mitigation Measures") requiring consultation with the FAA and local airports regarding *any* potential impacts on aviation, rather than just height issues. We urge BLM and DOE to continue to be aware of the importance of protecting aviation safety as they proceed with finalizing the PEIS.



Clark County Board of Commissioners

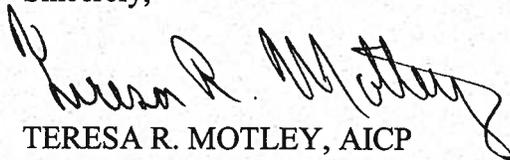
Susan Brager, Chair • Steve Sisolak, Vice-Chair
Larry Brown • Tom Collins • Chris Giunchigliani • Mary Beth Scow • Lawrence Weekly

GENERAL COMMENTS

- Please clarify the relationship between the guidance issued to BLM offices on February 7, 2011 regarding processing solar and wind energy applications (Solar Guidance), and the proposed Solar Energy Development program in the PEIS. For example, Special Recreation Management Areas (SRMAs) are excluded entirely from solar energy development in the Draft PEIS, but in the Solar Guidance, all special management areas are categorized as having “medium” potential for conflict, rather than requiring rejection of the application altogether. To the extent that the Solar Guidance and the PEIS conflict, please clarify (a) whether the PEIS rules will supersede the Solar Guidance, and (b) whether the PEIS rules will take effect prior to amendment of the relevant Resource Management Plans (RMP).
- Please clarify how BLM field offices should treat applications requesting solar energy development in areas of exclusion if the applications are filed before issuance of a Record of Decision (ROD) for the PEIS and before the relevant RMP is amended to exclude the particular area from solar energy development. We note that the Draft PEIS states that applicants have been notified that any Right of Way (ROW) authorization application filed before issuance of the ROD for the Solar PEIS “could be subject” to the requirements adopted in the ROD. Please provide more guidance regarding this issue.

Thank you for your attention to CCDOA’s concerns. Please contact Mark Silverstein on my staff at (702) 261-5709 or marksi@mccarran.com with questions or inquiries.

Sincerely,



TERESA R. MOTLEY, AICP
Airport Planning Manager

cc: Randall Walker
Rosemary Vassiliadis
Mark Silverstein
Philip Rhinehart
David Kessler

Thank you for your comment, joe evans.

The comment tracking number that has been assigned to your comment is SolarD11542.

Comment Date: April 14, 2011 13:39:43PM
Solar Energy Development PEIS
Comment ID: SolarD11542

First Name: joe
Middle Initial:
Last Name: evans
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Bruce Montney.

The comment tracking number that has been assigned to your comment is SolarD11543.

Comment Date: April 14, 2011 13:40:25PM
Solar Energy Development PEIS
Comment ID: SolarD11543

First Name: Bruce
Middle Initial:
Last Name: Montney
Organization: Montneyhome
Address: 232 N Avery
Address 2:
Address 3:
City: Waterford
State: MI
Zip: 483282906
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Make it happen

Thank you for your comment, Mary Hubbard.

The comment tracking number that has been assigned to your comment is SolarD11544.

Comment Date: April 14, 2011 13:49:17PM
Solar Energy Development PEIS
Comment ID: SolarD11544

First Name: Mary
Middle Initial:
Last Name: Hubbard
Organization:
Address: 171 Bay Rd., PO Box 713
Address 2: PO Box 713
Address 3: 171 Bay Rd., PO Box 713
City: North Falmouth
State: MA
Zip: 02556
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a nation we can be totally self sufficient in terms of energy by 2020 if we start investing heavily in wind, water (wave, hydroelectric), and solar energy now. Lets do it right and lets do it now.

Mary

Thank you for your comment, Susan Peterson.

The comment tracking number that has been assigned to your comment is SolarD11545.

Comment Date: April 14, 2011 14:01:03PM
Solar Energy Development PEIS
Comment ID: SolarD11545

First Name: Susan
Middle Initial:
Last Name: Peterson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, kathleen Cooper.

The comment tracking number that has been assigned to your comment is SolarD11546.

Comment Date: April 14, 2011 14:16:33PM
Solar Energy Development PEIS
Comment ID: SolarD11546

First Name: kathleen
Middle Initial:
Last Name: Cooper
Organization:
Address: po box 150710
Address 2:
Address 3:
City: san Rafael
State: CA
Zip: 94915
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar panels on all homes in Calif. and In as many varied places as possible, without jeopardizing our national parks. It's way overdue.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11547.

Comment Date: April 14, 2011 14:23:33PM
Solar Energy Development PEIS
Comment ID: SolarD11547

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

My husband, Howard Snyder, and I are strong supporters of renewable energy and we do support solar development on public lands. However, when such development is proposed for national parks, consideration must be given to the mission and unique ecology of those parks. Please ensure that solar development takes place only in areas where it will do no harm to our beloved parks. Also, please always include the National Park Service in any plans for solar energy development in or near the parks.

Thank you for your comment, Pamela Waterworth.

The comment tracking number that has been assigned to your comment is SolarD11548.

Comment Date: April 14, 2011 14:23:39PM
Solar Energy Development PEIS
Comment ID: SolarD11548

First Name: Pamela
Middle Initial:
Last Name: Waterworth
Organization:
Address: 10001 Old Franklin Ave.
Address 2:
Address 3:
City: Seabrook
State: MD
Zip: 20706
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four of the proposed Solar Energy Zones (SEZ) will threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Close proximity of a proposed solar project (within a 15 Mi. radius) to a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time to consider my comments.

Thank you for your comment, Anne Johnson.

The comment tracking number that has been assigned to your comment is SolarD11549.

Comment Date: April 14, 2011 15:00:19PM
Solar Energy Development PEIS
Comment ID: SolarD11549

First Name: Anne
Middle Initial: W
Last Name: Johnson
Organization:
Address: 989 Deerwander Rd.
Address 2:
Address 3:
City: Hollis
State: ME
Zip: 040423611
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a concerned citizen who is in favor of utilizing solar and wind power to break our dependence on fossil fuels. However, there should be careful research on our National Parks lands to determine what impact these advances would have on wildlife. Please consider this before endangering our wildlife.

Thank you for your comment, james koenig.

The comment tracking number that has been assigned to your comment is SolarD11550.

Comment Date: April 14, 2011 15:11:18PM
Solar Energy Development PEIS
Comment ID: SolarD11550

First Name: james
Middle Initial: e
Last Name: koenig
Organization:
Address: 1584 whitaker street
Address 2:
Address 3:
City: white bear lake
State: MN
Zip: 551103768
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy research has found ways over the years to make solar energy more efficient for producing electricity. The energy future is in solar energy. It is clean energy, energy that will not pollute the environment as coal does. Nuclear energy will help too with better safeguards put in place.

Thank you for your comment, Carlene Meeker.

The comment tracking number that has been assigned to your comment is SolarD11551.

Comment Date: April 14, 2011 15:12:49PM
Solar Energy Development PEIS
Comment ID: SolarD11551

First Name: Carlene
Middle Initial: J
Last Name: Meeker
Organization: NPCA
Address: 2128 23rd Avenue
Address 2:
Address 3:
City: Astoria
State: NY
Zip: 111053420
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Develop Renewable Energy

NPCA ISSUES:

*Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

*There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- (1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- (2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- (3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- (4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

*Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources.

It is vital that the Bureau of Land Management include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I'm a member of the National Parks Conservation Association and stand with them in support of responsible solar development, the protection of our national parks system, and all wildlife. Once an area has been impacted by our need for energy, all species suffer, including ourselves.

Stewart Udall said, "Plans to protect land and water, wilderness and wildlife, are in fact plans to protect man."

Our National Parks are our national treasures and must be protected at all costs in perpetuity.

Respectfully,

Ms. Carlene Meeker
April 14, 2011
New York NY
cmeeker@hotmail.com

Thank you for your comment, Patrick Donnelly-Shores.

The comment tracking number that has been assigned to your comment is SolarD11552.

Comment Date: April 14, 2011 15:13:46PM
Solar Energy Development PEIS
Comment ID: SolarD11552

First Name: Patrick
Middle Initial:
Last Name: Donnelly-Shores
Organization:
Address: PO Box 457
Address 2:
Address 3:
City: Berkeley
State: CA
Zip: 94701
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Patrick Donnelly-Shores ESPM 60 Solar Energy Development on Public Lands.doc

Comment Submitted:

April 14, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Ave.
EVS/240
Argonne, IL 60439

Re: Comments on the Draft Solar Programmatic Environmental Impact Statement

My name is Patrick Donnelly-Shores. I am a former resident of the desert, former BLM and SCA employee who has worked across the California Desert District, and above all, a concerned citizen. I am also a student at UC Berkeley, and have written a paper on current policy-making regarding solar energy development on Public Lands in the California desert. I have attached the paper as my comment, and will summarize my recommendations here:

- We need a more thorough, comprehensive assessment of our national energy needs, focused on conservation and efficiency, and evaluating the need for additional production. Additional production should be centered around distributed generation. Only after this process has concluded that solar energy development on Public Lands is a necessity should any further actions toward that end commence.
- The PEIS needs to be re-configured, with a broader “purpose and need” and a wider range of alternatives. There should be a clear “no action” alternative, in which no development of solar on Public Lands occurs.
- BLM does not currently have a mandate to develop renewable energy on Public Land: references to the Energy Policy Act of 2005 are erroneous when referred to as such.
- There are unmitigatable impacts to the desert concomitant with solar energy projects. The impacts are so significant that it constitutes an exclusive use of Public Land.
- The SEZPA is the alternative that BLM should adopt: it concentrates impact to discrete zones, while sparing most of the desert from this type of industrialization.
- The Restoration Design Energy Project being developed by Arizona BLM is a model for how this type of development should happen on Public Land: on previously degraded lands.
- Any evaluations of the efficiency of developing solar energy on Public Land should take into account federal subsidies, pricing for environmental degradation, and other externalities.
- The Iron Mountain and Pisgah SEZs are clearly inappropriate for solar energy development, and should be tossed out. The Riverside East SEZ should be reconfigured so that development occurs only in the I-10 corridor.

Thank you for your consideration,

-Patrick Donnelly Shores
Berkeley, CA

Solar Energy Development on Public Lands:
Policy-Making Processes in California's New Gold Rush

Patrick Donnelly-Shores
ESPM 60 - University Of California, Berkeley

March 29, 2011

Introduction

There has been an increasing clamor for the development of large-scale solar energy projects in recent years, as a part of a larger growing national awareness of climate change and the environmental effects of our energy production and consumption. A widespread consensus has emerged, across much of the scientific community and amongst much of the public, that climate change is a pressing issue to humanity, and that our current energy policies are to blame for the problems we face (Weart, 2010). Easing our reliance on fossil fuels, while increasing the use of energy from renewable sources, has been made a top national priority (Exec. Order 13514).

Beginning in the middle part of the 2000's, the Bureau of Land Management (BLM), which manages 15.2 million acres of federal land in California, began receiving applications to develop solar energy facilities on Public Land¹ in the California desert. Within five years, this had turned into hundreds of applications, covering more than one million acres of land. BLM initially responded by treating the projects individually, and attempted to speed projects through a "fast-track" permitting process. More recently, BLM has developed a Programmatic Environmental Impacts Statement (PEIS) for solar energy, which seeks to address environmental impacts more systematically. Several lawsuits have been filed against the fast-track projects, and the PEIS is still in draft form. As a result, the future of solar energy projects on Public Land is unclear; not a single facility has yet made it through construction.

The purpose of this paper is to survey the origins and implementation of current policy; to analyze the policy-making process; and to critique and provide recommendations for future policy-making. The California BLM, saddled with a vague mandate and under strong political pressure, has formulated its policies for solar energy in a haphazard way that has inadequately addressed potential environmental degradation. Policies should be reformulated into a more comprehensive, national set of plans to deal with the issue of global warming; and if those plans require development of solar energy on Public Land, projects should be evaluated and

¹ Public Land is the proper name, given in the Federal Land Policy & Management Act of 1976 (FLPMA), for lands formerly known as the Public Domain. Public Land is all federal lands not withdrawn as National Forests, National Wildlife Refuges, or National Parks, or otherwise managed by other federal agencies. Public Lands are managed by BLM. This nomenclature is in contrast to the term public land, which refers to all federally managed land, regardless of agency or department.

permitted in such a way that minimizing environmental degradation of Public Lands is the chief priority.

Part 1: Background

A. Administrative Framework

There is a long paper trail of statutes and executive orders that have given rise to BLM's current policy regarding the leasing of Public Land for solar energy development. On the federal level, it began with Executive Order 13212, signed by President George W. Bush in 2001. While mostly directed at expanding and fast-tracking² oil and gas production on public lands (Maffly, 2003), it has had the indirect effect of providing one of the foundations for BLM's mandate to develop solar energy. The order instructed federal agencies to take whatever actions possible to expedite the permitting and construction of projects that would increase energy production, "...while maintaining safety, public health, and environmental protections," (E.O. 13212, 2001). This has been used as the policy-setting justification for fast-tracking of solar energy applications, (Bureau of Land Management [BLM], 2010a), which will be examined below.

A few years later, in the Energy Policy Act of 2005, Congress was more explicit about its intentions for solar development on Public Lands. Again, the law was mostly directed toward domestic oil and gas production, but had a smaller component regarding renewable energy. The Act expressed the "sense of Congress" that the Secretary of the Interior should set the goal of having approved 10,000 MW worth of projects on Public Land within a 10 year period (Energy Policy Act, 2005). This vague wording should be noted, as it has interesting policy implications. To date, BLM has approved about half of the targeted amount, with about two-thirds of that being solar and the other third being geothermal (BLM, 2010b, §1.1.3).

Up until 2009, much of the Public Lands solar energy policy was almost incidental, tacked on to broader policies promoting oil & gas extraction, which was a top priority for the Bush Administration. The arrival of the Obama Administration marked a shift in energy policy on Public Land. Spearheading the move was the new Secretary of the Interior, Ken Salazar, a

² Fast-tracking, which will be referred to throughout this paper, is not a formal process, but rather implies a reallocation of resources to expedite the processing of environmental documents such as EIS's. So, for instance, reducing agencies' work load for non-energy items, so that more time can be devoted in the short-term to permitting energy projects.

Westerner who put the development of renewable energy on Public Land at the top of his priority list (Lewis-Mernit, 2011). He ushered this new era of federal lands management in with Secretarial Order 3285, which officially made renewable energy development “one of the Department [of Interior]’s highest priorities,” (US Dept. of Interior (DOI), 2009, §4) instructing agencies to fast-track new applications and remove impediments to permitting, siting, and development of renewable energy projects.

Another important background element to the rush for development is the creation of a market for renewable energy, chiefly by the emergence of California’s Renewable Portfolio Standard (RPS). The Renewable Portfolio Standard mandates that by 2020, California get 33% of its energy from non-hydropower renewable energy sources. A number of bills in support of this passed by the California legislature have developed market mechanisms to implement this large change in energy sourcing (BLM, 2010b). That the lucrative California energy market has been mandated to purchase renewable energy is one of the chief factors driving the flurry of applications in recent years.

B. Framing the Debate

There are two key points of view that people tend to have about this issue, with which they frame the debate. On one side is a view that widespread development of utility-scale solar energy on Public Land is a necessity, and that it is urgent to commence this development with haste. On the other side is a view that if and when the country decides to develop utility-scale solar on Public Land, that it must be done in a controlled and carefully evaluated fashion, to ensure the fewest impacts possible to the land and resources.

Those who are in favor of rapid development of solar energy on Public Land put forth an argument that can be thought of in two components: first, that there is a necessity to develop alternative energy, and second, that the quickest and most efficient way to do this is by developing it on Public Land in the desert Southwest.

That there is a global crisis regarding climate change, and that it is related to our production and consumption of energy is a widely held view, which was mentioned above. Another factor that is of import in establishing the need for alternative energy is that of the dwindling availability of fossil fuels, which are our primary source of energy, comprising 74% of total consumption (U.S. Dept. of Energy, 2010). As these supplies dwindle, new energy sources

will need to be found. There are also energy security concerns, due to global geopolitical factors, that play into this. The US imports one-third of all the energy it consumes, and having such a reliance on imported energy is seen as a less secure situation than producing most of it domestically (Öhlz, Sims, & Kirchner, 2007). All of these factors contribute to the framing of development of solar energy as “necessary”.

Once that is established, proponents of utility-scale solar energy also have arguments for why it needs to be done on Public Land. First amongst these is that the desert Southwest is amongst the best places in the world for the development of solar energy, due to its extreme solar insolation (the amount of energy received per square meter of ground), and due to its proximity to major population centers (Eddy, 2011). They also cite widespread public support for development of utility-scale solar on Public Land, stating that it is the public’s will to develop these resources (Resch, 2010).

The Bureau of Land Management, which manages 253 million acres worth of the American West, has long played a role in energy production. Particularly since the oil shocks of the 1970s sent the nation on a search for more domestic production, Public Lands have provided the vast majority of new oil and gas wells in America (Davis, 1997). This fact is implicit in the story told by this frame: we have looked to our Public Lands to provide fossil fuels for our energy security, and it is only logical to continue looking there for renewable energy development. It has been noted that the federal government typically has provided other extractive users, such as cattle grazers (Collins & Constantino, 1990) and timber companies (Athey & Levin, 2001), with below-market lease rates. This typically is not the explicit intention of the government, but it nonetheless provides an incentive to pursue further extractive uses of Public Lands in order to enhance profits.

The framing of those who are in favor of a slow, more measured approach to developing solar energy on Public Land (which we can refer to as the “preservationist” frame) is more difficult to decisively state, in part because it has been so amorphous over time. Currently, there are very few prominent voices advocating for a complete ban on development of solar energy on Public Land. Rather, they argue that if and when Americans do decide to commence such development, that it needs to be done within a larger framework of comprehensive

energy reform (Cunningham, 2010). This reform would involve addressing issues such as mandatory energy conservation measures and emphasizing distributed energy generation.³

In evaluating this framing, it is worth noting its history. Early in the solar energy development process, there emerged a schism between local activists and national environmental groups. Upon learning of the rush of applications to develop solar energy projects in the desert, local environmental groups, primarily concerned with preserving desert landscapes, voiced objections to the industrialization of the desert (Taylor, 2008). Some national environmental groups, such as the Center for Biological Diversity, expressed grave concern over threats to biodiversity and biological linkages within the region (Anderson, 2008). However, most prominent national environmental groups, such as the Sierra Club, had long been pushing an agenda of reducing reliance of fossil fuels and increasing development of alternative energy (Taylor, 2008). While local groups saw the proposal of a million acres of solar panels as an ecological disaster in the making, most national groups saw it as a win. At a 2007 meeting of the California/Nevada Desert Committee of the Sierra Club, a representative of the national organization said that local concerns about siting were less important than getting projects implemented and developed quickly (Zichella, 2007).

While some of the local opposition can be chalked up to pure NIMBY-ism (“Not In My Back-Yard”-ism), environmental groups in the desert have had a long history of fighting BLM actions which prioritize uses of Public Land other than conservation. And with upwards of 15% of the non-Wilderness portions of the CDCA being proposed to be covered with mirrors, locals saw a dire and urgent threat (Taylor, 2008). As time went on, locals and nationals seemed to consolidate their position. Now, environmental groups use phrases like “we strongly support the deployment of appropriately sited renewable energy... development,” (Zichella, 2011). Most of their opposition to current practices comes from a feeling that current proposals are inappropriately sited, or are being rushed through permitting without proper planning.

Part 2: Current Policy-Making

There are a number of ways that policy-makers are current shaping the future of solar energy development on Public Land. BLM has implemented fast-track permitting on projects; legislation has been introduced; lawsuits have been filed in response to permitted projects; the

³ Distributed generation is the opposite of utility-scale power generation. Distributed generation is best exemplified by rooftop solar, where individual households generate their own power.

state of California has initiated a planning study; and finally, and perhaps most importantly, BLM has prepared a Programmatic Environmental Impact Statement.

A. The Early Years: Fast-Track

Beginning in the mid 2000's, shortly after the passage of the Energy Policy Act of 2005, BLM began receiving applications for solar energy farms. Two years later, there were over 30 of these applications, totaling 350,000 acres across the California Desert District (California/Nevada Desert Committee of the Sierra Club [CNDC], 2007). By 2010, there were over 350 applications (Carswell, 2010), totaling well over a million acres. This rush of applications has been likened to the "wild-wild West of solar" (Carswell & Lewis, 2010) and "the new California gold rush" (Clarke, 2010). BLM's initial response was to deal with the solar applications on a project-specific basis, preparing environmental review documents and amending land-use plans as necessary. This is similar to the way that oil and gas extraction projects have been permitted in the past.

As a response to the Energy Policy Act of 2005 and to Secretarial Order 3285, BLM implemented "fast-tracking" of applications whose applicants met certain criteria. Chief amongst these criteria was that the application and EIS process was far enough along that the projects could be approved by December 2010, which would make them eligible for American Recovery and Reinvestment Act (ARRA) money (BLM, 2010c). Six of these projects in California have subsequently been approved under the fast-track permitting process, and all before the ARRA deadline.

Given the speed with which BLM was moving forward, and the heated politics that has always surrounded Public Land policy in the California desert, it's unsurprising that a number of different actors have intervened to stop or change the way that BLM was permitting projects.

Senator Diane Feinstein, who was instrumental in the passage of the original California Desert Protection Act of 1994,⁴ introduced the California Desert Protection Act of 2010 in January of that year, which would have declared large swaths of the southeast Mojave Desert (much of which had been proposed for solar development) off-limits to extractive uses, by designating them as a new National Monument (S. 2921, 2010). While Senator Feinstein

⁴ The California Desert Protection Act of 1994 (CDPA) fundamentally altered the management of Public Land in the California desert, designating 3.6 million acres of BLM wilderness, as well as transferring millions of acres of Public Land to the National Park Service. See Wheat, 1999.

professed a desire to see solar development on Public Land in the desert, she was opposed to the current way that BLM was permitting these projects. In particular, there was an issue of donated land. In 1999, nearly half a million acres of land across the eastern Mojave were purchased from private ownership, and donated to BLM and the National Park Service, in order to improve and consolidate management in the area (Sokoloff, 1999). Feinstein joined many environmentalists who opposed using the lands, which were donated for conservation purposes, for solar and wind energy development. Feinstein's bill did not ever make it to a vote on the floor of the Senate, and was reintroduced as the California Desert Protection Act of 2011, set for hearings this summer. While it is unclear what the policy ramifications of her bill would be, her bill showed BLM that they were under the national spotlight to get it right when it came to permitting solar energy projects.

Three major lawsuits have also been filed, which will have far-reaching implications for the future of these fast-track solar developments. Two lawsuits have been filed by Native American groups, the Quechan Tribe & the La Cuna de Aztlan Sacred Protection Circle Advisory Committee ("La Cuna"), and the other by a small environmental law group called the Western Watersheds Project. Taken together, these lawsuits target all six of the approved fast-track developments. While each lawsuit has a specific frame in which it presents its claims, in general there are some common themes, specifically that BLM violated NEPA in numerous ways. They claim that BLM failed to adequately assess impacts associated with the projects; interestingly, they also claim it is a violation of NEPA that a Programmatic Environmental Impact Statement was not prepared (Western Watersheds Project, 2011). One has been prepared subsequently, which we will examine below, however none of the six fast-track projects are contained within the areas evaluated in the PEIS, so it's unclear that this would meet the perceived requirement under NEPA that is being put forth in these lawsuits.

The Native American lawsuits also maintain that BLM violated the National Historic Preservation Act and the Native American Graves Protection & Repatriation Act, by inadequately consulting with Native American tribes regarding the siting of the projects, and potential resource conflicts. There are significant grave sites within the project areas of some of the developments; there are also features known as geoglyphs or intaglios, which are huge (60-100') figures, made many thousands of years ago by Native Americans, carved into the

ground by turning over dark stones so that their lighter bottom sides are visible. While the figures are best seen from the air, they are extremely dramatic, and form part of the spiritual basis for the religion of the Colorado River tribes (Clarke, 2011). Their suits claim that BLM did not take this and other Native American concerns into account when evaluating the fast-track EIS's, and that they are unlawful as a result.

B. The Programmatic Environmental Impact Statement

To address the rising furor about the seemingly haphazard, or at the very least decentralized, way it was going about permitting solar energy projects, BLM announced in late 2008 that it would develop a Programmatic Environmental Impact Statement for solar energy development in the Southwest. For the first year, it languished with lack of staff and budgetary resources. But after the Obama administration devoted budget dollars to the effort, as a part of its new focus on renewable energy development, the work on the PEIS took off (Carswell & Lewis, 2010). The result of their efforts was released in draft form in December 2010. At over 11,000 pages, the document is epic in scope, covering BLM lands over a six state area (California, Nevada, Utah, Colorado, Arizona and New Mexico), and anticipating impacts over a 20 year window called a "Reasonably Foreseeable Development Scenario" (RFDS).⁵

The bulk of the document is taken up with analysis of Solar Energy Zones (SEZs), which are areas that BLM has identified as having few impediments to utility-scale solar development, and where impacts of solar energy could be concentrated (BLM, 2010b, §2.2.2.2). BLM put forth 24 of these SEZs, spread over the 6 state area, and totaling just under 700,000 acres. Some of the requirements of the SEZs include a size of at least 2500 acres, a slope of less than 2%, proximity to existing transmission corridors, and a lack of impacts to special status lands such as Fish & Wildlife Service (FWS) Critical Habitat for sensitive species, or Areas of Critical Environmental Concern (ACECs).

As it is required to by NEPA, BLM addressed a variety of potential impacts that development of solar energy on Public Lands could have. The impacts were addressed first in a systematic, general way (pertaining to all BLM lands available for development), and then

⁵ A detailed analysis of the RFDS is outside of the scope of this paper. However, BLM thought it important enough to include a 60 page appendix to the PEIS, detailing the assumptions about the future of the energy market that went into their development of the RFDS. The key thing to remember is that the RFDS, which BLM employs to determine how much solar energy development to plan for in the PEIS, is entirely speculative.

specifically examining potential impact in the SEZs. Both direct impacts, such as habitat fragmentation, and indirect impacts, such as changes in sediment loads in surface water from soil erosion during construction, were considered. For each impact, potential mitigation measures were offered, as well as evaluations of those measures would fully mitigate the impacts. The list of impacts is quite comprehensive, so only a few key impacts will be highlighted here.

Impacts to specially designated lands, such as Wilderness and ACECs, were considered. In general, since these are off-limits to solar energy development, they were found to have negligible direct impacts. Indirect impacts, however, were significant to areas adjacent to SEZs. Iron Mountain and Riverside East SEZs are both directly adjacent to numerous Wilderness Areas, which would experience significant degradation in their VR (Visual Resource). Additionally, BLM noted that noise and night-sky impacts would affect these Wilderness Areas. The Wilderness Act of 1964 describes Wilderness as a place where, “the area generally appears to have been affected primarily by the forces of nature, with the imprint of man’s work substantially unnoticeable,” (Wilderness Act of 1964). This is known as the “naturalness” clause of the Wilderness Act. BLM states that it is likely that solar development adjacent to designated Wilderness would adversely affect the naturalness of those Wildernesses in a substantial way.⁶

Impacts to water resources were considered. While the layperson may not assume that much water is consumed in a solar power plant, the PEIS reveals that this is not the case. The amount of water used can vary wildly based on the type of solar technology used. An acre-foot of water (literally defined as enough water to cover an acre of land, one foot deep) is about 326,000 gallons. While full build-out of the Iron Mountain SEZ, using photovoltaic technology, would only require 484 acre-feet of water per year, full build-out of the SEZ using wet-cooled parabolic trough technology would utilize between 85,000 and 256,000 acre-feet of water per year (BLM, 2010b, §9.2.9.2). This is an astounding amount of water- the larger amount, if utilized, would increase the total groundwater withdrawal in all of San Bernardino County by

⁶ While generally, the Wilderness Act prohibits the federal government from this type of adverse impact to wilderness character after a place has been designated Wilderness, §103(d) of the California Desert Protection Act (CDPA), which designated these Wildernesses, provides an exception. It states, “the fact that nonwilderness activities or uses can be seen or heard from areas within a Wilderness Area shall not, of itself, preclude such activities or uses up to the boundary of the Wilderness Area,” (CDPA, 1994).

33%. This is of particular importance because the only source of water for these developments is fossil aquifers, left over from when the desert was a wetter place many thousands of years ago. The PEIS notes that drawdown of aquifers by solar developments would be “likely”, and that there would also be the potential for land subsidence (*Ibid.*, §9.2.9.2.4).

Impacts to ecology of the desert were considered. This includes impacts to vegetative communities, wildlife, aquatic biota and habitats, and to special status species (referring to threatened, endangered or sensitive species). While the analysis is exhaustive, taking up several hundred pages in total, its results can be summarized rather simply. The construction of utility scale solar energy projects in the desert will result in, “Direct mortality of individuals, habitat loss, behavioral disturbance, reduced productivity and diversity, reduced carrying capacity, habitat fragmentation...” which would affect, “all plants and animals,” and would be, “relatively difficult [to mitigate],” resulting in significant residual impacts after the project has been decommissioned (BLM, 2010b, §§5.10.1.1, 5.10.4.1). Ultimately, due to the intensive use of land required for these developments, the PEIS leaves little doubt that within the project areas, most biological processes would cease to function.

NEPA implementation guidelines require the development of action alternatives to be considered in an EIS (Council on Environmental Quality (CEQ), 1978, §1502.14(a)). These alternatives should present a spectrum of possible actions, including a “no action” alternative, to provide the public a clear rationale for their choice. BLM proffered a No Action Alternative, and two action alternatives in the PEIS: one called the Solar Energy Development Program Alternative (SEDPA), and the other called the SEZ Program Alternative (SEZPA) (BLM, 2010b, §2.1). The SEDPA would allow development of solar energy on 22 million acres worth of BLM land, which is approximately 18% of the lands managed by BLM across the six states. It would systematize the permitting, design, and mitigation process for solar energy developments, while prioritizing development within the SEZs. The second alternative, the SEZPA, would restrict all solar development to the SEZs analyzed in the PEIS, excluding all other BLM lands from consideration, while utilizing the same basic systematization of permitting and development.

It is worth noting that, because permitting of solar projects was already ongoing, and because the PEIS was intended to evaluate the SEZs and a streamlined permitting and

mitigation process, the No Action Alternative is not an alternative intended to prohibit development of solar energy projects on Public Land. Rather, it would simply keep in place existing policies regarding the permitting and development of those projects (BLM, 2010b, §2.2.1). This is important because the PEIS contained no specific action alternatives in which all development of solar energy on Public Land ceased. Typically, this is an option which is evaluated in NEPA documents: that of not doing an action at all.⁷

NEPA regulations also mandate that agencies select, from the alternatives presented, a preferred alternative (CEQ, 1978, §1502.14(e)). BLM and DOE selected the SEDPA as their preferred alternative, which would open up 22 million acres of Public Land to leasing for solar energy projects. Their stated reasons for selecting this alternative were that it would provide the fastest pace of energy development at the lowest cost to public and private entities, while maximizing flexibility to the developers (BLM, 2010b, §6.4). Interestingly, attempting to minimize environmental impacts from development was not mentioned as a justification for selecting the SEDPA as the preferred alternative. It is noted that the SEZPA, due to the smaller available amount of land for development, would concentrate and intensify impacts. BLM remains vague on whether it is preferable to concentrate impacts in a smaller area (700,000 acres), or spread them out over 22 million acres.

NEPA has been described as “democratizing” the policy-making process (Caldwell, 1998: *xvii*), and as such, a significant part of the NEPA process is public comment. While public comment on a NEPA document may not have any bearing on the final decision made by an agency, it can influence an agency to heavily revise or rewrite portions of a document or it can provide a basis for future lawsuits (Kubasek, 2000). BLM and DOE, in keeping with their theme of as comprehensive of a review of solar policy as possible, sought large-scale public involvement in the PEIS. While the typical comment period for an EIS is 90 days, they allowed for an extended written comment period (owing to the large size of the PEIS), as well as holding public meetings. The public meetings are a chance for citizens to comment on the proposal, and have their comments entered into the public record. BLM and DOE held fourteen public meetings, across all six affected states and in Washington, DC.

⁷ The CEQ’s NEPA Regulations are vague as to the exact definition of “no action”.

One public meeting was held in Sacramento on February 22, 2011. Approximately fifty people attended, including representatives from the Washington, DC office of BLM and DOE, and fourteen people offered comments. Of those commenters, only two spoke out in favor of BLM's preferred alternative, the SEDPA. The rest represented a variety of views, from outright opposition to all solar development in the desert, to strong support of the SEZPA.⁸

Both of those who spoke in support of the SEDPA were representatives of the solar industry, one from BrightSource Solar, which is probably the most prominent company developing solar projects in the desert, and the other from a trade group, the Large-scale Solar Association (LSA). They spoke of the rising need to develop renewable energy sources, and argued that adopting a zone-only alternative, like the SEZPA, would greatly restrict solar development possibilities (Eddy, 2011). Some middle ground was offered on this point, however, stating that if BLM could come up with processes by which new SEZs could be designated, perhaps a zone-only alternative would be viable to LSA's interests. Interestingly, they framed their position as the "environmental" one, referring to themselves as environmentalists. This contrasts greatly from how their position was framed by other speakers.

While the parties who commented against the preferred alternative espoused a variety of views, some common themes emerged. Most argued for the SEZPA, saying that the preferred alternative does too little to protect desert ecosystems (Zichella, 2011). Most felt that the Pisgah and Iron Mountain SEZs were inappropriate, and should be scrapped altogether. Beyond that opposition, many speakers, in particular those who represented environmental groups such as the Natural Resources Defense Council, Defenders of Wildlife, and the California Native Plant Society, expressed general support for developing solar energy within the SEZs, as long as those SEZs were sited and evaluated properly (Delfino, 2011). In a point of common ground with the pro-development advocates, many commenters expressed a desire for BLM to develop mechanisms to designate new SEZs. Nearly every commenter also questioned why no SEZs were proposed in the West Mojave, an area that is flat and somewhat less biologically rich than some of the areas where SEZs were proposed.

⁸ A transcript of this paper's author's comments at the meeting can be found in Appendix A. Additionally, this paper itself is being submitted as a written comment on the PEIS. The cover letter to BLM, summarizing recommendations, can be found in Appendix B.

One person's comments stand out in particular, as he represented a novel viewpoint at the meeting. Michael Boyd, president of Californians for Renewable Energy (CARE), spoke extensively, representing the interests of the La Cuna group, which filed one of the lawsuits mentioned earlier. Mr. Boyd spoke extensively about racism against Native Americans inherent in the process of developing the PEIS (2011). He stated that the areas under consideration for development are the most sacred place in the world to the Colorado River tribes, and that racism was the motivating force behind siting projects there. He also took exception with the No Action Alternative, stating that it was a violation of NEPA, because it was not a "no action" alternative, but rather a "no regulation" alternative. He was one of the few voices at the meeting advocating for the restriction of all development of solar energy on Public Land.

C. Desert Renewable Energy Conservation Plan

While the federal government has jurisdiction and authority over federal lands within the State of California, the state itself has jurisdiction over some of the actions on those lands, as well. The California Energy Commission (CEC) has the exclusive authority to license energy facilities that produce more than 50 megawatts of power in the state of California, regardless of who owns the land those plants are built on (Renewable Energy Action Team [REAT], 2010a). In order to coordinate CEC policy, "[providing] for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects," (ibid.: 2) the state has begun preparing the Desert Renewable Energy Conservation Plan (DRECP). The DRECP was initiated under the authority of Executive Order S-14-08, signed by Governor Schwarzenegger, which was instrumental in establishing the RPS standards previously discussed. The order also set up a Renewable Energy Action Team, comprised of the CEC, California Department of Fish & Game, BLM, and US Fish & Wildlife Service, which would prepare the DRECP.

The DRECP differs from the PEIS because it looks across the entire spectrum of lands in the California desert, not just Public Land. There are vast swaths of the desert which are privately owned but uninhabited, mostly holdovers from Depression-era homesteading schemes. These lands are potentially just as valuable for their solar energy assets as Public Land would be, and may have fewer conflicts with other resources. Another way that the DRECP differs from the PEIS is that its primary goal is to identify those lands where ecological

conflicts will be minimized, and to identify processes for permitting the incidental “take” of special status species associated with renewable energy development.⁹ The DRECP is still in development, and a Draft EIR isn’t expected until 2012.

Part 3: Analysis, Critique, & Recommendations

A. Policy-making Models

The garbage can model of policy-making, also known as the multiple streams model, is the best interpretation of the early days of our story. This model, developed by J.W. Kingdon (1984), states that there are three streams which go into a policy decision. The first stream, the problem stream, is the process by which issues come to the attention of policy-makers and come to be defined as problems in need of a solution. The political stream is related to the problem stream, but rather than focusing on defining a problem, it deals with the relative willingness of policy-makers and the public to implement solutions to problems. Finally, the policy stream is the set of mechanisms by which a variety of possible solutions to problems are put forth, evaluated, and gradually refined into those which are being seriously considered.

In the middle part of the 00’s, global warming emerged into the consciousness of the American public at large. In 2005, the Kyoto Treaty went into effect, over the objections or abstentions of the United States, Somalia, Afghanistan, and Western Sahara, ushering in a new era of international climate change policy, where reducing carbon emissions was the *de facto* global policy (Weart, 2010). Hurricane Katrina’s devastating effects were, at least in the public mind, largely attributable to global warming (Hertsgaard, 2007). Al Gore’s 2006 film, “An Inconvenient Truth”, won an Oscar and brought the realities of climate change into American movie theaters and living rooms. These are what Kingdon refers to as focusing events, which serve to bring problems to the attention of policy-makers and the public (1984). This is only a representative sampling of the focusing events which were occurring around this time, thrusting global warming into the collective consciousness. They serve to illustrate that by the middle part of the decade, when the applications to develop solar energy projects began pouring in to BLM, global warming was clearly on the minds of Americans: it had come to the fore of the problem stream.

⁹ “Take” is defined under the Endangered Species Act of 1973 as the harm or killing of a species, and has been broadly interpreted to include significant habitat modification which leads to harm or killing (US Fish & Wildlife Service, 2005).

It at first appears paradoxical that initiatives and legislation promoting renewable energy rose to prominence under the Bush administration, which was very clearly in favor of fossil fuel development. However this hides some of the nuance captured within the political stream, which involves the public mood, interest groups, and politicians themselves, who can often be counted on to act in their own self-interest (Kingdon, 1984). Coupled with the rise, in the mid 00's, of focusing events surrounding global warming was a change in public mood on the issue. Polling numbers of people who cited global warming as an urgent concern surged in 2005-2006 (Weart, 2010). Change was afoot in Washington, too, as there was a significant backlash to President Bush's stern opposition to any action on global warming (including not participating in the Kyoto Protocol). The Intergovernmental Panel on Climate Change (IPCC) released reports detailing the urgent need to address the issue. All of these political realities gave policy-makers, no matter what ideological stance they took, the cover to begin looking for solutions to climate change.

The processes by which Public Lands came to be seen as a viable component of "solving" the global warming problem have already been outlined above, and these processes can be thought of as the policy stream. An important component of Kingdon's theory is that within the policy stream, policies are "floating about" (1984) in search of a problem to fix, rather than the other way around. This concept is clearly illustrated in this instance: BLM is an agency that had been through tremendous change and upheaval, particularly in the latter part of the 20th century. It struggled to implement environmental goals, even when mandated to do so by legislation such as FLPMA (Skillen, 2009). Desperately wanting to appear "green" and concerned with the environment, rather than merely living up to the old adage of the "Bureau of Livestock & Mining", BLM latched onto solar energy as a way to green its image while continuing to provide energy services to the nation.

The final component of Kingdon's model is when all three policy streams converge, and a policy window opens up (1984). This is when an opportunity presents itself for the advocates of a proposal to push their agenda, and use it to influence policy-making. This is clearly illustrated in the events surrounding the fast-track permitting of the initial rush of solar energy applications. Policy entrepreneurs, as Kingdon calls them, are those actors who are pursuing a policy and who utilize policy windows to get that policy enacted. We can see that a number of

actors existed, all of whom were pushing solar energy development on Public Land: solar energy companies, mainstream environmental groups, and politicians all saw the development of solar energy on Public Land as a winning situation for them. The industry stood to make lots of money; the mainstream environmental groups could boast of concrete accomplishments, influencing policy for the better on global warming; and the politicians could highlight their green credentials at election time. Fast-tracking the process would accelerate all of these outcomes, and the existence of ARRA money for the projects was the catalyzing event that threw open the policy window. None of these actors anticipated that local opposition, coupled with the threat of numerous lawsuits, would end up derailing this policy option and moving us toward the PEIS.

Emerging from this chaotic beginning has been an increasing trend toward an institutionalist model of policy-making. In this model of policy-making, institutions are governed by rules such as statutes and administrative procedures, and policy-making is simply a natural response to problems, utilizing the framework of these rules (Cioclea, 2010). BLM, in developing the PEIS, has decided that it (along with DOE) will be the dominant player in determining policy regarding siting of renewable energy on Public Land. While interests such as environmental groups and industry groups have given input, in the form of scoping comments and comments on the Draft PEIS, they are no longer playing central roles in the determination of policy. Rather the BLM and DOE, both parts of the executive branch, have exerted full control over the situation. They, along with colleagues at the Argonne National Laboratory in Chicago, have written the PEIS. They will decide which program alternative to adopt, and they will author and implement the final decision. They are doing this through the legislative framework of NEPA, FLPMA, and the Energy Policy Act, and through their bureaucratic tradition, which is a key element of institutionalism (*ibid.*).

It is interesting to note, in viewing the current policy-making trends through the lens of institutionalism, that the Executive Branch has been the dominant actor in this drama from the start. While there has been a legislative origin to policy, in the form of the Energy Policy Act, and while there has been an attempt to influence current policy-making, in the form of Feinstein's new bill, the legislature has yet to directly intervene, as Feinstein's bill appears to be a relatively low priority for Congress, and is tied up in committee. Meanwhile, the judiciary has

yet to play a significant role, though that could change dramatically as the first lawsuits begin to work their way through the system. BLM has been the main policy maker, utilizing its delegated authority, from various statutes, and bureaucratic autonomy to make policy. These are the “wellsprings of bureaucratic power” (Rosenbaum, 2007: 82), through which BLM has become the dominant player in this arena of public policy.

B. BLM’s “Mandate” & the PEIS

There is a significant question, however, as to the legal basis from which BLM has derived this authority. In the Draft PEIS and the various EIS’s prepared for the fast-track solar sites, BLM relies on the Energy Policy of 2005 and Secretarial Order 3285 as justifications for its “purpose and need” to conduct the environmental reviews (BLM, 2010b, §1.1). The purpose and need section of a NEPA document is amongst its most important sections, as it explains the agency’s justification for considering a proposed action, and is then used to develop reasonable program alternatives which will be evaluated on how they meet the purpose and need (Czarnecki, 2003). The specific invocations of the Energy Policy Act of 2005 and Secretarial Order 3285 have been examined above, in the same cursory fashion as BLM references them.

However, when one reads the actual text of the documents, it becomes clear that there has been some disingenuousness on the part of BLM. Section 211 of the Energy Policy Act of 2005 states that, “It is the sense of Congress that the Secretary of the Interior should... seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity.” The use of vague phrases such as “sense of Congress”, “should”, and “seek to have approved” are the hallmarks of what are commonly called “Sense of Congress” resolutions, and stand in marked contrast to typical legislative language such as “instructs”, “must”, and “will approve” (Blaeloch, 2011). These resolutions are a type of Concurrent Resolution, which is not considered binding, and is not treated as a law (110th Congress House Rules Manual, 2011, §396). Generally, these types of resolutions are used to convey the opinion of Congress, or to deal with non-legislative matters, such as commending citizens or appealing to the President. They do not have the force of law, and certainly cannot be invoked as a legislative basis for action (Cotter & Smith, 1956).

And yet, this is precisely what BLM has done, describing its “mandate” to develop renewable energy on Public Land as being derived from Section 211 of the Energy Policy Act of

2005. This is dubious at best and duplicitous at worst (Blaeloch, 2011). As if to compound errors, the other major foundation for their actions is Secretarial Order 3285. Here we find a similar error in interpretation, as Secretary Salazar invokes Section 211 of the Energy Policy Act of 2005 as his legislative authority for ordering the Department of Interior to prioritize renewable energy development on federal lands. The entire set of authorities that has been utilized to justify current policy-making tools by BLM is without clear basis, and as such their “mandate” is flawed (Ibid.). This has important ramifications in the program alternatives portion of the PEIS, because as has been noted above, the program alternatives considered in a NEPA document are derived from the purpose and need.

Based on its perceived “mandate”, BLM identified the purpose and need of the PEIS as facilitating the near-term development of utility-scale solar on Public Land, while minimizing environmental damage, and providing flexibility to industry to develop projects (BLM, 2010b, §1.3.1). Because the heart of the purpose and need was to facilitate development, the program alternatives which followed were quite limited in scope: namely how much land to devote to facilitating development. BLM neglected to ask or address the hard questions, like whether development is necessary or appropriate. This is a common tactic amongst agencies: narrowing the stated purpose of a project in an EIS so that the scope of alternatives which must be considered under NEPA is also narrowed (Czarnecki, 2003). This is outside of the intent of NEPA, as Congress sought to limit agencies’ discretion with regards to acting in their own self-interest. A narrow construction of a project’s purpose evades NEPA’s goals of increased public scrutiny, and its mandate (a true mandate) that all alternatives to the proposed action must be considered “to the fullest extent possible” (National Environmental Policy Act [NEPA], 1969).

BLM presented two alternatives in the PEIS: the SEDPA, which would permit solar development on 22 million acres of Public Land, and the SEZPA, which would focus all development on the 24 SEZs, totaling just under 700,000 acres. However a number of other alternatives were presented by citizens and NGOs during scoping, which were all ignored by BLM. NEPA requires them to be mentioned in the EIS, along with a justification of why they are not being considered. A small sampling of these proposed alternatives which were not analyzed or incorporated to the PEIS include: distributed generation, conservation and demand-side management, restricting development to previously disturbed lands, and restricting

development to fast-track projects which have already gone through the NEPA process. Nearly all non-considered alternatives were dismissed with the stated reason being that they “do not respond to the purpose and need for agency action”, and are beyond the scope of BLM’s responsibilities (BLM, 2010b, §2.5). As a result, BLM has created a sort of circular logic about its scope of analysis, whereby it defines quite narrowly what is to be evaluated, and then can reject a variety of alternatives because they do not meet the criteria of the narrow evaluation. This consequence of narrow formulations can limit the ability of an EIS to analyze alternatives that limit environmental degradation and conserve resources (Czarnezki, 2003). Of the two alternatives presented in the PEIS, the SEZPA is the least environmentally damaging, and should be selected by BLM. Given how flawed the range of alternatives is, however, this portion of the PEIS needs to be rewritten to better comply with NEPA’s intent.

There is one court case in particular which speaks to the premise of narrow alternatives, but also provides an illuminating picture of how the courts have viewed NEPA in the context of broad, national issues. In the early 1970s, as a response to dwindling oil imports driven by instability in the market, the Department of Interior (DOI) proposed expanding off-shore drilling in Louisiana. They prepared an EIS, and were then sued by the Natural Resources Defense Council (NRDC), who regarded the EIS as inadequate, in part because of the narrow range of alternatives analyzed. In *NRDC v. Morton* (1972), the D.C. Circuit court held that the consideration of alternatives required by NEPA is not limited to those which the specific agency may adopt; rather, agencies must consider other reasonable alternatives which may be outside of the agency’s scope or legislative authority (Czarnezki, 2003).

Dealing with the general premise of an EIS for an isolated action that is a part of a bigger whole, the court stated that, “when the proposed action is an integral part of a coordinated plan to deal with a broad problem, the range of alternatives that must be evaluated is broadened,” (*NRDC v. Morton*, 1972). Elaborating, the court held that since the Department of Interior is but a portion of the Executive Branch, and because Congress and the President are the chief policy-makers for the nation, that the review of the environmental impacts of proposed actions must take place within the context of larger solutions to larger problems. In specific, the DOI was attempting to rule out “increased importation of oil” as an alternative to off-shore drilling, because it was outside of the scope of their jurisdiction. However because it

was not outside of the jurisdiction of the Executive Branch as a whole, the court felt that DOI was obligated through NEPA to analyze that alternative. In this way it was hoping to overcome the fragmentation of the Executive Branch into different legal authorities (Czarnecki, 2003). It is easy to draw an analogy to the PEIS: leaving out alternatives of conservation and demand-side management or development on private land because they are outside of the purview of the BLM is simply inadequate. BLM should consider these alternatives, because the proposed action is merely a piece of a larger, government-wide attempt to address the problem of global warming.

As to the nature of the SEZs themselves, some of the four California SEZs are poorly sited. There are significant resources conflicts present at the Iron Mountain & Pisgah SEZs, and they were almost universally requested to be removed from the PEIS during both the scoping period and in public comments on the Draft PEIS (Delfino, 2011). These conflicts are both biological and aesthetic: lands within them have been identified as high-priority wildlife corridors, and are sited adjacent to, or in the case of Iron Mountain, between Wilderness Areas. These areas of biological connectivity are critical to the survival of species like the desert bighorn sheep. Riverside East SEZ, a sprawling 200,000 acre site, also contains substantial resource conflicts in portions of the zone. Its boundaries should be redrawn to minimize resource conflicts, while focusing development around the already-disturbed Interstate 10 corridor. Imperial East SEZ, on the other hand, is an example of a well-sited SEZ. It is previously disturbed land, located between two highways, and is not particularly important habitat given the relatively built-up nature of the land around it. The varying nature of the SEZs chosen by BLM led many commenters on the PEIS to recommend that BLM implement a method for de-designating inappropriate SEZs, and for designating new SEZs later in the process (Haubenstock, 2011).

The PEIS is also very unclear about its relationship to other, ongoing planning projects pertaining to solar energy development in the California desert. None of the six permitted fast-track projects are located within any of the SEZs, so should the SEZPA be adopted, the six extant projects would be out of conformance with the BLM's plans. BLM does not address this in the PEIS. Nor does the document say anything about how the DRECP would relate to the PEIS. The DRECP is making recommendations across a broad spectrum of lands, and prioritizing the

environment in planning. It's unclear if DRECP findings would change the outcome of the PEIS. The need for more detail regarding the PEIS's interaction with other planning efforts was the one comment that was universal at the public meeting in Sacramento- every speaker agreed that BLM was too vague in describing this relationship and that clarification was needed (Eddy, 2011 & Zichella, 2011).

C. An Alternative Model: Utilizing Degraded Public Lands

One alternative to the PEIS, and a model for a more environmentally responsible way to go about permitting renewable energy projects, is the project being undertaken by the Arizona BLM, called the Restoration Design Energy Project (RDEP). This project emphasizes siting renewable energy projects on previously disturbed lands, both federal and non-federal. Lands such as hazardous material sites or brownfields, former landfills, inactive or abandoned mining and oil & gas extraction sites, and other sites "damaged or disturbed to the extent that restoration potential is limited," (BLM, 2009: 1). The project underwent scoping for NEPA document preparation in spring of 2010, and the BLM is currently preparing a draft EIS. In March of 2011, they released a Summary of Conceptual Alternatives.

The RDEP is superior to the PEIS for two reasons: first, because it focuses development on lands that have already been disturbed, as opposed to pristine desert; and second, because it more truly embodies the spirit of NEPA, by presenting a wide range of alternatives. Restricting development to previously disturbed lands would limit the overall footprint of solar energy development on Public Land, as those lands are generally less biologically productive than undisturbed or pristine lands (Roth, 2011). This was suggested to BLM by many commenters during the scoping period for the PEIS (BLM, 2008), but was essentially not considered in the PEIS. While some lip service to the idea is given to it, with BLM stating that some previously disturbed lands were incorporated into the SEZs, the idea is amongst the rejected program alternatives, largely because BLM claims there is no clear definition of "previously disturbed" (BLM, 2010b, §2.5.5). This is disingenuous, because a definition could easily be developed, just as definitions of "suitable for solar development" were developed. For whatever reason, the BLM did not consider it practical to include this as a significant component of the PEIS, and it is a detriment to the credibility of the project as a whole, especially when considered in light of Arizona BLM's efforts.

With respect to NEPA compliance, the contrast between the PEIS and the proposed alternatives for the RDEP could not be greater. While the PEIS has only two alternatives (700,000 acres open to development or 22 million acres open to development), the RDEP is proposing five different program alternatives. The five proposed alternatives encompass a variety of levels of development, from maximum development on all identified disturbed lands, to focusing development near transmission lines to limit impact, to focusing development away from areas with sensitive water resources (BLM, 2011). Earlier, we discussed the importance of the “purpose and need” of a NEPA document, and its ramifications in the proposed alternatives. It comes as no surprise, then, that the conceptual purpose and need proposed by BLM in the RDEP is much broader than in the PEIS. While the overall goal of facilitating the efficient development of renewable energy on Public Land is the same, Arizona BLM has recognized that prioritizing lands where resource conflicts are at a minimum is a key way of attaining that goal. Arizona BLM points out that the chief goal of the RDEP is to obtain “broad consensus on the desired future renewable energy footprint” (BLM, 2011: 1). Because pristine lands, which are more ecologically productive and hence of greater concern to environmental groups, won’t be affected by development, lawsuits or other delays in development are unlikely.

Lynton Caldwell, the guiding force behind NEPA, stated that the overall goal of the law is to provide ethically-based guidance to making decisions where environmental values are in conflict with other values (1998). In his analysis of the implementation of NEPA, he notes that while impact analysis (for example through EIS’s) is important, it is not the central feature of NEPA. Rather, it is a method for discovering the risks and benefits of proposals, so that policy-makers can then apply the ethically-based decision-making criteria laid out in the law. In developing the PEIS, BLM has chosen to rely on impact analysis as the guiding factor—choosing for example the least environmentally impactful way of developing solar energy on Public Land—rather than looking to NEPA’s guiding principles to suggest alternatives. Section 101(b)(3) of NEPA says that it is the policy of the federal government to “attain the widest range of beneficial uses of the environment without degradation,” (1969). The RDEP is an example of a federal agency addressing a problem utilizing the ethical framework of NEPA,

proposing a creative solution that will meet the perceived needs of the American people while staying true to the values that NEPA promotes.

D. Efficiency, Economics & Politics

There is a significant argument made by project proponents that developing solar on Public Lands is the most cost effective method to reducing greenhouse gas emissions quickly (Haubenstock, 2011). However, this is an example of an efficiency ratio with a simplification bias- it is simply focused on output per inputted cost (Princen, 2005). And the rudimentary cost-benefit analyses utilized by the industry and proponents, for example in the PEIS, ignore a number of costs which, if taken into account, alter the level of efficiency. One of these costs is that of transmission: new transmission lines must be constructed in order to get power from remote generation sites in the desert to population centers, mostly along the coast. These costs are borne by taxpayers, and run between \$12-24 million per mile (Powers & Bowers, 2010). Another indirect cost, again borne by taxpayers, is the many billions of dollars being offered as incentives to developers in the form of loan guarantees from the Department of Energy. These funds originally came from the stimulus bill, ARRA, and obtaining these funds was a key factor driving the rush on the fast-track projects (Mulvaney, 2011). There are significant ramifications of building an industry on these types of subsidies, which will be examined in the case of Spain, below.

Finally, perhaps less tangibly but no less importantly, there are costs associated with environmental externalities. These costs have not been incorporated into the claim of efficiency, and yet have a tremendous bearing on whether or not that claim is valid. For example, the desert has been shown in recent research to function as a carbon sink, sequestering carbon through its biological processes, at a level comparable to or greater than that of forests (Jasoni, Smith, & Arnone, 2005). When the land is completely stripped of all vegetation and biological function, a consequence of utility-scale solar development, this “ecosystem service”, as it is called, will cease, and it is possible that sequestered carbon will actually be released back into the atmosphere (Powers & Bowers, 2010). This is just one

example of a multitude of environmental externalities that have not been included in the efficiency claims made by advocates of these projects.¹⁰

Advocates of developing utility-scale solar in America would do well to examine the case of solar energy in Spain, where there are valuable lessons to be learned. Riding high on the booming world economy in 2007, Spain introduced a variety of generous subsidies, including loan guarantees similar to those the DOE is currently handing out, intended to boost the solar industry. What followed was a “boom” of utility-scale solar projects, propelling Spain to the top-tier of solar energy nations in the world (“Growing Pains”, 2010). However with the world economy in the doldrums of The Great Recession in 2009, Spain slashed its subsidies significantly. This sent the solar industry of Spain into a spiral, with investors backing out and over 20,000 jobs lost; Spain’s solar industry essentially collapsed overnight (Gonzalez & Johnson, 2009). Janine Blaeloch, director of the Western Lands Project, did an assessment of the utility-scale solar industry in America, and determined that the projects are only economically feasible due to large taxpayer-funded subsidies (2010). Even executives within the solar industry acknowledge that their product is not economically viable without subsidies (Gonzalez & Johnson, 2009). Given that we have such a tenuous fiscal situation on the federal level, it seems very shortsighted to ignore the lessons of Spain’s nascent solar industry, and to continue to build this industry on the basis of subsidies.

However, one must follow the money, and subsidies are, like the rest of the policy-making process surrounding utility-scale solar, a political matter. The entire process of developing solar in the desert has been subject to intense political pressures from all quarters. California Governor Arnold Schwarzenegger, who initially drove much of the rush to development by implementing California’s RPS, was frustrated by environmentalist opposition to some developments, and quipped, “If we cannot put solar power plants in the Mojave Desert, I don’t know where the hell we can put them,” (As qtd. in Woody, 2010). According to some environmentalists, Ken Salazar was appointed to be Secretary of the Interior primarily because he would prioritize energy development on public lands (Lewis-Mernit, 2011). Since

¹⁰ These costs can be captured through the process of life cycle analysis (LCA), which looks at the cradle-to-grave impacts of production, including manufacturing & disposal (Mulvaney, 2011). However, current LCA practices by the DOE ignore the costs from changes in land use. A thorough LCA is a necessary component of evaluating if these projects truly are “efficient.”

coming into power, he has been “relentless” in his pursuit of developing solar energy, which has driven many of the actions that BLM has conducted since 2009 (Carswell & Lewis, 2010). Because of political pressures, it is common for government agencies to lack a constant course, being frequently pulled in different directions by varying and often capricious political moods in America (Rosenbaum, 2007). But in order to achieve the best policy outcomes for environmental protection, which is laid out as our national policy in NEPA, it is important for agencies to remain above the political fray. Americans need a land-use policy that remains relatively constant, regardless of who happens to be in political power at the moment. BLM should be free to conduct environmental reviews of proposed projects at the pace that the projects dictate, rather than on an artificially sped-up schedule, to ensure that the environment remains the priority, as dictated by NEPA.

Conclusions

The scope of global warming is so vast, affecting so many factors of the economy and national lifestyle, that the only player large enough to deal with in on a systematic scale is the government. BLM’s shift toward a more institutionalist model of policy-making is a positive development, because assessing impacts systematically in the PEIS, however flawed, is superior to treating all of the projects on an individual basis. However, this move does not go far enough. The government needs to institute a nation-wide energy plan, establishing goals for conservation and production, and comprehensively evaluating the environmental impacts of alternative courses of national action. The Department of Energy or the Environmental Protection Agency would be appropriate leaders for such a planning effort (Blaeloch, 2011). By comparing the relative environmental impacts of various courses of action, the nation could more accurately assess if the degradation to our Public Land is worth the gains in energy production.

An example of such an effort, on a somewhat smaller scale, is the San Diego Smart Energy 2020 Plan, authored by Bill Powers. The plan is a blueprint for meeting and exceeding California state RPS requirements in San Diego, resulting in a 50% reduction in greenhouse gas emissions by 2020 (Powers, 2007). It relies heavily on conservation and energy efficiency, peak load pricing models, and finally, distributed power generation, mostly in the form of rooftop solar. While implementation would take a comprehensive effort on the part of local

government, mandating new zoning, regulating pricing structures by utilities, and incentivizing distributed generation, it is this type of all-encompassing planning that is required to meet a large challenge like global warming. Only after such an analysis is undertaken on a national level can it be accurately assessed if utility-scale solar on Public Land is a necessity to our national energy policy.

If it is seen to be an essential component of our national energy policy, the assessment of solar energy on Public Land should cover all land types, identifying those lands, public or private, which are best suited to develop. This will likely include degraded lands, such as those identified in the Arizona RDEP, and other lands such as are being proposed by the DRECP. Simply because Public Lands have been solutions to our energy supply problems in the past, does not imply that we need to continue to perpetuate that pattern. Energy development has left a terrible environmental legacy in the West (Clarke, 2011), and changing that going forward is key to finding an environmentally sustainable method of developing solar power on Public Land. Planning efforts such as the RDEP and DRECP need to be the model that California BLM follows in planning for solar energy on Public Land.

The development of utility-scale solar energy on Public Land has been described by the BLM as “a potentially irreversible commitment of lands,” (as qtd. in Gilman, 2009). Since our public lands are a shared, common resource it is imperative that we not act hastily to meet a perceived short-term need with actions that have very long-term consequences. Scientific advisors to the DRECP project perhaps put it best in their summary of recommendations: that we need to develop solar energy, “using ‘no-regrets’ strategies in the near term—such as siting developments in already disturbed areas—as more refined analyses become available to guide more difficult decisions,” (REAT, 2010b). Until these more thorough planning efforts can be completed, prudence and resource protection must be the priorities of BLM’s management of Public Lands, as is required by law.

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Appendix A:

Transcript of comments delivered by Patrick Donnelly-Shores
at the Public Meeting in Sacramento, February 22, 2011

9 MR. DONNELLY-SHORES: Hi. My name is Patrick
10 Donnelly-Shores. I'm from Berkeley, California most
11 recently, though I lived in Yucca Valley for a number of
12 years just down the road from the Iron Mountain proposal.
13 I spent a number of years working for the SCA and
14 for BLM in the California desert. And I feel I might lend
15 a little insight to the kind of unique character of some
16 of the lands that are being proposed for development.
17 I guess I'd like to begin by applauding BLM for
18 approaching this issue in a systematic and comprehensive
19 manner like this. The PEIS is a really big step forward
20 it seems like in managing this issue. It sort of felt
21 like the wild, wild west for a minute with the proposals
22 coming in left and right.
23 I agree with the previous speakers that the Solar
24 Energy Zone alternative is the needed alternative. The
25 preferred alternative kind of perpetuates the same sort of
00013
1 willy-nilly development of solar proposals, as opposed to
2 more specific concentrated development in a more
3 systematic way like is proposed with the SEZs.
4 I'd like to spend a moment addressing very
5 specifically though the issues to designated wilderness
6 and to wilderness study areas. While there are no buffers
7 on wilderness areas, there are indirect impacts that will
8 be felt by these Solar Energy Zones, specifically impacts
9 to visual resource and impacts to biological connectivity.
10 The wilderness is by definition -- by BLM's own
11 definition, Class 1, Visual Resource Management, which
12 means it needs to be maintained as it is, and it must not
13 attract -- new impacts must not attract attention. But
14 the proposed Solar Energy Zones would actually degrade
15 both Rodman Mountains Wilderness Area and Palen-McCoy
16 Wilderness Area to Class 3 VRM, where impacts are
17 substantially noticeable.
18 And it was over 76 percent of Palen-McCoy would
19 experience this, which is -- Palen-McCoy is the biggest
20 wilderness in the California desert district. It's
21 214,000 acres. It is part of this kind of central core in
22 the eastern Mojave, Northeastern Colorado Desert of the
23 Old Woman Mountains, the Palen-McCoy, the Sheep Hole and
24 the Turtles is really kind of the heart of the wilderness
25 out there. It's almost a million acres of wilderness
1 combined with those four wilderness areas.

2 And Iron Mountain is right smack in the middle of
3 those four wildernesses. So developing that area would
4 really have significant impacts to the visual resource
5 there and also to the biological connectivity. Those four
6 wilderness areas are really important for bighorn sheep.
7 I've seen bighorn sheep in three of those wilderness areas
8 as recently as last week actually, and Palen-McCoy. And
9 so putting a large industrial development in the middle of
10 those would have really negative impacts to that.
11 Pisgah is also sited right next to the Cady
12 Mountains Wilderness Study Area. And Wilderness Study
13 Areas, by statute, have to be managed for non-impairment
14 of wilderness values, until Congress decides whether or
15 not they're going to be designated or not.
16 And so putting a big solar development right on
17 the boundary of this Wilderness Study Area would violate
18 the non-impairment clause, which I believe is in FLPMA, of
19 Wilderness Study Areas.
20 There's sort of some addressing of these effects
21 in the PEIS. But I think, in some cases, it's a little --
22 it doesn't address it far enough. For instance,
23 Palen-McCoy it says that the boundary of Palen-McCoy is
24 largely disturbed already, because there's some highways
25 there.

1 Well, I was just out in Palen-McCoy last week and
2 I got on top of the Granite Mountains and I looked out as
3 far as I could see in any direction, and you really could
4 not see anything. There was maybe a highway out there.
5 But the view if Riverside East was developed and if Iron
6 Mountain was developed would have been solar fields on all
7 four sides of me at that point. It would greatly diminish
8 the wilderness character of these areas. And that is
9 something I think that needs to be heavily considered when
10 considering which of the SEZs to develop.
11 So I definitely agree with the previous speakers
12 that Iron Mountain is not appropriate. I think Pisgah is
13 not appropriate for the impacts to wilderness adjacent to
14 there. And I think Riverside East could be easily
15 adjusted to concentrate the impact along Highway 10. That
16 is an area that is developed already and it does about the
17 southern portion of Palen-McCoy, but it wouldn't sort of
18 penetrate the heart of Palen-McCoy up in that kind of
19 eastern side of Palen-McCoy that really is undeveloped as
20 of now. So Riverside East could definitely be adjusted to
21 concentrate impacts where there already is impact. And I
22 guess that's all I have to say.
23 So thanks.

Appendix B:

Letter to accompany this document a comment on the Solar PEIS

March 29, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Ave.
EVS/240
Argonne, IL 60439

Re: Comments on the Draft Solar Programmatic Environmental Impact Statement

My name is Patrick Donnelly-Shores. I am a former resident of the desert, former BLM and SCA employee who has worked across the California Desert District, and above all, a concerned citizen. I am also a student at UC Berkeley, and have written a paper on current policy-making regarding solar energy development on Public Lands in the California desert. I have attached the paper as my comment, and will summarize my recommendations here:

- We need a more thorough, comprehensive assessment of our national energy needs, focused on conservation and efficiency, and evaluating the need for additional production. Additional production should be centered around distributed generation. Only after this process has concluded that solar energy development on Public Lands is a necessity should any further actions toward that end commence.
- The PEIS needs to be re-configured, with a broader “purpose and need” and a wider range of alternatives. There should be a clear “no action” alternative, in which no development of solar on Public Lands occurs.
- BLM does not currently have a mandate to develop renewable energy on Public Land: references to the Energy Policy Act of 2005 are erroneous when referred to as such.
- There are unmitigatable impacts to the desert concomitant with solar energy projects. The impacts are so significant that it constitutes an exclusive use of Public Land.
- The SEZPA is the alternative that BLM should adopt: it concentrates impact to discrete zones, while sparing most of the desert from this type of industrialization.
- The Restoration Design Energy Project being developed by Arizona BLM is a model for how this type of development should happen on Public Land: on previously degraded lands.
- Any evaluations of the efficiency of developing solar energy on Public Land should take into account federal subsidies, pricing for environmental degradation, and other externalities.
- The Iron Mountain and Pisgah SEZs are clearly inappropriate for solar energy development, and should be tossed out. The Riverside East SEZ should be reconfigured so that development occurs only in the I-10 corridor.

Thank you for your consideration,

-Patrick Donnelly Shores
Berkeley, CA

Thank you for your comment, Barbara Kelly.

The comment tracking number that has been assigned to your comment is SolarD11553.

Comment Date: April 14, 2011 15:13:54PM
Solar Energy Development PEIS
Comment ID: SolarD11553

First Name: Barbara
Middle Initial: P
Last Name: Kelly
Organization:
Address: 5 Camelford Ct.
Address 2:
Address 3:
City: Moraga
State: CA
Zip: 94556
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Anything to further solar energy!

Thank you for your comment, Geraldine Card-Derr.

The comment tracking number that has been assigned to your comment is SolarD11554.

Comment Date: April 14, 2011 15:17:06PM
Solar Energy Development PEIS
Comment ID: SolarD11554

First Name: Geraldine
Middle Initial: N
Last Name: Card-Derr
Organization:
Address: 237 North D St
Address 2:
Address 3:
City: Exeter
State: CA
Zip: 93221
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. There are four proposed Solar Energy Zones (SEZ) that threaten our national parks. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Christian Schmid.

The comment tracking number that has been assigned to your comment is SolarD11555.

Comment Date: April 14, 2011 15:19:37PM
Solar Energy Development PEIS
Comment ID: SolarD11555

First Name: Christian
Middle Initial: N
Last Name: Schmid
Organization:
Address:
Address 2:
Address 3:
City:
State: CA
Zip: 92256
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: PEIS Letter.docx

Comment Submitted:

To whomever it may concern,

In regards to the proposed Solar Energy Development PEIS, I believe that there are numerous implications to consider before such a plan is carried out.

The amount of transmission lines that will be necessary for this plan would be tremendous. Can we be sure that these won't interfere with the private property of the citizens who live close to the areas where the plan is laid out? Transmission lines that become damaged or downed can also be a serious threat to safety, given the fact that at least three of the fires in the San Diego County of California in October, 2007 were caused by downed transmission lines, according to research done by the Responsible Energy Development group. Also please consider the loss of property value to those who own property next to the areas.

The water resource that will be used for this plan must be measured as well. Ground water is important to the ecosystem and it is essential to maintain a good balance of it. How much water will be used to build and power these solar plants?

Lastly, consider the damage this plan will have on the environment itself. The carbon footprint that will be left if these plants were to be built would be relatively large. Yes, the development of this plan would provide better renewable energy, but the natural environment of the desert is known for its value as a carbon sink. Can we be sure that the mass removal of much of the desert environment in the proposed areas won't reduce this value? Also, many towns and cities receive revenue from tourists who come to see the distinctiveness of the desert landscape. This plan will most likely decrease that amount, decreasing the income those said cities and towns receive.

In conclusion, creating such large-scale solar plants would lead to several negative, and even irreversible, effects. However, I do appreciate the idea of finding a source of additional renewable energy. Small scale solar plants would benefit the environment, especially if they were to be built on areas that are not of use, such as oil fields, abandoned mining claims, and closed military bases. Please consider these aspects before carrying out these plans, for the sake of the people who live in the states subject to the plan, and the environment.

Sincerely,
Christian Schmid

Thank you for your comment, jean tabin.

The comment tracking number that has been assigned to your comment is SolarD11556.

Comment Date: April 14, 2011 15:25:52PM
Solar Energy Development PEIS
Comment ID: SolarD11556

First Name: jean
Middle Initial:
Last Name: tabin
Organization:
Address: 720W 5200N
Address 2:
Address 3:
City: Park City
State: UT
Zip: 84098
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I love Solar Energy and wish I could easily install it into my home. That being said, it must be developed taking environmental impact into consideration especially if put (collected) in National Parks/wilderness areas.

Thank you for your comment, Mary Smith.

The comment tracking number that has been assigned to your comment is SolarD11557.

Comment Date: April 14, 2011 15:29:53PM
Solar Energy Development PEIS
Comment ID: SolarD11557

First Name: Mary
Middle Initial: J
Last Name: Smith
Organization:
Address: 13998 165th St.
Address 2:
Address 3:
City: Little Falls
State: MN
Zip: 56345
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

If you plan it right from the beginning, it will benefit everything.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11558.

Comment Date: April 14, 2011 15:42:19PM
Solar Energy Development PEIS
Comment ID: SolarD11558

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization: Xcel Energy
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Xcel Energy supports planning efforts to streamline the development of utility-scale solar generation projects in the San Luis Valley. Large, utility-scale generation facilities are often the most cost-effective choice for solar energy. Efficiencies come with economies of scale and the ability to locate systems in areas with optimal solar resources. The San Luis Valley region, which lies within SB 91 Energy Resource Zone 4, has been identified to have great promise for solar energy development. Therefore, in general, we support the action alternatives to allow for the development of solar generation projects on BLM land over the no action alternative. We support the 'generalized' routing of transmission lines to these facilities, as described in the document.

Thank you for your comment, Joe Feinstein.

The comment tracking number that has been assigned to your comment is SolarD11559.

Comment Date: April 14, 2011 15:58:48PM
Solar Energy Development PEIS
Comment ID: SolarD11559

First Name: Joe
Middle Initial:
Last Name: Feinstein
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The survival of this planet is related to its using solar power.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11560.

Comment Date: April 14, 2011 16:01:01PM

Solar Energy Development PEIS

Comment ID: SolarD11560

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment: solar energy letter.doc

Comment Submitted:

April 13, 2011

To Whom it May Concern:

There are still many unanswered questions and concerns in regards to using 80% of the desert land remaining in Riverside County. Environmental issues may outweigh the economical advantages to using solar energy. I am aware that there are five other states involved in this project because of the solar energy resources they encompass. As part of the public spector, I believe there are still many factors that have not been thoroughly addressed. These include, but are not limited to; the visual impact it may have on tourism, recreation, the protection of our plants and animals that make this desert their home, air quality, hazardous material being used and possible contamination of our water resources. Cultural aspects, geological research, aviation safety, and transportation issues should also be discussed with the public so that nobody feels they are left in the dark about what the final outcome will be. Solar wind farms can also have a positive impact to this area, bringing new jobs, and economic growth that is desperately needed.

I feel there needs to be more research and planning meetings with all sides concerned to evaluate if technology should take precedence over nature, without ruining the image we have living here. I know the future always involves change, a necessary evil we all have to deal with, but taking away something that can never be replaced may be a mistake. Hopefully with all of our questions being brought to the table, we can work together and make decisions we will not regret in the future.

Sincerely,

A concerned desert dweller

Thank you for your comment, Bonnie Lawrence.

The comment tracking number that has been assigned to your comment is SolarD11561.

Comment Date: April 14, 2011 16:06:10PM
Solar Energy Development PEIS
Comment ID: SolarD11561

First Name: Bonnie
Middle Initial: J
Last Name: Lawrence
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am very happy that the National Parks will be using renewal energy (solar energy); however I urge you to only use it within appropriately sited Solar Energy Zones. We do not want to compromise the fantastic views or jeopardize any habitats.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11562.

Comment Date: April 14, 2011 16:10:29PM
Solar Energy Development PEIS
Comment ID: SolarD11562

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment: PEIS LETTER.docx

Comment Submitted:

April 14, 2011

To Whom It May Concern:

The proposed Riverside East solar energy zone is a plan attempting to provide renewable energy. However, with the plan involves destruction of 80% of remaining public lands in Riverside County deserts. Riverside County is a county with rolling plains, mountains, deserts, and life. Riverside County is rich with history from the early prominences of agriculture to its indigenous people. Being a resident of Riverside County all my life, I believe it my civic duty to propose my concerns for the plan. We want Riverside to be noted for the wonderful entities it offers, and not massive wind and solar farms.

Although the plan may have potential to bring about renewable energy and attempt to do good for our ecosystem, but would it bring about pros more then cons ideally? The plan would involve wiping out land home to over 1000 creatures. Not to mention, The Responsible Energy Development points out that the creation of all the solar plants can be a hazard to residents near by. The plan will damage the desert landscape, and the natural elements and minerals found in the land. Also the plan will led to effects of water and the air. Would the vision of massive solar towers thrill and individual to enter the desert cities or would they be avoided because its already enough with the windmills in Palm Springs. The number of tourist will decline and so will the appeal of entering the desert lands.

We must remember these lands are not basins of wasteland they have a meaning as well as a past. Theses lands hold tales of history and meaning to native individuals as well as local residents. It is 80% of desert land we are destroying, we must let go of the stigma many often associate these lands with but be open-minded to the closeness many hold to these lands. These lands once were trails for individual's ancestors. The lands lock culture and value to many. The proposed areas for development are also used for recreational purposes. Many individuals use the lands for outdoor enjoyment. The loss of this use will hurt the community and economy overhaul by taking away the economic gain of tourist or personal enjoyment. The cities rely on as much revenue they can gain. Please take this into consideration before developing an area that takes away life and does not allow the community to share the great outdoors.

Although the creation of these plants would contribute a degree to renewable energy and potential jobs, however; the cons far out numbered the pros for the destruction of the desert environment. Please consider the following concerns before destroying these desert lands. Remember that this project will result with irreversible destruction to the landscape and creatures home to the land. To sum, I do not support the plan for destruction of 80% of Riverside County Deserts for massive solar plants. The plan will do more bad then good. Thus, I assure to reconsider the plan and irreversible damages it will cause. As, intelligent creatures we collectively can seek alternative methods for renewable energy or relocation for such plants.

Sincerely,

Anna Acosta

April 14, 2011

To Whom It May Concern:

The proposed Riverside East solar energy zone is a plan attempting to provide renewable energy. However, with the plan involves destruction of 80% of remaining public lands in Riverside County deserts. Riverside County is a county with rolling plains, mountains, deserts, and life. Riverside County is rich with history from the early prominences of agriculture to its indigenous people. Being a resident of Riverside County all my life, I believe it my civic duty to propose my concerns for the plan. We want Riverside to be noted for the wonderful entities it offers, and not massive wind and solar farms.

Although the plan may have potential to bring about renewable energy and attempt to do good for our ecosystem, but would it bring about pros more then cons ideally? The plan would involve wiping out land home to over 1000 creatures. Not to mention, The Responsible Energy Development points out that the creation of all the solar plants can be a hazard to residents near by. The plan will damage the desert landscape, and the natural elements and minerals found in the land. Also the plan will led to effects of water and the air. Would the vision of massive solar towers thrill and individual to enter the desert cities or would they be avoided because its already enough with the windmills in Palm Springs. The number of tourist will decline and so will the appeal of entering the desert lands.

We must remember these lands are not basins of wasteland they have a meaning as well as a past. Theses lands hold tales of history and meaning to native individuals as well as local residents. It is 80% of desert land we are destroying, we must let go of the stigma many often associate these lands with but be open-minded to the closeness many hold to these lands. These lands once were trails for individual's ancestors. The lands lock culture and value to many. The proposed areas for development are also used for recreational purposes. Many individuals use the lands for outdoor enjoyment. The loss of this use will hurt the community and economy overhaul by taking away the economic gain of tourist or personal enjoyment. The cities rely on as much revenue they can gain. Please take this into consideration before developing an area that takes away life and does not allow the community to share the great outdoors.

Although the creation of these plants would contribute a degree to renewable energy and potential jobs, however; the cons far out numbered the pros for the destruction of the desert environment. Please consider the following concerns before destroying these desert lands. Remember that this project will result with irreversible destruction to the landscape and creatures home to the land. To sum, I do not support the plan for destruction of 80% of Riverside County Deserts for massive solar plants. The plan will do more bad then good. Thus, I assure to reconsider the plan and irreversible damages it will cause. As, intelligent creatures we collectively can seek alternative methods for renewable energy or relocation for such plants.

Sincerely,

Anna Acosta

Thank you for your comment, David MacPhail.

The comment tracking number that has been assigned to your comment is SolarD11563.

Comment Date: April 14, 2011 16:21:31PM
Solar Energy Development PEIS
Comment ID: SolarD11563

First Name: David
Middle Initial: H
Last Name: MacPhail
Organization:
Address: 1979 Dowling Ct
Address 2:
Address 3: 1979 Dowling Ct
City: Santa Rosa
State: CA
Zip: 95404
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The proposed SEZs must be reconfigured to reduce their impact on such areas as Joshua Tree National Park and Death Valley wilderness and other natural resources. Similarly for White Sands where wildlife and water resources may be threatened.

Thank you for your comment, Barbara Fry.

The comment tracking number that has been assigned to your comment is SolarD11564.

Comment Date: April 14, 2011 16:31:06PM
Solar Energy Development PEIS
Comment ID: SolarD11564

First Name: Barbara
Middle Initial:
Last Name: Fry
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sandra Couch.

The comment tracking number that has been assigned to your comment is SolarD11565.

Comment Date: April 14, 2011 16:48:21PM
Solar Energy Development PEIS
Comment ID: SolarD11565

First Name: Sandra
Middle Initial: L
Last Name: Couch
Organization:
Address: 2903 Bartlett Court
Address 2: Unit 201
Address 3:
City: Naperville
State: IL
Zip: 60564
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within an appropriate site for solar energy zones that do not harm wildlife or the environment for wildlife.

Thank you for your comment, John Walsh.

The comment tracking number that has been assigned to your comment is SolarD11566.

Comment Date: April 14, 2011 17:00:29PM
Solar Energy Development PEIS
Comment ID: SolarD11566

First Name: John
Middle Initial: P
Last Name: Walsh
Organization:
Address: 1181 Church St.
Address 2: Unit F
Address 3:
City: Decatur
State: GA
Zip: 300301553
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy offers us a clean and unlimited source of power. It is as dependable as being able to know when each day will start. All life on our planet depends on solar energy either directly or on something that could not live without the sun.

Plants through photosynthesis are the most efficient users of the sun. With the added fuel provided by water, a sustainable arrangement has been developed. We need to increase our use of an energy source that has developed over billions of years. The possibilities are limitless.

Thank you for your comment, Faviola Rincon.

The comment tracking number that has been assigned to your comment is SolarD11567.

Comment Date: April 14, 2011 17:16:41PM
Solar Energy Development PEIS
Comment ID: SolarD11567

First Name: Faviola
Middle Initial:
Last Name: Rincon
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: ENG1A LETTER.wps

Comment Submitted:

To whom this may concern:

I am writing this letter on behalf of many of our residents of the Coachella Valley. One voice out of a million to be heard for a change. My name is Faviola Rincon and I have been a resident of the Coachella Valley for twenty one years, which is my whole life. I have seen many changes and improvements, such as developments, new businesses and growth of population. The Coachella Valley is a beautiful and unique home to many. We can't forget how popular it is to many people all over the world for a vacation spot as well as an attraction to many tourists.

We have plenty going on now with our valley, which I must say that it still needs much improvement so that the Valley can be a more improved place to live in and visit. With all of the budget cuts we must focus on what is important to move forward with, and keep in mind the benefits and affects it will bring to our community at large.

I think that the solar energy plan is a good idea and makes sense in many ways. However, there are still many concerns that I must question to weather moving forward with this project will be the rite choice. We will be destroying many of the tourists' home, whom have lived here for many years. Also, will the Valley fever spread uncontrollably with time and cause more harm to the residents? The obstruction this project can cause can be prevented and save lives. If moving forward with this plan, has more cons to it, than pros, we should definitely reconsider the structure of this plan and the affects it will create to our Coachella Valley.

There are still many other unanswered questions and concerns that not only I have, but am positive that many of our residents do as well. I can't stress it enough to really look at the outcome of this plan, cons vs. the pros and especially the affects this

will bring mainly to our residents and animals.

Thank you for your comment, Deborah Drezner.

The comment tracking number that has been assigned to your comment is SolarD11568.

Comment Date: April 14, 2011 17:30:16PM
Solar Energy Development PEIS
Comment ID: SolarD11568

First Name: Deborah
Middle Initial: S
Last Name: Drezner
Organization: Metropolitan Water District of Southern California
Address: 700 North Alameda Street
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State: CA
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: MWD comments on draft BLM PEIS (4-14-11).pdf

Comment Submitted:



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

April 14, 2011

Via Electronic Mail and Federal Express

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue—EVS/240
Argonne, Illinois 60439

To Whom It May Concern:

Comments on the Draft Programmatic Environmental Impact Statement
for Solar Energy Development in Six Southwestern States

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the Draft Programmatic Environmental Impact Statement (Draft PEIS) for Solar Energy Development in Six Southwestern States and Notice of Public Meetings (Project).¹ The U.S. Department of the Interior, Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE) are working jointly as the lead agencies (collectively, Agencies) for the Project. The Agencies prepared the Draft PEIS to facilitate solar energy development in compliance with various orders, mandates and agency policies.

For the BLM, actions proposed in the Draft PEIS include the evaluation of a new Solar Energy Program applicable to multiple solar energy technologies at utility-scale over the next 20 years on BLM-administered lands in Arizona, California, Colorado, Nevada, New Mexico, and Utah where utility-scale solar development is defined as projects capable of generating 20 megawatts (MW) or greater of electricity that is delivered into the electricity transmission grid. The proposed Solar Energy Program will further the BLM's ability to meet the mandates of Executive Order 13212 and the Energy Policy Act of 2005 and has also been designed to meet the requirements of Secretarial Order 3285A1 (Secretary of the Interior 2010) related to identifying and prioritizing specific locations best-suited for utility-scale solar energy development on public lands. For the DOE, these actions include the evaluation of developing new program guidance relevant to DOE-supported solar energy projects. The National Environmental Policy Act (NEPA) analysis contained in the Draft PEIS will be used to the extent practicable to support future decisions; however, in some cases additional NEPA analysis may be necessary.

¹ In 2008, Metropolitan commented on the Agencies' Notice of Intent to prepare the Programmatic Environmental Impact Statement to evaluate solar energy development. That comment letter is enclosed (Enclosure 1).

Metropolitan is pleased to submit comments for consideration by BLM and DOE during the public comment period for the Draft PEIS. In sum, Metropolitan provides these comments to ensure that any potential impacts on its facilities in the vicinity of the Project and on Colorado River resources are adequately addressed. Because the Draft PEIS is evaluating the new Solar Energy Program at a programmatic level, information on specific project locations or corridors are not considered in this document. Without specific information, Metropolitan cannot determine specific impacts to its facilities and rights-of-way. Therefore, our comments at this time will be of a general nature, focusing on Metropolitan's general service system needs, concerns and issues.

BACKGROUND

Metropolitan is a public agency and regional water wholesaler comprising 26 member public agencies serving more than 19 million people in six counties in southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). Metropolitan holds an entitlement to water from the Colorado River. The CRA consists of tunnels, open canals, siphons and buried pipelines. CRA-related facilities also include pumping plants, above and below ground reservoirs and aquifers, spillways, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into the southern California coastal plain. Five pumping plants are located along the CRA, which consume approximately 2,500 gigawatt-hours of energy when the CRA is operating at full capacity. The CRA commenced delivery of Colorado River water to member agencies in 1941.

Metropolitan's Colorado River Aqueduct Transmission System (CRATS)

Metropolitan constructed the CRA in the 1930s, starting near the newly completed Parker Dam, through remote areas of the Mojave Desert in Riverside and San Bernardino counties and terminating near the city of Riverside. As mentioned above, five large pumping plants, whose total electrical demand is around 300 MW, were built along the CRA. Due to the remoteness of the area, there was no existing electrical infrastructure to transport and supply the large amount of power required by these pumps. Therefore, Metropolitan constructed a 230 kV transmission system to bring power from the Hoover and Parker Dam power plants to its five pumping plants.

The sole use and purpose of the CRATS was to deliver power to its remote pumping loads. The CRA pumps are basically tied directly to the CRATS, using a main and transfer bus configuration. There is no redundant transmission path to these loads, and the pumping plants must operate in a synchronized fashion. The CRATS was designed essentially as a pumping load tie, not as part of a larger grid system whose purpose is to move large amounts of power from distant generation sources to the load of population centers.

The CRATS currently lies within the California Independent System Operator (CAISO) Balancing Authority Area as a result of a 30-year, complex integration contract with Southern California Edison (SCE) that expires in 2017, under which SCE had performed control area

responsibilities for the CRATS. When SCE joined the CAISO in 1998, its former control area responsibilities were transferred to the CAISO. The CRATS is not part of the ISO Controlled Grid since Metropolitan, its owner, is not a CAISO Participating Transmission Owner.

The water that Metropolitan transports through the CRA is critical to the population and economy of southern California. Metropolitan was created in 1928 for the purpose of supplying the area within its boundaries with water for domestic, industrial and other beneficial uses, and incidentally to provide a means of creating a water supply for such surrounding areas as later may find it advantageous to join the District. Its first objective was the construction of the CRA and a distribution system leading to its member agencies in southern California. Historically, Metropolitan has supplied approximately one half of the total water used by the businesses, industries and 19 million residents of this region, and over 50 percent of that water has come from the CRA. To satisfy such water demands, the CRA must be operated on a near continuous basis. In some years Metropolitan has operated the CRA at maximum flow for the entire year, consumptively using 1.3 million acre-feet of Colorado River water. In other years, the CRA has been shut down briefly to perform scheduled maintenance even during the summer months, when the water supply requirements were met by other resources. Such shutdowns require extensive advance coordination and planning with Metropolitan's 26 member agencies to ensure they can continue to provide reliable water delivery to their wholesale and retail customers. Essentially, the CRA and its supporting transmission system operate on a schedule dictated by water supply requirements, not electrical considerations.

As the electric grid has developed around the CRA, Metropolitan has had to increase the complexity and capability of the protection devices on the CRATS and at the pumping plants. With the potential for higher capacity and voltage transmission lines interconnected to the CRATS or incorporated into it as contemplated by some of the potential PEIS projects, Metropolitan is very concerned about its ability to protect the pumping plants from disruption and the potential incompatibilities of the power and water conveyance missions. Metropolitan's core mission is the supply of water to southern California, and it believes potential transmission network changes to its system could impair that mission.

As explained above, the CRATS is not used as a typical transmission line nor is the CRA pump load a typical utility load. The CRA's physical dimensions limit the amount of water that can be conveyed and hence the amount of power needed to convey the water. The maximum load of the CRA is approximately 300 MW and that limit will not increase. There is no load growth potential on the CRA, so increasing the capability of the CRATS is not a benefit to Metropolitan. Also, Metropolitan has completed a condition assessment of the CRATS. The results indicate a 70 year-old transmission system with little degradation and the potential to last many more years under the same or similar loading conditions. Operating the CRATS at levels below its maximum capabilities and in a benign environment has resulted in a fully amortized system with little or no need to replace or upgrade equipment.

Metropolitan Stakeholder Involvement in State Initiatives or Plans to Support Transmission and Renewable Development Efforts

Metropolitan is an active stakeholder in the California planning activities described in Appendix D.3.2 and D.3.3 of the PEIS:

- Renewable Energy Transmission Initiative (RETI), and
- California Transmission Planning Group (CTPG).

Metropolitan submitted comments to these California planning efforts with concerns of interconnecting large scale renewable energy projects to the CRATS. Metropolitan requested several RETI and CTPG proposed solar generation connections to its CRATS be modified such that they would connect to SCE's system instead, which is designed or planned to transmit large amounts of renewable energy directly to their load centers. SCE has proposed large collector stations near the CRATS, such as the Red Bluff 500kV and Colorado River 500kV substations. Copies of Metropolitan comments are enclosed for reference and incorporated hereto (Enclosures 2a and 2b).

Some of these proposed SCE collector stations and transmission lines are listed in the RETI, CTPG reports, CAISO transmission plans, as well as in SCE's and Western Electricity Coordinating Council's (WECC's) Annual Progress Reports.

POTENTIAL IMPACTS TO METROPOLITAN'S ELECTRICAL TRANSMISSION SYSTEM

Metropolitan is concerned about potential impacts from the Project on its transmission system and related facilities. Metropolitan is concerned that locating utility-scale solar energy facilities or supporting linear infrastructure near or across its electrical transmission system could have a negative impact on Metropolitan's operations, facilities and rights-of-way. Although the Draft PEIS does not yet identify any specific direct impacts, the proposed lands available for application under both the Solar Development Program alternative and the Solar Energy Zone (SEZ) Program alternative would include or be directly adjacent to Metropolitan's facilities and property. Enclosure 3 is a map showing Metropolitan's facilities and rights-of-way juxtaposed with the proposed lands identified in the Draft PEIS. Metropolitan is also concerned that supporting linear infrastructure, not identified in the Draft PEIS, such as roads, transmission lines, and natural gas or water pipelines which could be sited outside of these designated areas could adversely affect Metropolitan facilities and rights-of-way.

The Draft PEIS assumes access to existing 230 kV lines, presumably Metropolitan's. An example of this assumption is stated on page 9.2-4: "For the analysis in this PEIS, it was assumed that the existing 230-kV transmission line that runs north-south through the western portion of the SEZ could provide access to the transmission grid, and thus no additional acreage disturbance for transmission line access was assessed. Access to the transmission line was assumed, without additional information on whether this line would be available for connection of future solar facilities." Any Project should not plan to interconnect to the CRATS as its transmission capacity is fully subscribed. Moreover, such interconnection could compromise

Metropolitan's ability to reliably operate the CRA. Instead, the Final PEIS should identify how the electricity from the SEZ or Projects will interconnect to alternate transmission lines or systems.

Summary of Transmission and Interconnection Implications to Metropolitan in the Draft PEIS

Metropolitan has reviewed sections of the Draft PEIS that could directly affect the CRATS and the reliability of Metropolitan's CRA pumping operations. The following is a summary of Metropolitan's concerns which are described in more detail below:

1. Proposed use and connection to Metropolitan's 230kV transmission system or CRATS,
2. Potential use of Metropolitan owned land for interconnections at its pumping plant substations,
3. Iron Mountain SEZ assumptions to connect to and use a 230kV line, presumably Metropolitan's, and
4. Riverside East SEZ assumptions to connect to and use a 230kV line, presumably Metropolitan's.

General Concerns Regarding Transmission and Interconnection Implications to Metropolitan in the Draft PEIS

Metropolitan has numerous technical concerns with large scale interconnection of solar plants to the CRATS, which could affect Metropolitan's mission to provide water to the 19 million residents of southern California.

From a reliability and safety aspect, Metropolitan is concerned with projects that may be developed within the designated solar development areas or with linear projects (transmission lines, roads, etc.) that may be developed within or outside of these areas that would cross or come in close proximity to Metropolitan's transmission system. Metropolitan requests that the Final PEIS analyze and assess any potential impacts to Metropolitan's transmission system including but not limited to:

- A. Metropolitan could be adversely impacted in meeting its water delivery requirements if development of the proposed lands available for utility-scale solar energy development rights-of-way applications would: (1) require de-energization of a portion or all of Metropolitan's electric system; or (2) cause any disruption of Metropolitan's electric system. The Project or any future projects that tier off the Final PEIS and Record of Decision should be designed to avoid such impacts.
- B. Any designation of solar development areas or SEZs should not lessen or remove the Agencies' responsibility to ensure that any ensuing projects do not cause physical damage to, frustrate or interfere with Metropolitan's operation of its facilities. We suggest that the Agencies discharge this responsibility by requiring future project proponents' compliance with (1) prudent energy utility practice; (2) Metropolitan's

engineering and construction requirements; (3) WECC and North American Electric Reliability Corporation (NERC) reliability standards; and (4) applicable transmission planning processes.

- C. Any new facilities resulting from the Project should not increase Metropolitan's cost or responsibilities in meeting WECC/NERC reliability requirements without appropriate compensation.
- D. Any new facilities resulting from the Project should not impede or increase the cost of any maintenance activities required on Metropolitan's CRA and related transmission lines, including local airfields.
- E. To the extent necessary, cathodic and grounding protection should be provided by any new transmission lines to protect Metropolitan's existing infrastructure, including fencing already in or near Metropolitan's rights of way.
- F. Any new facilities resulting from the Project that may cross Metropolitan's 230 kV transmission system must be designed and installed with properly functioning safety systems to preclude interference or impact to Metropolitan's 230 kV transmission system.

Specific Concerns Regarding Transmission and Interconnection Implications to Metropolitan in the Draft PEIS

Metropolitan has concerns with the following excerpts identified below from Chapter 9, *Affected Environment and Impact Assessment for Proposed Solar Energy Zones in California*:

Iron Mountain SEZ

- 1. Lines 42-46 on page 9.2-3 of Section 9.2.1.2 describe the following:

A 230kV transmission line which appears to be Metropolitan's.

The Draft PEIS correctly states that the capacity of the 230kV line would be inadequate for 9,469 to 17,043 MW of new capacity in this SEZ. It further mentions substantial new transmission and/or upgrades of existing transmission lines would be required to bring electricity from the SEZ to load centers; however it states that at this time the location and size of such new transmission facilities are unknown.

With this reference, Metropolitan is concerned that the Draft PEIS clearly indicates the existing 230kV line is inadequate to handle the new generating capacity identified in the Iron Mountain SEZ, then in item 2, ignores this limitation and assumes the transmission line would provide access to the grid.

- 2. Lines 11-15 of page 9.2-4 state:

"For the analysis in this PEIS, it was assumed that the existing 230kV transmission line that runs north-south through the western portion of the SEZ could provide access to the transmission grid, and thus no additional acreage disturbance for

transmission line access was assessed. Access to the transmission line was assumed, without additional information on whether this line would be available for connection of future solar facilities.”

The Agencies should not assume that the 230kV transmission line in the Iron Mountain SEZ is available for interconnection and these assumptions should be removed from the Final PEIS.

Metropolitan is also concerned that with this reference the Draft PEIS ignores the need to include or assess additional acreage for transmission lines and interconnections in the Iron Mountain SEZ.

Riverside East SEZ

3. Lines 6-13 on page 9.4-3 and lines 9-10 on page 9.4-25 mentions a 230kV to the west of the Riverside East SEZ which appears to be Metropolitan's.

With respect to this reference, like Item 1 above, Metropolitan is concerned with the assumed use of a 230kV line, presumably Metropolitan's, on the west edge of the Riverside SEZ. The Draft PEIS mentions a potential of 18,035 MW to 32,463 MW of new solar capacity, depending on the solar technology, which is far in excess of any capacity available on the identified 230 kV line. Although the Draft PEIS also mentions assumed connections to a 500kV and 69kV in this SEZ, it ignores the impacts of the substantial amount of transmission that would be necessary to interconnect the proposed new solar capacity to the grid.

As noted above, the Agencies should not assume that the 230kV transmission line in the west edge of the Riverside East SEZ is available for interconnection and these assumptions should be removed from the Final PEIS.

Metropolitan notes, there are other 161kV, 230kV, and 500kV substations and transmission lines in the region, that either exist or are planned, to bring renewable generation to load centers which are not discussed in these reports. As mentioned above, some of these projects are listed in the RETI and CTPG reports, CAISO transmission plans, and SCE and WECC's Annual Progress Reports.

As explained above, Metropolitan wishes to highlight its concern regarding inclusion of potential transmission connections directly affecting CRATS in the Draft PEIS. Metropolitan's concerns are based on the function and unique nature of the CRATS, which was built solely for water conveyance purposes. Metropolitan suggests the Final PEIS incorporate more interconnections, right-of-ways, roads, etc., to existing or planned investor owned utility transmission lines.

POTENTIAL IMPACTS ON METROPOLITAN'S WATER CONVEYANCE FACILITIES AND RIGHTS-OF-WAY

Metropolitan is also concerned about the Project's potential impacts on its water conveyance facilities and rights-of-way that may be affected by the Project. Metropolitan owns extensive

property in fee and easement along the CRA and its related facilities, including lands along the transmission system. Metropolitan is concerned with construction activities that could damage or limit access to our facilities, dust or spills at construction sites that could impact water quality, changes in runoff patterns that could lead to erosion or overtopping of facilities, utility corridor activities that could impact local plants, animals and habitat in such a way as to impose restrictions on Metropolitan's operations and other direct and indirect effects to Metropolitan facilities. In order to avoid potential impacts, Metropolitan requests that the Final PEIS include an assessment of potential impacts to Metropolitan's facilities with proposed measures to avoid or mitigate significant adverse effects, including those specified in Chapter 5 of the Draft PEIS.

Proposed solar facilities in the Iron Mountain subarea could impact the following Metropolitan facilities:

- (1) The CRA between Rice and the Iron Mountain Pumping Plant;
- (2) The CRA between the Coxcomb Tunnel Outlet and the Eagle Mountain Pumping Plant (EMPP);
- (3) The 230 kV lines between Iron Mountain and Hinds Pumping Plant;
- (4) Several CRA water spillways (wasteways) including Iron Mountain reservoir and radial gate, Eagle Mountain reservoir, Coxcomb tunnel inlet, and Rice.

Proposed solar facilities in the Riverside East subarea could impact the following Metropolitan facilities:

- (1) The EMPP;
- (2) The CRA between the Coxcomb tunnel outlet and the EMPP;
- (3) The 230 kV lines between the EMPP and Hinds Pumping Plant;
- (4) Portions of the CRA between Highway 62 and Interstate 10 west of Highway 177;
- (5) Portions of the 230 kV lines between Highway 62 and Interstate 10 west of Highway 177.

Metropolitan provides the following specific comments about its concerns regarding potential impacts on its facilities and rights-of-way for the Agencies' consideration and incorporation into the Final PEIS and Record of Decision:

1. Metropolitan requests that the Final PEIS note that neither private nor public entities have any entitlements to build over Metropolitan's fee-owned rights-of-way or properties, including CRA spillways.
2. Metropolitan's facilities and fee-owned or permanent easement rights-of-way should be considered in planning and in the Final PEIS, and the potential impacts that may occur due to implementation of the Project or future projects that tier off the Final PEIS.
3. Any new facilities arising out of the Project should not impact accessibility to existing facilities or impede the use of existing facilities, including the CRA system and the local airfields, as shown in Enclosure 3.

4. Metropolitan is concerned with potential impacts to its facilities associated from any future excavation, construction, utilities or any development that may result from implementation of the proposed Project.
5. Development associated with the proposed Project must not restrict any of Metropolitan's day-to-day operations and/or access to its facilities
6. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to our facilities and properties at all times in order to repair, maintain or replace our system.
7. In order to avoid potential conflicts with Metropolitan's rights-of-way, Metropolitan requires that any design and mitigation plans for any activity in the area of Metropolitan's open canals, pipelines, tunnels, spillways or facilities be submitted for our review and written approval. Approval of any project where it could impact Metropolitan's property should be contingent on Metropolitan's approval of design and mitigation plans for the project.
8. Detailed prints of drawings of Metropolitan's pipelines and rights-of-way may be obtained by calling Metropolitan's Substructures Information Line at (213) 217-6564.
9. To assist in preparing plans that are compatible with Metropolitan's facilities, easements and properties, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California" (Enclosure 4).
10. All submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way.

WATER RESOURCES: POTENTIAL IMPACTS ON WATER SUPPLIES

Metropolitan is pleased that the Agencies recognize that: "The use of groundwater in the Chuckwalla Valley and Palo Verde Mesa should be planned for and monitored in cooperation with the BOR and the USGS in reference to the Colorado River Accounting Surface and the rules set forth in the Law of the River." (Draft PEIS at page 9.4-9.) As indicated above, Metropolitan holds an entitlement to water supplies from the Colorado River. Metropolitan notes that the Agencies correctly indicate that: "The Colorado River is managed by an assemblage of compacts, federal laws, court decrees, and contracts that form the 'Law of the River.'" (Draft PEIS at page 4-50.) With water from the Colorado River being allocated pursuant to federal law and being managed by the Department of the Interior, Bureau of Reclamation (BOR), a party must have an entitlement to lawfully use Colorado River water (Boulder Canyon Project Act of 1928, 43 U.S.C. §§ 1501, *et seq.*; *Arizona v. California*, 547 U.S. 150 (2006).)

To the extent the Project or any future project that may tier off the Final PEIS and any future Record of Decision uses Colorado River water, it must have a documented right to do so. To assist the Agencies in more accurately describing the Affected Environment and Impact Assessment in the Final PEIS, Metropolitan has provided detailed comments on the portions of a number of Chapters of the Draft PEIS related to California's Colorado River water resources as Enclosures 5 and 6.

Entities in California are currently using or creating Intentionally Created Surplus and are projected in the future to use or create Intentionally Created Surplus with all of California's apportionment of Colorado River water. "Intentionally Created Surplus" is surplus Colorado River system water available for use under the terms and conditions of a Delivery Agreement with the Bureau of Reclamation, a Forbearance Agreement and the 2007 Interim Guidelines for the Operation of Lake Powell and Lake Mead. Project proponents would have to obtain water from existing contract holders for uses within the contract holder's service area. For Colorado River uses outside contract holders' service areas, Metropolitan is willing to discuss the transfer or exchange of a portion of its Colorado River water supply subject to any required approvals and so long as the project proponent agrees to provide Metropolitan with a replacement water supply. Proponents must fully address the impacts on Colorado River water resources and provide full mitigation for such impacts.

Metropolitan notes that the Draft PEIS indicates that: "Groundwater surface elevations are routinely monitored in the Chuckwalla Valley and Palo Verde Mesa as a part of the methodology used to determine groundwater that is replenished by Colorado River water, as outlined in the 2006 consolidated decree of the U.S. Supreme Court (*Arizona v. California* 2006)." (Draft PEIS at page 9.4-68.) Metropolitan recognizes that a potentially applicable mitigation measure specified in the draft PEIS is:

Project developers who plan to use groundwater should develop and implement a groundwater Water Resources Monitoring and Mitigation Plan, which includes monitoring the effects of groundwater withdrawal for project uses, of vegetation restoration and dust control uses during decommissioning, and of aquifer recovery after project decommissioning. Monitoring frequency should be decided on a site-specific basis and in coordination with federal, state, and local agencies that manage the groundwater resources of the region.

(Draft PEIS at page 5-50.)

Metropolitan proposes that as a mitigation measure, any project arising from the Final PEIS and any future Record of Decision which utilizes groundwater from one or more wells which pump water from above, at, or below the Colorado River Accounting Surface annually report the static water levels in each of the project's production wells at least annually for Colorado River water use accounting purposes, or more frequently if required by BOR. Metropolitan requests that the report reference either the current Colorado River Accounting Surface or a valid accounting surface methodology set forth in future legislation, rule-making, policy, procedure, or applicable

judicial determination, and that Metropolitan receive copies of these reports and all relevant groundwater monitoring data, if requested.

POTENTIAL ENVIRONMENTAL IMPACTS

Metropolitan is also concerned about any potential environmental impacts from siting of the proposed solar developments across or in close proximity to its facilities and rights-of-way. Metropolitan provides the following specific comments on potential environmental issues for the Agencies' consideration and incorporation into the Final PEIS:

1. The Project should not increase the potential harm to water quality from chemicals entering subsurface water tables as has been seen with hexavalent chromium (or Chromium 6) from natural gas pumping plants, liquid petroleum or hydrogen pumping plants.
2. The Project should not increase the potential to harm water quality from new pipelines carrying hazardous material.
3. Hazardous material pipelines, if any, should be placed underground when they cross the CRA.
4. Any change in flow or drainage from new facilities should not cause erosion or damage to Metropolitan's facilities or rights-of-way (i.e. aqueduct, transmission tower footings, roads, fencing, spillways and other surface facilities or rights-of-way).
5. The Project must not adversely affect Metropolitan's Hayfield Groundwater Storage and Recharge Project that is located south of the CRA near the Hinds Pumping Plant.
6. The Final PEIS also needs to take into account cumulative effects of the Project on Metropolitan's facilities, properties, and rights-of-way, both in the various phases of installations and taking into consideration the various types of uses on the proposed lands evaluated in the Draft PEIS.

The Draft PEIS makes numerous references to the potential for the CRA to provide viable habitat for wildlife, including waterfowl and shorebird species (pages 8.1-89, 9.2-106, 9.4-121 and others), amphibians (pages 9.2-11 and 9.2-84 and 9.4-96 and others) fish (9.4-135 and others) and other aquatic organisms (page 9.4-136) and special status species (9.4-140). It should be noted that the CRA is not a playa wetland habitat as noted on page 9.4-95. The CRA does not provide viable habitat for birds, amphibians, fish or other aquatic organisms, and thus, these remarks in the Draft PEIS should be removed in the final PEIS. The CRA is a concrete lined canal that runs on the surface as well as into subsurface pipelines and siphons, and conveys fast moving drinking water supplies, and thus, does not provide viable habitat.

April 14, 2011

On page 9.4-57 of the Draft PEIS, reference is made to levees channeling runoff to the CRA. This is an inaccurate statement. The levees referred to here are the V-dikes that provide flood protection for the CRA. The V-dikes channel water away from the open canal segments of the CRA to the larger washes beneath which the CRA crosses by means of inverted siphons. No floodwater or other surface runoff is ever channeled into the CRA.

POTENTIAL SOCIOECONOMIC IMPACTS

Finally, the Final PEIS should assess the socioeconomic impacts of any avoidable impacts on Metropolitan's and its member agencies' operations, including any financial or Metropolitan rate payer impacts arising out of the Project, for example, any costs due to potential interruptions of service and any costs resulting from required transmission upgrades or interconnections.

* * *

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental and related documentation on this project. If we can be of further assistance, please contact Dr. Debbie Drezner at (213) 217-5687.

Very truly yours,



John Shamma
Manager, Environmental Planning Team

DD:rdl
(Job No. 2011032427)

Enclosures:

1. Metropolitan's comments on Agencies' Notice of Intent
- 2a-b. Metropolitan's comments on the RETI and CTPG processes
3. Map
4. Metropolitan development guidelines
- 5-6. Detailed comments regarding potential impacts to Colorado River resources

cc: Mr. Christopher S. Harris,
Acting Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, California 91203-1068

ENCLOSURE 1



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

July 15, 2008

Via Electronic & U.S. Mail

Solar Energy PEIS Scoping
Argonne National Laboratory
9700 S. Cass Avenue, EVS/900
Argonne, IL 60439

Dear Sir or Madam:

Notice of Intent to Prepare a
Programmatic Environmental Impact Statement to Evaluate Solar Energy Development,
Develop and Implement Agency-Specific Programs, Conduct Public Scoping Meetings,
Amend Relevant Agency Land Use Plans, and Provide Notice of Proposed Planning Criteria

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the above referenced Notice of Intent to prepare a Programmatic Environmental Impact Statement (PEIS). The proposed PEIS would establish agency-wide solar energy programs and additional related policy. More specifically, the PEIS will evaluate different management strategies to find the best approach for agencies to use when considering approval of proposed solar energy projects on Bureau of Land Management (BLM) managed public land located in the states of Arizona, California, Colorado, New Mexico, and Utah. The Department of Energy (DOE), the U.S. Department of Interior (DOI), and the Bureau of Land Management (BLM) (collectively, Agencies) are the lead agencies for the PEIS. Metropolitan is pleased to submit these comments for the Agencies' consideration in preparing the PEIS.

Metropolitan currently has a significant number of facilities, real estate interests, and fee-owned rights-of-way, easements, and other properties (Facilities) located on or near BLM-managed land in southern California that are part of our supplemental water distribution system. Metropolitan is concerned with potential direct or indirect impacts that may result from the construction and operation of any proposed solar energy project on or near our Facilities. In order to avoid potential impacts, we request that the PEIS include a requirement that all applications for development of solar energy projects on BLM-managed land located on or near Metropolitan Facilities include an assessment of potential impacts to Metropolitan's Facilities with proposed measures to avoid or mitigate significant adverse effects. Metropolitan's specific concerns of potential impacts to Metropolitan Facilities are discussed below.

Background

Metropolitan is a public agency and a regional water wholesaler. It is governed by a 37-member Board of Directors representing 26 member public agencies serving more than 18 million people in six counties in Southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). The CRA consists of tunnels, open canals, and buried pipelines. CRA-related facilities also include above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.2 million acre-feet of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into the Los Angeles basin. Metropolitan has five pumping plants located along the CRA, which consume approximately 2,400 gigawatt-hours of energy when the CRA is operating at full capacity.

Concurrent with its construction of the CRA in the mid-1930s, Metropolitan constructed 305 miles of 230 kV transmission lines that run from the Mead Substation in Southern Nevada, head south, then branch east to Parker, California, and then west along Metropolitan's CRA. The transmission lines were built for the sole and exclusive purpose of supplying power from the Hoover and Parker power plants on the Colorado River to the five pumping plants along the CRA.

Metropolitan's ownership and operation of the CRA and its 230 kV transmission system is vital to its mission to provide Metropolitan's 5,200 square miles service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way. This core function, together with certain proposed solar energy projects near Metropolitan's CRA, its transmission facilities, or both, form the basis for Metropolitan's comments herein.

Land Use Issues: Potential Impacts on Metropolitan Facilities

Metropolitan owns extensive property in fee and easement along the CRA and its related Facilities, including Metropolitan's transmission system. Metropolitan below identifies its specific concerns regarding potential impacts on its Facilities for the Agencies' consideration and incorporation into the PEIS:

1. Metropolitan requests that the PEIS state that neither private nor public entities have any entitlements to build over Metropolitan's Facilities.
2. Metropolitan's Facilities should be considered in planning and in the PEIS, and any projects should avoid potential direct and indirect impacts that may occur due to implementation of the Project.
3. Any new facilities arising out of any projects should not impact accessibility to existing Metropolitan Facilities or impede the use of existing Metropolitan Facilities, including the CRA system.

4. Metropolitan is concerned with potential impacts to its Facilities associated from any future excavation, construction, utilities or any development that may result from implementation of any projects.
5. Development associated with any projects must not restrict any of Metropolitan's day-to-day operations and/or access to its Facilities.
6. Metropolitan must be allowed to maintain its rights-of-way and requires unobstructed access to our Facilities at all times in order to repair and maintain our system.
7. In order to avoid potential conflicts with Metropolitan's Facilities, Metropolitan requires that any design plans for any activity in the area of Metropolitan's Facilities be submitted for our review and written approval. Approval of any project where it could impact Metropolitan's property should be contingent on Metropolitan's approval of design plans for that project.
8. All submitted project designs or plans must clearly identify Metropolitan's Facilities.
9. A project shall not rely on Metropolitan's Facilities for mitigation of significant impacts caused by that project.

Land Use Issues: Potential Impacts on Metropolitan's Electrical Transmission System

Metropolitan is concerned that locating solar projects near or across its electrical transmission system could have an adverse impact on Metropolitan's electric transmission-related operations and Facilities. From a reliability and safety aspect, Metropolitan is concerned with development of any proposed projects and supporting transmission systems that would cross or come in close proximity with Metropolitan's transmission system, and accordingly provides the following specific comments on this topic for the Agencies' consideration and incorporation into the PEIS:

1. Metropolitan could be adversely impacted in meeting its water delivery obligations if the development of any projects would: (1) require the de-energization of a portion or all of Metropolitan's electric system; or (2) cause any disruption of Metropolitan's electric system. Any projects should be designed to avoid such impacts.
2. Any project should not plan to interconnect to Metropolitan's transmission system as its transmission capacity is fully subscribed. Moreover, such interconnection could compromise Metropolitan's ability to reliably operate the CRA. Instead, projects should be required to identify how they will interconnect to an alternate transmission line or system.

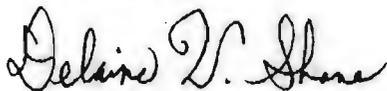
Environmental Issues

Metropolitan also has concerns regarding potential environmental impacts of the solar projects, including impacts to water resources or impacts from the siting of any projects across or in close proximity of its Facilities. Metropolitan provides the following specific comments on potential environmental issues for the Agencies' consideration and incorporation into the PEIS:

1. To the extent the projects require water resources, projects may not rely upon Metropolitan's CRA or other Facilities as a direct source of water, and must identify the source and adequacy of an alternate water supply. The PEIS should address potential impacts to water supplies and resources, including the potential for surface and/or groundwater depletion, and how the projects will mitigate for any such impacts.
2. Any project should not compromise water quality standards or increase the potential of degradation to water quality from chemicals entering subsurface water tables.
3. Any project should not increase the potential of degradation to water quality from new pipelines carrying hazardous material.
4. Hazardous material pipelines, if any, should be placed underground when they cross the CRA.
5. Any change in flow or drainage from new facilities should not cause erosion, subsidence, or damage to Metropolitan's Facilities.
6. Any project must not adversely affect any of Metropolitan's projects, including Hayfield Groundwater Storage and Recharge Project located south of the CRA near the Hinds Pumping Plant.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental and related documentation on this Project. If we can be of further assistance, please contact Raeanne Murphy at (213) 217-6319.

Very truly yours,



Delaine W. Shane
Manager, Environmental Planning Team

RM/rm

ENCLOSURE 2a



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Executive Office

June 25, 2009

Via Electronic & U.S. Mail

Ms. Clare Laufenberg Gallardo
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Renewable Energy Transmission Initiative (RETI) Phase 2A Draft Report

Dear Ms. Gallardo:

The Metropolitan Water District of Southern California (Metropolitan) is pleased to provide the following comments on the RETI Phase 2A Draft Report (Draft Report). On May 10, 2009, Metropolitan submitted initial comments expressing concern regarding RETI's potential impact to Metropolitan transmission facilities by email to RETI Stakeholder Steering Committee members Messrs. Richard Ferguson, David Olsen and Shashi Pandey. Since then, Metropolitan has been an active participant in meetings of the RETI Conceptual Planning Work Group (CPWG) and related activities, including providing comments regarding RETI to the California Energy Commission on May 22 in response to the May 4, 2009, Joint Integrated Energy Policy Report and Siting Committee workshop.

These Draft Report comments focus on potential transmission projects directly affecting Metropolitan's Colorado River Aqueduct Transmission System (CRATS). Metropolitan's concerns fundamentally arise from the purpose and unique nature of the CRATS, as explained immediately below.

Metropolitan's Electrical Transmission System

Metropolitan was created in 1928 for the purpose of transporting water from the Colorado River to the growing population in Southern California. In the 1930's, it constructed the CRA, starting near the newly completed Parker Dam, through remote areas of the Mojave Desert in Riverside and San Bernardino counties and terminating near the city of Riverside. Five large pumping plants, whose total electrical demand would be nearly 300 MW, were built along the CRA. Due to the remoteness of the area, there was no existing electrical infrastructure to transport and supply the large amount of power required by these pumps. Therefore, Metropolitan had to construct a 230 kV transmission system to bring power from the Hoover and Parker Dam power plants to its five pumping plants.

The sole use and purpose of the CRATS was to deliver power to its remote pumping loads. The CRA pumps are basically tied directly to the CRATS, using a main and transfer bus

Ms. Clare Laufenberg Gallardo

Page 2

June 25, 2009

configuration. There is no redundant transmission path to several of our pumping plants, which must operate in a synchronized fashion as there is no water storage facility along the CRA. The CRATS was designed essentially as a pumping load tie.

The CRATS currently lies within the California Independent System Operator (CAISO) Balancing Authority Area as a result of a 30-year, complex integration contract with Southern California Edison that expires in 2017, under which SCE had performed control area responsibilities for the CRATS. The CRATS is not part of the ISO Controlled Grid since Metropolitan, its owner, is not a CAISO Participating Transmission Owner.

The water that Metropolitan transports through the CRA is critical to the population and economy of Southern California. Metropolitan supplies one half of the total water used by the businesses, industries and 19 million residents of this region, and over 50 percent of that water comes from the CRA. To satisfy such water demands, the CRA must be operated on a near continuous basis. In some years, we have operated the CRA at maximum flow 24/7 for the entire year. In other years, the CRA has been shut down briefly to perform scheduled maintenance during the summer, when the water supply requirements were met by other resources. Such shutdowns require extensive advance coordination and planning with Metropolitan's 26 member agencies to ensure they can continue to provide water delivery to their wholesale and retail customers. Essentially, the CRA and its supporting transmission system operate on a schedule dictated by water supply requirements, not electrical considerations.

RETI's Proposed Changes to the CRATS

RETI proposes construction of the following Iron Mountain Collector lines: (1) Replacement of Metropolitan's existing 230 kV Iron Mountain – Camino transmission line with two new 500 kV double circuit lines connecting Iron Mountain to a new Southern California Edison Company (Edison) Junction 500 kV substation to access renewable generation within the Iron Mountain Competitive Renewable Energy Zone (CREZ); and (2) a new 500 kV single circuit line from SCE Junction – Camino to access the Needles CREZ. Metropolitan's 230 kV Iron Mountain and Camino substations would be modified as 500/230 kV.

The RETI Phase 2A Draft Report also proposed other modifications to Metropolitan's CRATS that Metropolitan is pleased to learn have since been withdrawn from further consideration by the RETI CPWG. Specifically, Metropolitan understands the two new 20 mile, 230 kV double circuit lines proposed from Metropolitan's Julian Hinds 230 kV substation to Desert Center will not appear in the final Phase 2A Report. In addition, reconstruction of Metropolitan's existing 230 kV line with double circuit towers from Julian Hinds to Eagle Mountain substations and addition of a new Hinds – Eagle Mountain line on the open side of the towers has also been withdrawn. Finally, the CPWG deleted two proposed 500 kV lines from Eagle Mountain to Devers substations (Green Energy Express), and modification of Eagle Mountain substation from 230 kV to 500/230 kV. Metropolitan greatly appreciates the CPWG's efforts to reduce RETI's

Ms. Clare Laufenberg Gallardo

Page 3

June 25, 2009

impact to Metropolitan's CRATS. For the reasons explained below, we urge further consideration of RETI's proposed changes to CRATS in the Iron Mountain CREZ.

Metropolitan's Specific Phase 2A Draft Report Comments

Apparent Underestimation of Iron Mountain CREZ & Collector Line Environmental Concerns

The Draft Report appears to have underestimated environmental concerns associated with development of the Iron Mountain CREZ and construction of the associated Iron Mountain Collector lines to deliver renewable energy to load centers. Notably, the Environmental Work Group (EWG) failed to include one of the primary (if not the major) environmental constraint in the immediate area, critical habitat for the desert tortoise in its Transmission Line Environmental Issues Checklist contained in Appendix D to the Draft Report. While the Iron Mountain CREZ lies outside of designated critical habitat for the desert tortoise, the Iron Mountain - SCE Junction and SCE Junction lines lie within a large swath of critical habitat. Such lines also lie within Desert Wildlife Management Areas, and U.S. Bureau of Land Management Areas of Critical Environmental Concern, as the EWG correctly noted. Even with the omission of critical habitat for the desert tortoise, the EWG concluded that the Iron Mountain Collector lines pose "High" Environmental Concern, as documented in Appendix D.

Metropolitan has difficulty reconciling the "High" Environmental Concern noted in Appendix D with Table 1-1 in the Draft Report, which identifies the Iron Mountain Collector lines as having the fifth lowest environmental score of 12 collector lines. Their environmental score of 131 is significantly lower than the median collector line score of 249. Metropolitan assumes the low environmental score for Iron Mountain Collector lines is in part attributable to the apparent intent to locate their construction on existing right-of-way. However, these lines will be constructed in very remote, pristine areas of the Mojave Desert, and significant adverse environmental impact could ensue from such activity.

The Iron Mountain CREZ and Collector lines are subject to additional development risk, for they are located well within the proposed Mojave Desert National Monument. If established, the Monument would appear to frustrate, if not prohibit, development of renewable generation in the Iron Mountain CREZ and possibly also the Needles CREZ. Furthermore, Executive Order S-14-08 which directs development of a Desert Renewable Energy Conservation Plan based upon a Natural Communities Conservation Plan by the end of 2010 is likely to affect development of renewable energy in the Iron Mountain CREZ. Finally, the U.S. Fish & Wildlife Service is in the process of revising its Desert Tortoise Recovery Plan, which may be completed in 2009.

All of the foregoing suggests that prospective renewable generation developers would be prudent to focus their project development efforts in areas that are not subject to the extensive environmental risk and uncertainty that is clearly associated with the Iron Mountain CREZ. Transmission plans should be appropriately focused on providing access to the CREZs that do not suffer from the same degree of project development impediments as the Iron Mountain

Ms. Clare Laufenberg Gallardo

Page 4

June 25, 2009

CREZ. This is especially true in light of the Draft Report's recognition that the total estimated renewable generation in identified CREZs is several multiples in excess of the amount of California's utilities need to procure to achieve compliance with a 33% renewable portfolio standard by 2020.

Need for Coordinated Transmission Planning Efforts

As a small electric utility, Metropolitan is especially sensitive to the multiplicity of concurrent transmission planning efforts currently going forward on a state and regional basis. RETI has done a good job thus far of coordinating its activities with affected parties. As the proposed conceptual transmission plan undergoes further revision, RETI will need to remain vigilant to ensure that all affected parties have an opportunity to provide comment, and that its plans appropriately reflect external developments such as the results of CAISO generator interconnection queue, local transmission plans and regional planning efforts such as the Western Electricity Coordinating Council's Transmission Expansion Planning Policy Committee and the Arizona Corporation Commission's Biennial Transmission Assessment.

Focus on core mission

Metropolitan supports all but one of the Draft Report's Policy Recommendations. The Draft Report's recommendation that multiple transmission charges be eliminated concerns transmission cost recovery. That issue is not germane to RETI's stated purpose, which is to (i) Help identify the transmission projects needed to accommodate these renewable energy goals; (ii) Facilitate transmission corridor designation; (iii) Facilitate transmission and generation siting permitting; and (iv) Support future energy policy. Realization of RETI's purpose is already challenging; it should seek to avoid issues extraneous to the achievement of its objectives.

Conclusion

As the electric grid has developed around the CRA, Metropolitan has had to increase the complexity and capability of the protection devices on the CRATS and at the pumping plants. With the higher capacity and voltage Iron Mountain Collector lines proposed to be interconnected to the CRATS and incorporated into it, Metropolitan is very concerned about its ability to protect the pumping plants from disruption and the potential incompatibilities of the power and water conveyance missions.

Metropolitan's core mission is the reliable supply of water to Southern California, and we remain concerned the transmission network changes to our system resulting from development of the Iron Mountain CREZ and Collector lines could impair that mission. Metropolitan looks forward to further participation in the RETI to ensure realization of its important goals is achieved in a manner that doesn't compromise Metropolitan's ability to reliably deliver water to 19 million Southern California residents.

THE METROPOLITAN WATER DISTRICT OF SOUTHRN CALIFORNIA

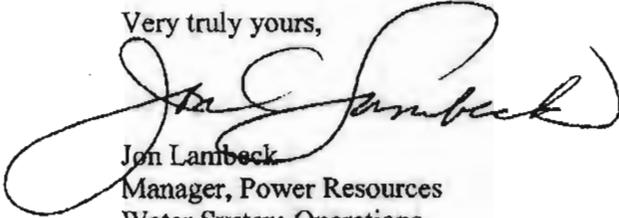
Ms. Clare Laufenberg Gallardo

Page 5

June 25, 2009

Thank you for your consideration of these comments. Please contact me at me at (213) 217-7381 or jlambek@mwdh2o.com or Ann Finley at (213) 217-7136 or afinley@mwdh2o.com should you have any questions concerning them.

Very truly yours,

A handwritten signature in black ink, appearing to read "Jon Lambek", written in a cursive style with a large loop at the end.

Jon Lambek
Manager, Power Resources
Water System Operations

(c:\opt\excc\power resources\jon\06_24_09\MWD Comments_RET1)

ENCLOSURE 2b

Message received on January 14, 2011 at 5:05pm:

MWD appreciates the hard work put forth performing the studies and developing the CTPG reports.

MWD has a question related to a 150 MW solar plant listed in the CTPG Phase 4 report associated with an Iron Mountain CREZ on pages 22-24, 48-49, 53 and 58. The report also indicates that no grid configuration changes are necessary. Please identify the utility and location/grid/bus that this proposed 150MW plant would interconnect to.

Please confirm with the high stressed WOR flows studied in the Phase 4 report, there were no unacceptable voltages (thermal and post-transient) for MWD's 230 or 6.9kV pumping system.

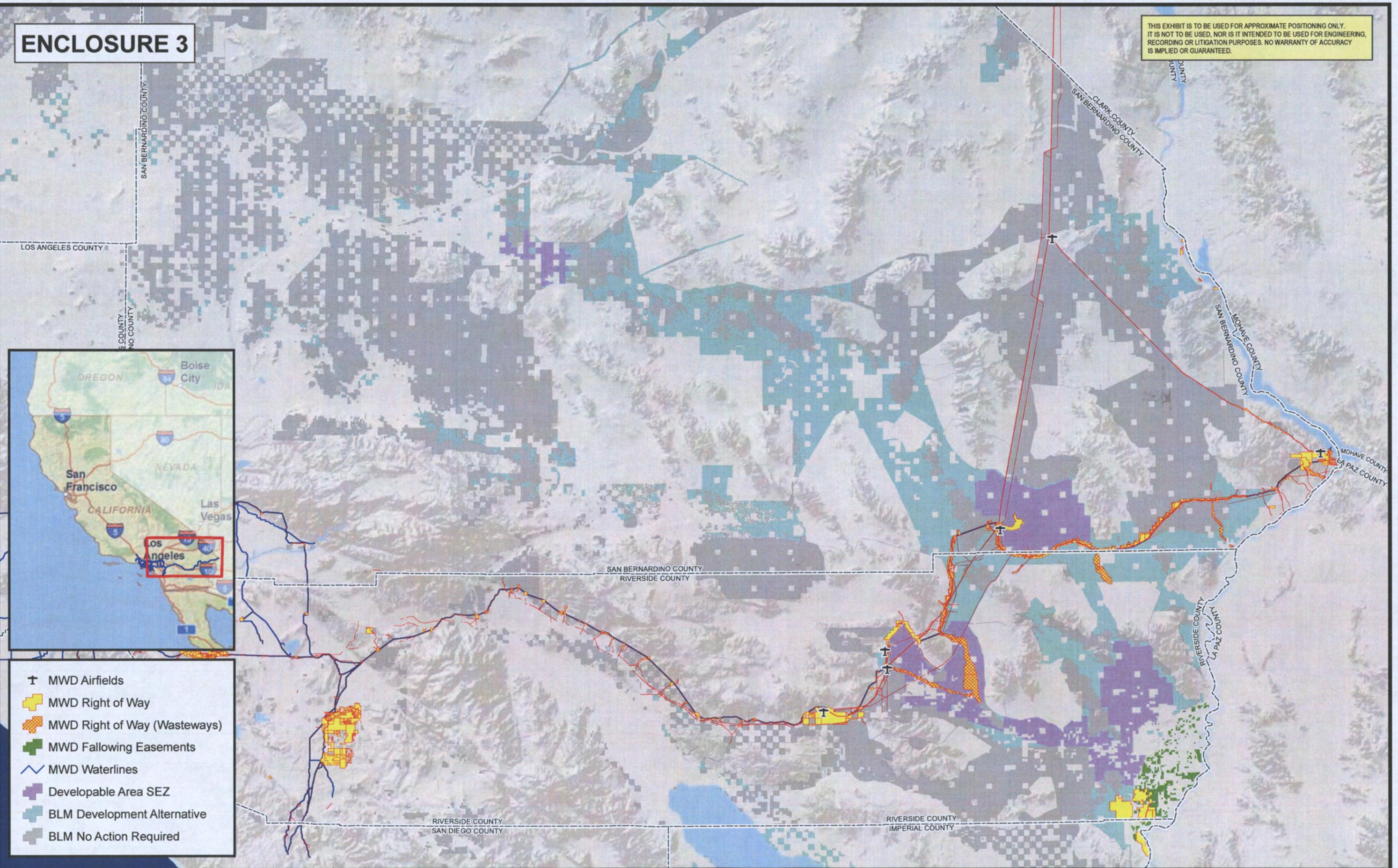
Regards,
Ann Finley
MWD

ENCLOSURE 3

THIS EXHIBIT IS TO BE USED FOR APPROXIMATE POSITIONING ONLY. IT IS NOT TO BE USED, NOR IS IT INTENDED TO BE USED FOR ENGINEERING, RECORDING OR LITIGATION PURPOSES. NO WARRANTY OF ACCURACY IS IMPLIED OR GUARANTEED.



- ✚ MWD Airfields
- MWD Right of Way
- MWD Right of Way (Wasteways)
- MWD Following Easements
- MWD Waterlines
- Developable Area SEZ
- BLM Development Alternative
- BLM No Action Required



Project: Environmental_Planning\BLM\BLM_Lands.mxd [Printed 04/05/2011] Photography Date: None Prepared by: Enrique Chen (Right of Way Engineering Team) Checked by: Debbie Drezner Job#: GIS11-03-08

ENCLOSURE 4

Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California

1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.

3. Maintenance of Access Along Metropolitan's Rights-of-Way

a. Proposed cut or fill slopes exceeding 10 percent are normally not allowed within Metropolitan's fee properties or easements. This is required to facilitate the use of construction and maintenance equipment, and provide access to its aboveground and belowground facilities.

b. We require that 16-foot-wide commercial-type driveway approaches be constructed on both sides of all streets crossing Metropolitan's rights-of-way. Openings are required in any median island. Access ramps, if necessary, must be at least 16-foot-wide. Grades of ramps are normally not allowed to exceed 10 percent. If the slope of an access ramp must exceed 10 percent due to the topography, the ramp must be paved. We require a 40-foot-long level area on the driveway approach to access ramps where the ramp meets the street. At Metropolitan's fee properties, we may require fences and gates.

c. The terms of Metropolitan's permanent easement deeds normally preclude the building or maintenance of structures of any nature or kind within its easements, to ensure safety and avoid interference with operation and maintenance of Metropolitan's pipelines or other facilities. Metropolitan must have vehicular access along the easements at all times for inspection, patrolling, and for maintenance of the pipelines and other facilities on a routine basis. We require a 20-foot-wide clear zone around all above-ground facilities for this routine access. This clear zone should slope away from our facility on a grade not to exceed 2 percent. We must also have access along the easements with construction equipment. An example of this is shown on Figure 1.

d. The footings of any proposed buildings adjacent to Metropolitan's fee properties and/or easements must not encroach into the fee property or easement or impose additional loading on Metropolitan's pipelines or other facilities therein. A typical situation is shown on Figure 2. Prints of the detail plans of the footings for any building or structure adjacent to the fee property or easement must be submitted for our review and written approval as they pertain to the pipeline or other facilities therein. Also, roof eaves of buildings adjacent to the easement or fee property must not overhang into the fee property or easement area.

e. Metropolitan's pipelines and other facilities, e.g. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes, provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's pipeline or other facilities therein.

c. Absolutely no trees will be allowed within 15 feet of the centerline of Metropolitan's existing or future pipelines and facilities.

d. Deep-rooted trees are prohibited within Metropolitan's fee properties and/or easements. Shallow-rooted trees are the only trees allowed. The shallow-rooted trees will not be permitted any closer than 15 feet from the centerline of the pipeline, and such trees shall not be taller than 25 feet with a root spread no greater than 20 feet in diameter at maturity. Shrubs, bushes, vines, and ground cover are permitted, but larger shrubs and bushes should not be planted directly over our pipeline. Turf is acceptable. We require submittal of landscape plans for Metropolitan's prior review and written approval. (See Figure 3).

e. The landscape plans must contain provisions for Metropolitan's vehicular access at all times along its rights-of-way to its pipelines or facilities therein. Gates capable of accepting Metropolitan's locks are required in any fences across its rights-of-way. Also, any walks or drainage facilities across its access route must be constructed to AASHTO H-20 loading standards.

f. Rights to landscape any of Metropolitan's fee properties must be acquired from its Right of Way and Land Division. Appropriate entry permits must be obtained prior to any entry on its property. There will be a charge for any entry permit or easements required.

6. Fencing

Metropolitan requires that perimeter fencing of its fee properties and facilities be constructed of universal chain link, 6 feet in height and topped with 3 strands of barbed wire angled upward and outward at a 45 degree angle or an approved equal for a total fence height of 7 feet. Suitable substitute fencing may be considered by Metropolitan. (Please see Figure 5 for details).

7. Utilities in Metropolitan's Fee Properties and/or Easements or Adjacent to Its Pipeline in Public Streets

Metropolitan's policy for the alinement of utilities permitted within its fee properties and/or easements and street rights-of-way is as follows:

a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alignment as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

g. Overhead electrical and telephone line requirements:

1) Conductor clearances are to conform to the California State Public Utilities Commission, General Order 95, for Overhead Electrical Line Construction or at a greater clearance if required by Metropolitan. Under no circumstances shall clearance be less than 35 feet.

2) A marker must be attached to the power pole showing the ground clearance and line voltage, to help prevent damage to your facilities during maintenance or other work being done in the area.

3) Line clearance over Metropolitan's fee properties and/or easements shall be shown on the drawing to indicate the lowest point of the line under the most adverse conditions including consideration of sag, wind load, temperature change, and support type. We require that overhead lines be located at least 30 feet laterally away from all above-ground structures on the pipelines.

4) When underground electrical conduits, 120 volts or greater, are installed within Metropolitan's fee property and/or easement, the conduits must be incased in a minimum of three inches of red concrete. Where possible, above ground warning signs must also be placed at the right-of-way lines where the conduits enter and exit the right-of-way.

h. The construction of sewerlines in Metropolitan's fee properties and/or easements must conform to the California Department of Health Services Criteria for the Separation of Water Mains and Sanitary Services and the local City or County Health Code Ordinance as it relates to installation of sewers in the vicinity of pressure waterlines. The construction of sewerlines should also conform to these standards in street rights-of-way.

i. Cross sections shall be provided for all pipeline crossings showing Metropolitan's fee property and/or easement limits and the location of our pipeline(s). The exact locations of the crossing pipelines and their elevations shall be marked on as-built drawings for our information.

j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assist others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

l. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED _____ PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED _____ CONDUIT"

m. Cathodic Protection requirements:

1) If there is a cathodic protection station for Metropolitan's pipeline in the area of the proposed work, it shall be located prior to any grading or excavation. The exact location, description and manner of protection shall be shown on all applicable plans. Please contact Metropolitan's Corrosion Engineering Section, located at Metropolitan's F. E. Weymouth Softening and Filtration Plant, 700 North Moreno Avenue, La Verne, California 91750, telephone (714) 593-7474, for the locations of Metropolitan's cathodic protection stations.

2) If an induced-current cathodic protection system is to be installed on any pipeline crossing Metropolitan's pipeline, please contact Mr. Wayne E. Risner at (714) 593-7474 or (213) 250-5085. He will review the proposed system and determine if any conflicts will arise with the existing cathodic protection systems installed by Metropolitan.

3) Within Metropolitan's rights-of-way, pipelines and carrier pipes (casings) shall be coated with an approved protective coating to conform to Metropolitan's requirements, and shall be maintained in a neat and orderly condition as directed by Metropolitan. The application and monitoring of cathodic protection on the pipeline and casing shall conform to Title 49 of the Code of Federal Regulations, Part 195.

4) If a steel carrier pipe (casing) is used:

(a) Cathodic protection shall be provided by use of a sacrificial magnesium anode (a sketch showing the cathodic protection details can be provided for the designers information).

(b) The steel carrier pipe shall be protected with a coal tar enamel coating inside and out in accordance with AWWA C203 specification.

n. All trenches shall be excavated to comply with the CAL/OSHA Construction Safety Orders, Article 6, beginning with Sections 1539 through 1547. Trench backfill shall be placed in 8-inch lifts and shall be compacted to 95 percent relative compaction (ASTM D698) across roadways and through protective dikes. Trench backfill elsewhere will be compacted to 90 percent relative compaction (ASTM D698).

o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

10. Drainage

a. Residential or commercial development typically increases and concentrates the peak storm water runoff as well as the total yearly storm runoff from an area, thereby increasing the requirements for storm drain facilities downstream of the development. Also, throughout the year water from landscape irrigation, car washing, and other outdoor domestic water uses flows into the storm drainage system resulting in weed abatement, insect infestation, obstructed access and other problems. Therefore, it is Metropolitan's usual practice not to approve plans that show discharge of drainage from developments onto its fee properties and/or easements.

b. If water must be carried across or discharged onto Metropolitan's fee properties and/or easements, Metropolitan will insist that plans for development provide that it be carried by closed conduit or lined open channel approved in writing by Metropolitan. Also the drainage facilities must be maintained by others, e.g., city, county, homeowners association, etc. If the development proposes changes to existing drainage features, then the developer shall make provisions to provide for replacement and these changes must be approved by Metropolitan in writing.

11. Construction Coordination

During construction, Metropolitan's field representative will make periodic inspections. We request that a stipulation be added to the plans or specifications for notification of Mr. _____ of Metropolitan's Operations Services Branch, telephone (213) 250-____, at least two working days prior to any work in the vicinity of our facilities.

12. Pipeline Loading Restrictions

a. Metropolitan's pipelines and conduits vary in structural strength, and some are not adequate for AASHTO H-20 loading. Therefore, specific loads over the specific sections of pipe or conduit must be reviewed and approved by Metropolitan. However, Metropolitan's pipelines are typically adequate for AASHTO H-20 loading provided that the cover over the pipeline is not less than four feet or the cover is not substantially increased. If the temporary cover over the pipeline during construction is between three and four feet, equipment must be restricted to that which

imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

2) In order to ensure compliance with the regulations implementing CEQA where Metropolitan is not the Lead Agency, the following minimum procedures to ensure compliance with the Act have been established:

a) Metropolitan shall be timely advised of any determination that a Categorical Exemption applies to the project. The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

b) Metropolitan is to be consulted during the preparation of the Negative Declaration or EIR.

c) Metropolitan is to review and submit any necessary comments on the Negative Declaration or draft EIR.

d) Metropolitan is to be indemnified for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

b. When Environmental Documents Have Been Prepared

If environmental documents have been prepared for your project, please furnish us a copy for our review and files in a timely manner so that we may have sufficient time to review and comment. The following steps must also be accomplished:

1) The Lead Agency is to advise Metropolitan that it and other agencies participating in the project have complied with the requirements of CEQA prior to Metropolitan's participation.

2) You must agree to indemnify Metropolitan, its officers, engineers, and agents for any costs or liability arising out of any violation of any laws or regulations including but not limited to the California Environmental Quality Act and its implementing regulations.

15. Metropolitan's Plan-Review Cost

a. An engineering review of your proposed facilities and developments and the preparation of a letter response

giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.

17. Additional Information

Should you require additional information, please contact:

Civil Engineering Substructures Section
Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles, California 90054-0153
(213) 217-6000

JEH/MRW/lk

Rev. January 22, 1989

Encl.

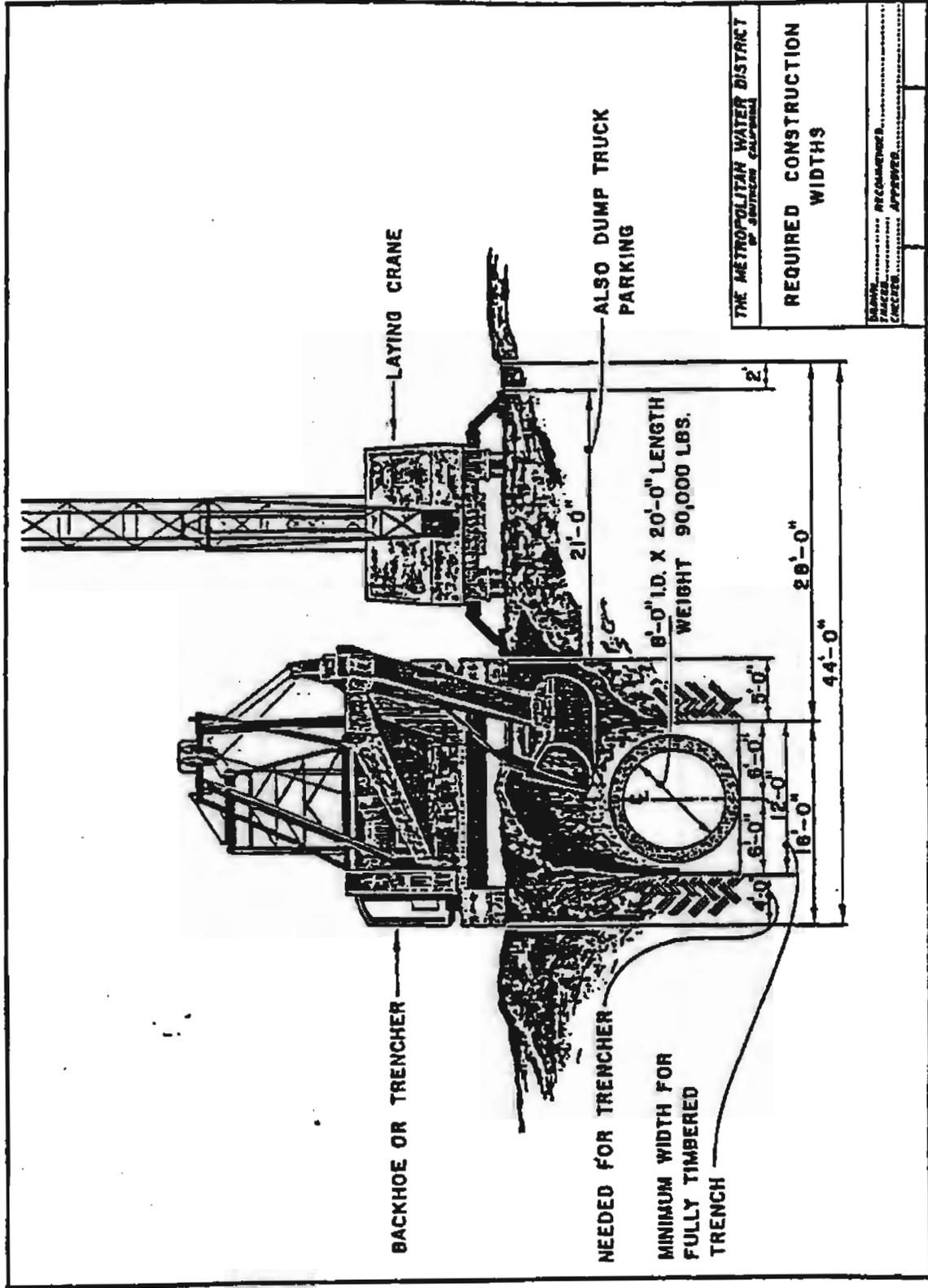
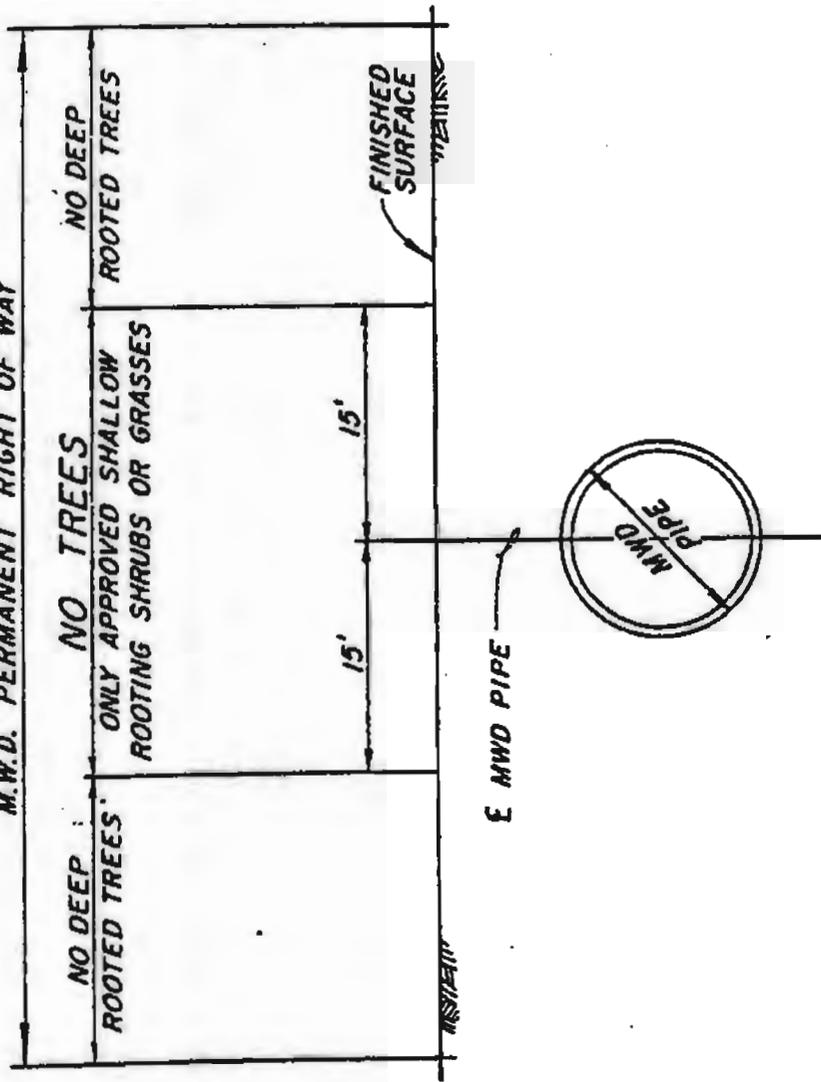


FIGURE 1

M.W.D. PERMANENT RIGHT OF WAY

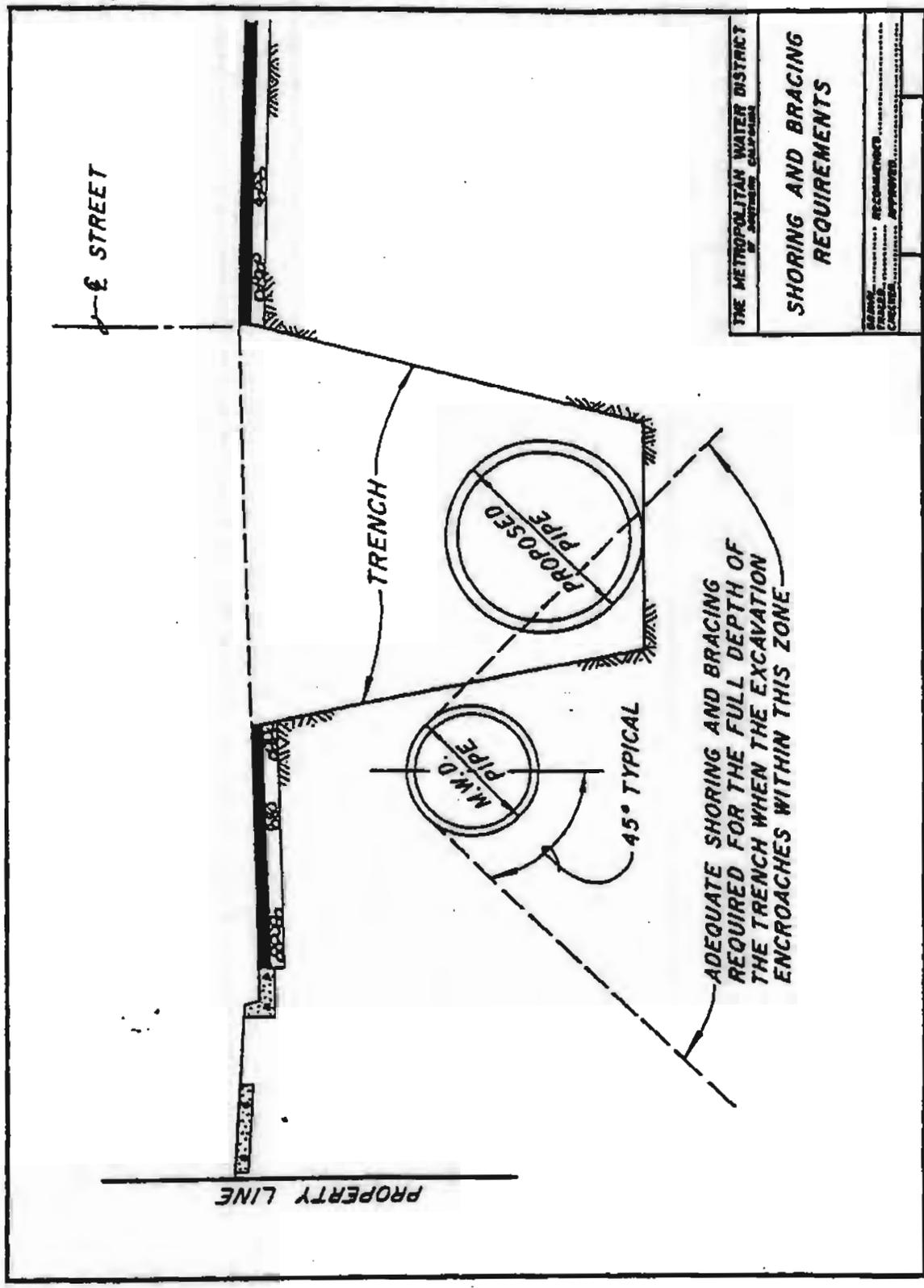


THE METROPOLITAN WATER DISTRICT
OF DALLAS TEXAS

**LANDSCAPE GUIDELINES
FOR
M.W.D. RIGHT OF WAY**

DESIGNED BY: [REDACTED] RECOMMENDED BY: [REDACTED]
DRAWN BY: [REDACTED] CHECKED BY: [REDACTED] APPROVED BY: [REDACTED]

FIGURE 3

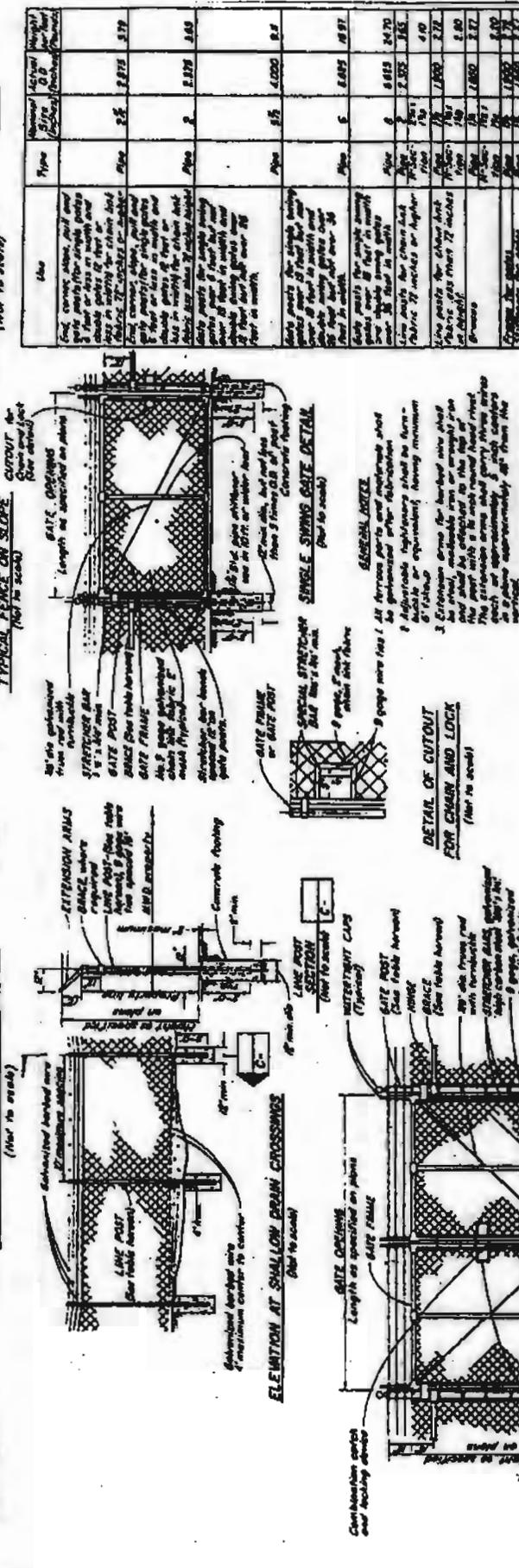
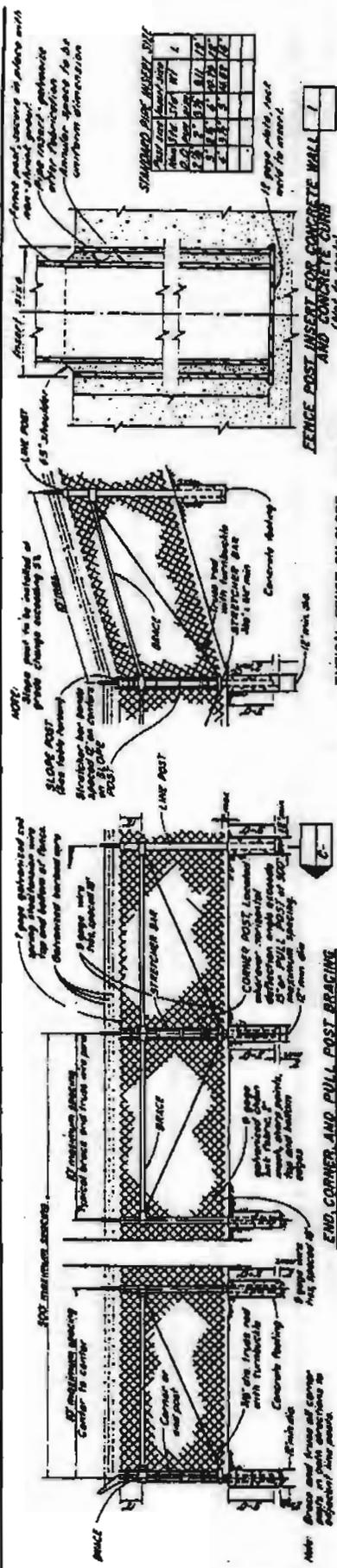


THE METROPOLITAN WATER DISTRICT
OF DISTRICT OF COLUMBIA

**SHORING AND BRACING
REQUIREMENTS**

DESIGNED BY: _____
 DRAWN BY: _____
 CHECKED BY: _____
 APPROVED BY: _____

FIGURE 4



Type	Post Size (Inches)	Post Length (Feet)	Post Weight (Lbs)	Post Spacing (Feet)
Line	2 1/2	12	17.5	12
Line	3	12	22.5	12
Line	3 1/2	12	28.5	12
Line	4	12	35	12
Line	4 1/2	12	42	12
Line	5	12	49	12
Line	5 1/2	12	56	12
Line	6	12	63	12
Line	6 1/2	12	70	12
Line	7	12	77	12
Line	7 1/2	12	84	12
Line	8	12	91	12
Line	8 1/2	12	98	12
Line	9	12	105	12
Line	9 1/2	12	112	12
Line	10	12	119	12
Line	10 1/2	12	126	12
Line	11	12	133	12
Line	11 1/2	12	140	12
Line	12	12	147	12

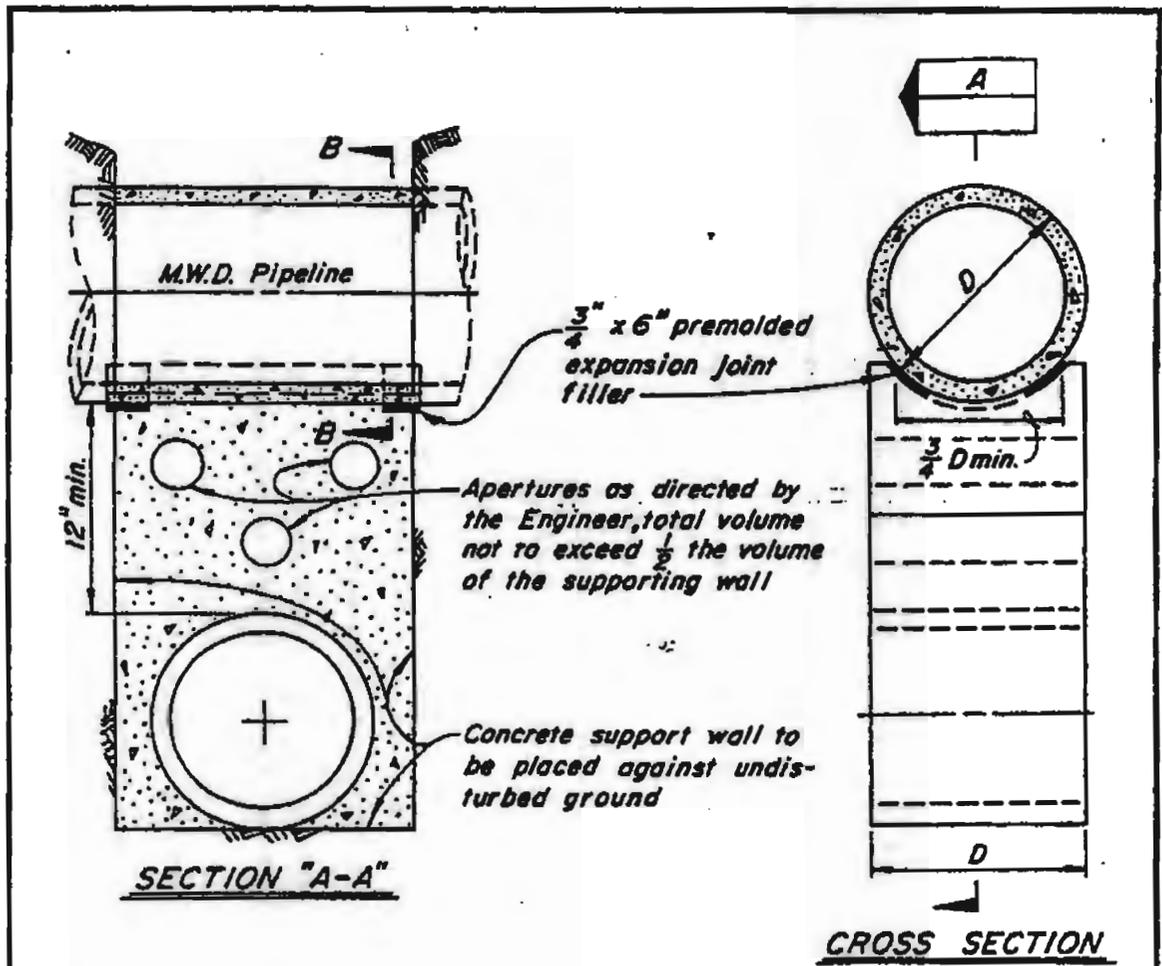
THE METROPOLITAN WATER DISTRICT
OF DISTRICT OF COLUMBIA
WASHINGTON, D.C.

CHAIN LINK
FENCE DETAILS

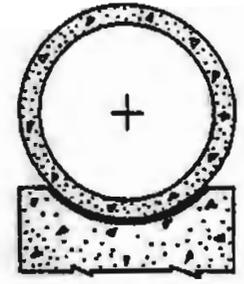
GENERAL NOTES:
1. All gates should be heavy duty.
2. All gates should be made of galvanized steel.
3. All gates should be made of galvanized steel.
4. All gates should be made of galvanized steel.
5. All gates should be made of galvanized steel.

FIGURE 5

FORM NO. 68-6 FROM 11-67 P.O. 67-3714

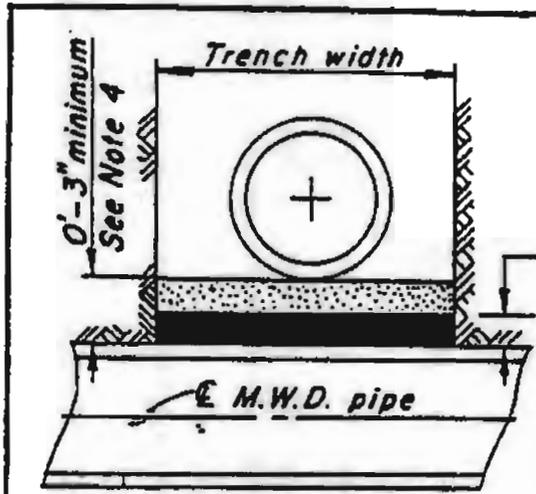


1. Supporting wall shall have a firm bearing on the subgrade and against the side of the excavation.
2. Premolded expansion joint filler per ASTM D-1751-73 to be used in support for steel pipe only.
3. If trench width is 4 feet or greater, measured along centerline of M.W.D. pipe, concrete support must be constructed.
4. If trench width is less than 4 feet, clean sand back-fill, compacted to 90% density in accordance with the provisions of ASTM Standard D-1557-70 may be used in lieu of the concrete support wall.

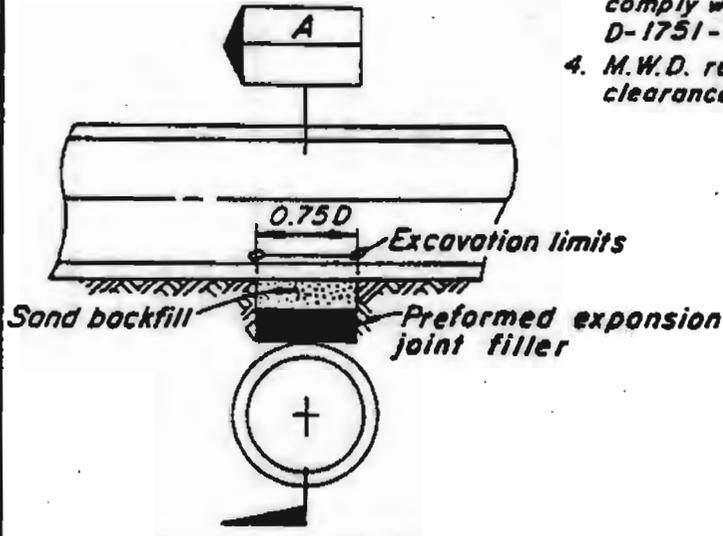


THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	
TYPICAL SUPPORT FOR M.W.D. PIPELINE	
DRAWN	RECOMMENDED
TRACES	APPROVED
CHECKED	C-9547

FORM NO. 28 © 1968 11/87 P.D. 07-0312



SECTION A



CROSS SECTION

3" Preformed expansion joint filler

NOTES

1. This method to be used where the utility line is 24" or greater in diameter and the clearance between the utility line and M.W.D. pipe is 12" or less.
2. Special protection may be required if the utility line diameter is greater than M.W.D. pipe or if the cover over the utility line to the street surface is minimal and there is 12" or less clearance between M.W.D. pipe and the utility line.
3. Preformed expansion joint filler to comply with ASTM designation D-1751-73.
4. M.W.D. requests 12" minimum clearance whenever possible.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA	
TYPICAL EXPANSION JOINT FILLER PROTECTION FOR OVERCROSSING OF M.W.D. PIPELINE	
DRAWN: _____	REVISIONS: _____
TRACED: _____	APPROVED: _____
CHECKED: _____	
	C-11632

ENCLOSURE 5

The Metropolitan Water District of Southern California's Detailed Comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Page 4-49, Line 41: In the Final PEIS in the sentence, “The International Boundary and Water Commission (IBWC) was established in 1889 to implement water treaties between the United States and Mexico (IBWC 2010a).”:

- before the phrase “in 1889” insert “as the International Boundary Commission”,
- after the phrase “in 1889” insert “to apply rules adopted by the Convention of 1884. The United States and Mexico used studies developed by the Commission as the basis for the first water distribution treaty between the two countries, the Convention of March 1, 1906, which allocated the waters of the Rio Grande from El Paso to Fort Quitman, an 89-mile (143 km) international boundary reach of the Rio Grande through the El Paso-Juárez Valley. The Commission was also instrumental in developing the second water distribution treaty between the United States and Mexico in 1944, which addressed utilization of the waters of the Colorado River and Rio Grande from Fort Quitman, Texas to the Gulf of Mexico. The Water Treaty of February 3, 1944 expanded the duties and responsibilities of the Commission and renamed it the International Boundary and Water Commission (IBWC).”
”, and
- revise the phrase “to implement” to “IBWC implements”

to better reflect the history of the IBWC.

Page 4-50, Line 3: In the Final PEIS in the sentence, “In 2006, the United States and Mexico signed the Transboundary Assessment Aquifer Act (P.L. 109-448), which promotes sustainability of the aquifer systems that are shared across the United States–Mexico border.”:

- revise the phrase “the United States and Mexico signed” to “The President approved”, and
- revise the phrase “which promotes sustainability of the aquifer systems that are shared across the United States–Mexico border” to “directing the Secretary of the Interior to establish a United States-Mexico transboundary aquifer assessment program to systematically assess priority transboundary aquifers.”

to reflect the language of P.L. 109-448.

Page 4-50, Line 19: Insert the phrase “downstream from Lee Ferry, Arizona” following “River” in the Final PEIS in the sentence, “In the Consolidated Decree (2006) the Supreme Court directed the Secretary of the Interior to determine and manage flow of the Colorado River, acting as a water master.” in accordance with Article I(C) of the Decree.

Page 4-51, Line 2 Heading: Revise the word “Agreement” to “Document” in the Final PEIS as not all of the listings are agreements.

Page 4-51: Insert “Colorado River” before “water” in the Final PEIS in the sentence, “Authorized the Secretary of the Interior to manage all water uses in Lower Colorado River Basin.” to reflect the provisions of the Boulder Canyon Project Act.

Page 4-51: Revise “Coachella Valley Irrigation District” to “Coachella Valley Water District” in the Final PEIS in the sentence:

“Prioritized California’s allotment among local water management entities—Palo Verde Irrigation District, Yuma Project, Imperial Irrigation District, Coachella Valley Irrigation District, Metropolitan Water District, and the City and County of San Diego.”

to reflect the proper name of the District.

Page 4-51: Following the sentence “Committed 1.5 million ac-ft/yr (1.9 billion m3/yr) of Colorado River water to Mexico”, in the Final PEIS insert:

“In any year in which, as determined by the United States Section of the IBWC, there exists a surplus of waters of the Colorado River in excess of the amount necessary to supply uses in the United States and the guaranteed quantity of 1.5 million ac-ft (about 1.9 billion m3/yr) annually to Mexico, the United States undertakes to deliver to Mexico additional waters to provide a total quantity not to exceed 1.7 million ac-ft/yr (about 2.1 billion m3/yr). In the event of extraordinary drought or serious accident to the irrigation system in the United States, thereby making it difficult for the United States to deliver the guaranteed quantity of 1.5 million ac-ft/yr (about 1.9 billion m3/yr), the water allotted to Mexico will be reduced in the same proportion as consumptive uses in the United States are reduced.”

to reflect the provisions of the Treaty.

Page 4-51: Revise the word “Decision” to “Decree” in the Final PEIS in the phrase “Arizona v. California U.S. Supreme Court Decision” as the Decision was rendered in 1963 while the Decree was issued in 1964.

Page 4-51: Revise the word “Decision” to “Decree” in the Final PEIS in the sentence, “Provided a single reference to the 1964 U.S. Supreme Court Decision and provisions. Insert the phrase “the settlement of” before “Tribal” in the Final PEIS in the sentence “Also incorporated provisions for Tribal water rights for the Fort Yuma Indian Reservation.” as provisions for certain Tribal water rights for the Fort Yuma Indian Reservation were included in the 1979 Supplemental Decree.

Page 4-52: Revise the phrase “take action in reducing salinity in Colorado River water released from Morelos Dam into Mexico.” to:

“adopt measures to assure that the approximately 1.36 million ac-ft (1.7 billion m3/yr) delivered to Mexico upstream of Morelos Dam, have an annual average salinity of no more

than 115 parts per million \pm 30 parts per million over the annual average salinity of Colorado River water which arrive at Imperial Dam.”

in the Final PEIS in the sentence, “Required the United States to take action in reducing salinity in Colorado River water released from Morelos Dam into Mexico.” to reflect the text of Minute 242.

Page 4-59, Line 9: Insert the word “certain” before “water” in the Final PEIS in the sentence, “As water rights can be transferred or traded, the use of water among various sectors could also change with time.” to be consistent with the sentence beginning at Line 44.

Page 4-59, Line 23: In the Final PEIS following the sentence, “Two main water rights doctrines are used as the basis of water laws in the United States: the riparian doctrine and the doctrine of prior appropriation.” insert the sentence:

“There are three ways to apportion interstate rivers:

- First, the states in the river basin may seek relief in the U.S. Supreme Court, relying on the Court’s original jurisdiction under the Constitution to apportion the river equitably.
- Second, Congress may allocate the waters, relying on its powers over interstate commerce and navigation.
- Third the states, with Congressional consent, can sign an interstate compact-a binding agreement.

(Colorado River Commission of Nevada, 2006, “*Laws of the Rivers*” *The Legal Regimes of Major Interstate River Systems of the United States*, Oct.)”

to distinguish between intrastate and interstate water resources.

Page 4-61, Line 14: Revise the phrase “*California 15 Code of Regulations*, Title 23” to state “California Water Code and Title 23 of the California Code of Regulations” to more fully describe California’s suite of water laws.

Page 4-62, Line 34: In the Final PEIS in the sentence, “Additionally, in many regions of the southwestern United States, water conservation agencies and irrigation districts are responsible for the local management of water resources, and can also act as the water master for adjudicated basins (e.g. Imperial Irrigation District, Mojave Water Agency, Palo Verde Irrigation District, and Metropolitan Water Agency, operating in California).”:

- revise the word “local” to “regional”,
- move the text in parenthesis to following the word “resources”,
- revise “Metropolitan Water Agency” to “Metropolitan Water District”, and
- insert “(e.g. Mojave Basin Area Watermaster)” following the word “basins”

to accurately name Metropolitan and describe the agencies' responsibilities.

Page 4-66, Line 31: Insert the word "Resources" before "Control" in the Final PEIS in the sentences:

"For example, water rights and water quality are managed by the State Water Control Board, while the Department of Water Resources manages water conveyance, infrastructure, and flood management (CADWR 2010c). Surface water appropriations for nonriparian rights begin with a permit application to the State Water Control Board and a review process that examines the application's beneficial use, pollution potential, and water quantity availability."

to utilize the proper name of the Board.

Page 4-67, Line 23: Revise the phrase "neighboring states, such as Arizona (the Colorado River) and Oregon" to "the Colorado River and a neighboring state, Oregon" in the Final PEIS in the sentence:

"The water supplies of California are based on precipitation in the state as well as imports from neighboring states, such as Arizona (the Colorado River) and Oregon, and from Mexico."

as the portion of the Colorado River or its reservoirs from which water is imported is in California.

Page 4-68, Line 11: In the Final PEIS, revise the sentence "Under the Colorado River Compact of 1922, California is apportioned with 4.4 million ac-ft/yr of the river water." to:

"The State of California is entitled to the consumptive use of up to 4.4 million acre-feet per year (5.4 billion m³/yr) of Colorado River water within the Lower Basin apportionment of 7.5 million acre-feet (9.3 billion m³/yr) per year when the Secretary of the Interior determines through the Annual Operating Plan (AOP) that a Normal Condition of water availability exists. California is further entitled to additional water during years in which the Secretary determines the existence of a Surplus Condition or makes available to California water apportioned to, but not used by, the States of Arizona and Nevada. (BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.)"

to accurately describe the condition under which California is limited to 4.4 million ac-ft/yr.

Page 4-68, Line 14: Revise the phrase "is going to reduce the inflow in the future to meet the Compact's requirement" to "has reduced the inflow to that available during a Normal Condition or an Intentionally Created Surplus Condition" in the Final PEIS in the sentence:

"The state is going to reduce the inflow in the future to meet the Compact's requirement, thus reducing its supply from the Colorado River."

to reflect this historical development.

Page 4-68, Line 17: Revise the text “14.5million to “14.5 million” in the Final PEIS in the sentence:

“Water use fluctuates among different sectors with hydrologic conditions, such as a wet (1998), normal (2000), or dry year (2001), especially for environmental use, which ranges from 14.5million to 44.7 million ac-ft (17.9 billion to 55.1 billion m3) in depletion from 1998 to 2001.”

to correct a typographical error.

Page 4-66, Line 31: Following the phrase, “For example,” insert the following text in the Final PEIS:

“the apportionment of Colorado River water for use in the Lower Basin in the Lower Division States of Arizona, California, and Nevada is governed by the Boulder Canyon Project Act, Public Law (Pub. L.) No. 70-642, 45 Stat. 1057 (1928) (BCPA) and by the framework established under the United States Supreme Court’s 1963 Opinion and 1964 Decree in *Arizona v. California*. The 1964 Decree was incorporated in 2006 into a final consolidated decree in *Arizona v. California*, 547 U.S. 150 (2006) (Consolidated Decree). Colorado River water is apportioned for use within the Lower Division States by the Secretary of the Interior (Secretary), in accordance with the BCPA and the Consolidated Decree. (BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.) In California,”

to distinguish between Colorado River resources and other water resources.

Page 4-72, Line 30: Revise the phrase “Colorado River Compact of 1922” to “Boulder Canyon Project Act and the Consolidated Decree when the Secretary of the Interior determines through the Annual Operating Plan (AOP) that a Normal Condition of water availability exists” in the Final PEIS in the sentence:

“It is entitled to 300,000 ac-ft/yr (370 million m3/yr) of water under the Colorado River Compact of 1922.”

to reflect the fact that the Compact did not allocate a specific quantity of water to Nevada.

Page 4-75, Line 18: Delete the word “of” following “evaluating” in the Final PEIS in the sentence, “The responsibilities of the commission include evaluating of the conditions of the eight interstate river basins and ensuring compliance with interstate compacts for those basins.” to correct a grammatical error.

Page 4-77, Line 34: Delete the word “be” following “will” in the Final PEIS in the sentence,

“The appropriation and use of effluent requires a water right that must be granted by the Utah Division of Water Rights, and the main criterion of assessment is whether the proposed right will be reduce the water quantity for use by downstream users who may depend on the effluent to satisfy their water rights (Utah Department of Water Resources 2001).”

to correct a grammatical error.

Page 4-92, Line 33: Insert the word “California” following “Arizona” in the Final PEIS in the sentence, “As described in Section 4.9.1 (Surface Water Resources), the Lower Colorado, Rio Grande, and Great Basin hydrologic regions include arid areas in Arizona, Nevada, New Mexico, southwestern Utah, and south-central Colorado (Figure 4.9-1)” to be consistent with the area shown in Figure 4.9-1.

Page 4-93, Line 13: With respect to the sentences,

“The native fish community within the lower Colorado River hydrologic region is dominated by fishes within the minnow and sucker families. The Lower Colorado River itself was historically a warm, turbid, and swift river (Schmidt 1993). Construction of dams within the region, such as the Glen Canyon and Hoover Dams on the main-stem Colorado River, has now altered habitat conditions and changed flow regimes in some of the major river systems by creating a series of cold, clear impoundments.”,

Glen Canyon Dam is in the upper Colorado River hydrologic region as indicated by the text on page 4-95 at line 12.

Page 5-40, Line 3: Delete the word “a” before “flat” in the Final PEIS in the sentence, “Land disturbance impacts are expected to be greater in areas occupied by an alluvial fan or other landscape features with topography more so than in a flat regions.” to correct a grammatical error.

Page 6-20: Insert the phrase “and its associated right-of-way” following “Aqueduct” in the Final PEIS in the sentence, “Avoid ephemeral drainages, Ford Dry Lake, Palen Lake, McCoy Wash, and the Colorado River Aqueduct.”

Page 8.1-224, Line 31, Page 9.2- 253, Line 27 and Page 9.4-318, Line 45: Revise the word “Municipal” to “Metropolitan” in the Final PEIS in the sentence, “Patton worked out deals with the railroad companies (Union Pacific, Santa Fe, and Southern Pacific) and the Municipal Water District in order to supply transportation and water for the troops.” to properly reflect the name of the District.

Page 8.1-270, Line 1: Revise the word “Blyth” to “Blythe” in the Final PEIS in the sentence, “Census block groups with low-income populations more than 20 percentage points higher than the state average are located to the northwest of the SEZ, including the Colorado River Indian Reservation, in the city of Blyth, and to the southeast of the site, in Yuma County.” to correct a typographical error.

Figure 9.1.1.1-1, Proposed Imperial East SEZ, on Page 9.1-12 shows “BLM Lands Available” south of the Fort Yuma (Quechan) Reservation and north of the California-Arizona boundary. These lands were conveyed by BLM to the State of Arizona in 1982. As such, this area should not be shown as “BLM Lands Available” in the Final PEIS. Enclosure 6 is a copy of a February 15, 1982 letter from BLM’s Arizona State Office Acting State Director to the Governor of Arizona regarding the conveyance of this land.

The following figure, received from the Arizona State Lands Department shows the State Trust Lands in this area, called the Yuma Island.



Page 9.1-57, Line 34: Revise the word “Highland” to “Highline” in the Final PEIS in the sentence, “Diversions off the All-American Canal include the Coachella Canal (9 mi [14.5 km] east), East Highland Canal (4 mi [6.5 km] west), and Central Main Canal (14 mi [22.5 km] west of the proposed SEZ)” to correctly state the name of the canal.

Figure 9.1.9.1-1, Surface Water Features near the Proposed Imperial East SEZ, on page 9.1-58 shows the Coachella Canal as two discontinuous reaches. The figure should be revised in the Final PEIS to also show the reach between the northern and southern reaches.

Page 9.1-60, Line 37: Revise the sentence:

“In 2005, water withdrawals from surface waters and groundwater in Imperial County were 2.4 million ac-ft/yr (2.9 billion m³/yr), of which 98% came from surface waters and was used primarily for irrigating agricultural fields.”

to account for the Bureau of Reclamation’s records that diversions and consumptive use of Colorado River water by Imperial Irrigation District totaled 2,860,526 and 2,756,846 acre-feet, respectively, in that year (see <http://www.usbr.gov/lc/region/g4000/4200Rpts/DecreeRpt/2005/2005.pdf>, page 20 of pdf file).

Page 9.1-61, Line 3, Page 9.2-62, Line 15, and Page 9.4-69, Line 39: Following the phrase, “For example,” insert the following text in the Final PEIS to more accurately describe the management of Colorado River water resources in California:

“the apportionment of Colorado River water for use in the Lower Basin in the Lower Division States of Arizona, California, and Nevada is governed by the Boulder Canyon Project Act, Public Law (Pub. L.) No. 70-642, 45 Stat. 1057 (1928) (BCPA) and by the framework established under the United States Supreme Court’s 1963 Opinion and 1964 Decree in *Arizona v. California*. The 1964 Decree was incorporated in 2006 into a final consolidated decree in *Arizona v. California*, 547 U.S. 150 (2006) (Consolidated Decree). Colorado River water is apportioned for use within the Lower Division States by the Secretary of the Interior, in accordance with the BCPA and the Consolidated Decree.

The State of California’s apportionment is further governed by *General Regulations for Contracts for the Storage of Water in Boulder Canyon Reservoir, Boulder Canyon Project, and the Delivery Thereof*, adopted by the Secretary of the Interior on September 28, 1931, which incorporate a priority system agreed to by seven California water agencies in an August 18, 1931, agreement (Seven-Party Agreement). These priorities are further incorporated into the water delivery contracts entered into between the Secretary of the Interior and California water agencies pursuant to the BCPA. The parties to the Seven-Party Agreement are the Palo Verde Irrigation District (PVID), IID, Coachella Valley County Water District (now Coachella Valley Water District or CVWD), MWD, City of Los Angeles, City of San Diego, and County of San Diego. The first three priorities in the Seven-Party Agreement are for agricultural uses, in an amount collectively not to exceed 3,850,000 acre-feet (4.7 billion m³) of water per year of consumptive use. The first three priorities are not, however, individually quantified in terms of allowable consumptive use. The unquantified third priority is also a shared priority (among IID, CVWD, and PVID – for mesa lands), as is the sixth priority. The priorities established by the Seven-Party Agreement are illustrated in the following table.

California Priority System		
Priority	Description	Acre-feet* Annually
1	PVID - gross area of 104,500 acres (42,290 hectares))
2	Yuma Project (Reservation Division) - not exceeding a gross area of 25,000 acres (10,117 hectares) located in said Project))
3(a)	IID and lands in Imperial and Coachella Valleys** to be served by All American Canal) 3,850,000)
3(b)	PVID - 16,000 acres (6,475 hectares) of Lower Palo Verde Mesa lands))
4	MWD and/or City of Los Angeles and/or others on coastal plain	550,000
5(a)	MWD and/or City of Los Angeles and/or others on coastal plain	550,000
5(b)	City and/or County of San Diego***	112,000
6(a)	IID and lands in Imperial and Coachella Valley* to be served by All American Canal)) 300,000
6(b)	PVID - 16,000 acres (6,475 hectares) of Lower Palo Verde Mesa lands))
Total		5,362,000

* To convert acre-feet to meters³, multiply by 1,234.

** CVWD serves Coachella Valley.

***In 1946, the City of San Diego, the San Diego County Water Authority (SDCWA), MWD and the Secretary of the Interior entered into a contract that merged and added the City and County of San Diego's rights to storage and delivery of Colorado River water to the rights of MWD.

As the result of an agreement reached in connection with the construction of the Coachella Canal as a branch of the All-American Canal, CVWD's entitlements to water in the third and sixth priorities for lands in the Coachella Valley were subordinated to those of IID. The Secretary of the Interior has constructed the All-American Canal and delivers water to IID and CVWD under water delivery contracts by which those districts are entitled to receive deliveries of water in amounts reasonably required for potable and irrigation purposes. The Secretary of the Interior determines the amount of water reasonably required for beneficial use on an annual basis by evaluating an entitlement holder's estimated water requirements in accordance with 43 CFR Part 417 to ensure that deliveries of Colorado River water to the entitlement holder will not exceed those reasonably required for beneficial use under the respective BCPA contract or other authorization for use of Colorado River water.

The State of California is entitled to the consumptive use of up to 4,400,000 acre-feet per year (5.4 billion m³/yr) of Colorado River water within the Lower Basin apportionment of 7,500,000 acre-feet per year (9.3 billion m³/yr) when the Secretary of the Interior determines through the Annual Operating Plan (AOP) that a Normal Condition of water availability exists. California is further entitled to additional water during years in which the Secretary of the Interior determines the existence of a Surplus Condition or makes available to California water apportioned to, but not used by, the States of Arizona and Nevada.

The Colorado River Water Delivery Agreement (CRWDA), dated October 10, 2003, was entered into among the Secretary of the Interior, IID, CVWD, MWD, and the SDCWA and is

the Federal Quantification Settlement Agreement (QSA), which was required as a condition of the Interim Surplus Guidelines (ISG). Secretary of the Interior Bruce Babbitt took action to encourage the California water agencies to reach agreement, adopting the ISG on January 16, 2001, to be in place for an interim period through 2016. The CRWDA assists California in meeting the goals of California's draft Colorado River Water Use Plan by quantifying for a specific term of years the deliveries under certain Colorado River entitlements within shared priorities, so that transfers may occur. In particular, for the term of the CRWDA, quantification of Priority 3(a) was effected through caps on water deliveries to IID (consumptive use of 3.1 million acre-feet per year [3.8 billion m³/yr]) and CVWD (consumptive use of 330,000 acre-feet [407 million m³]). Quantification of Priority 6(a) was effected through quantifying consumptive use amounts to be made available in order of priority to MWD (38,000 acre-feet [47 million m³] per year), IID (63,000 acre-feet [77 million m³] per year), and CVWD (119,000 acre-feet [147 million m³] per year) with the provision that any additional water available to Priority 6(a) be delivered under IID's and CVWD's existing water delivery contracts with the Secretary. The CRWDA provides that the underlying water delivery contracts with the Secretary remain in full force and effect. (BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.) In California,"

Page 9.2-59, Line 32: Revise the phrase "and water districts of" to ", water districts, and a county water authority in" in the Final PEIS in the sentence:

"The CRA delivers Colorado River water from a diversion near Parker Dam on the California–Arizona border (approximately 43 mi [69 km] northeast of the proposed SEZ) to municipalities and water districts of southern California."

to more accurately reflect the agencies receiving Colorado River water.

Page 9.2-59, Line 35: Revise the values "550,000" and "0.7" to "632,000" and "0.8", respectively, in the Final PEIS in the sentence, "The CRA conveys flows that range from 550,000 ac-ft/yr up to 1.3 million ac-ft/yr (0.7 billion to 1.6 billion m³/yr) (MWD 2008)" to reflect the minimum value shown in Figure 2-3 of the reference.

Page 9.2-62, Line 35: Following "26", insert the text "cities,", following "municipal" delete the word "and" and following "districts", insert the phrase ", and a county water authority", in the Final EIS in the sentence, "The CRA is managed and maintained by the MWD, a consortium of 26 municipal and water districts." to more accurately reflect the consortium of governments.

Page 9.2-62, Line 38: With respect to the sentence,

"While the CRA conveys substantial water flows along the southern boundary of the proposed SEZ, this water is essentially unavailable for solar energy development because of its location outside of the MWD service area; thus, any water transfers would have to be approved by the MWD board (MWD 2009, Section 4200)."

Metropolitan is willing to discuss the transfer or exchange of a portion of its Colorado River water supply subject to any required approvals and so long as the solar energy project proponent agrees to provide Metropolitan with a replacement water supply.

Page 9.2-63, Line 1: Following the word “River”, insert the text “and MWD has not taken delivery of any Full Domestic Surplus water since 2002” in the Final PEIS in the clause, “Continued low water levels in Lake Mead affect the surplus water supplies provided to the MWD by the Bureau of Reclamation from the Colorado River;” to describe this historical development.

Page 9.2-64, Line 39: Delete the word “board”, in the Final PEIS in the sentence, “Water from the CRA is assumed to be unavailable to solar energy facilities because of two factors: (1) the mechanisms to obtain CRA water would have to be negotiated with the MWD board on a project-specific basis and (2) current water demands by MWD member agencies suggest minimal water is available.”

Page 9.2-70, Line 43 and Page 9.4-79, Line 11: Insert the following text in the Final PEIS:

- “Groundwater pumping in the region along the CRA should be limited to avoid land surface subsidence.”

to address the concern expressed at line 9 on page 9.2-67 of the Draft PEIS. This sentence should also be included on Page 9.2-9 in Table 9.2.1.3-1 and on Page 9.4-9 in Table 9.4.1.3-1 of the Final PEIS.

Page 9.2-252, Line 39 and Page 9.4-318, Line 9: In the Final PEIS in the sentence, “Water did not come to the Colorado Desert until the 1930s when the Metropolitan Water District was created and work began on the CRA from Parker Dam to Los Angeles; it was completed in 1938.”:

- revise the word “when” to “after”,
- revise the phrase “Los Angeles” to “Lake Mathews, the CRA’s terminal reservoir”, and
- revise the year “1938” to “1940”

to accurately describe this historical development.

Page 9.2-316, Line 29 and Page 9.4-387, Line 6: With respect to the sentence:

“The project would involve taking water from the CRA during high rainfall years and storing it in aquifer systems to supply southern California’s water needs during periods of severe drought.”,

it should be noted that Metropolitan has not agreed to the diversion of water from the CRA for the “Cadiz Valley Dry-Year Supply Project” as of this point in time. A copy of the Notice of Preparation of a Draft EIR and Public Scoping Meeting Notice, Cadiz Valley Water

Conservation, Recovery, and Storage Project may be found at <http://www.smwd.com/assets/downloads/cadiz-nop-02-25-11.pdf>.

Page 9.4-12 and Page 9.4-134, Line 30: Revise the phrase “wetlands, and the CRA should be avoided.” to “and wetlands should be avoided. The CRA and its associated right-of-way should be avoided without prior Metropolitan approval.” in the Final PEIS in the sentence, “To the extent practicable, ephemeral drainages, Ford Dry Lake and Palen Lake, wetlands, and the CRA should be avoided.”

Page 9.4-23, Line 10: Delete the words “Los Angeles” in the Final PEIS in the sentence, “The SEZ is located along a critical east–west corridor that contains I-10, numerous pipelines, and transmission lines and surrounds a portion of the Los Angeles Metropolitan Water District (MWD) Colorado River Aqueduct (CRA).” as Los Angeles is not part of The Metropolitan Water District of Southern California’s proper name. The City of Los Angeles is one of 26 member agencies of Metropolitan.

Page 9.4-70, Line 28: In the Final PEIS in the bullet, “1964 U.S. Supreme Court decision, along with the Consolidation Decree of 2006, which provides a single reference to the 1964 decision (*Arizona v. California* 2006)”:

- revise the word “decision” to “decree”,
- revise the word “Consolidation” to “Consolidated”, and
- insert the phrase “as amended and supplemented” before “(*Arizona*)”

to reflect the wording in BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep.

Page 9.4-70, Line 32: Before the phrase “In accordance with the Law of the River”, insert the following sentences in the Final PEIS:

“The decree is specific about the responsibility of the Secretary of the Interior to account for consumptive use of water from the mainstream. Consumptive use is defined to include ‘water drawn from the mainstream by underground pumping.’ (Wiele et al. 2008)”

to explain why certain groundwater pumping is considered to be Colorado River water.

Page 9.4-70, Line 34: Following the words “Accounting Surface”, insert the following text in the Final PEIS:

“ Wells that have a static water-level elevation near, equal to, or below the Accounting Surface are presumed to yield water that will be replaced by water from the river. Wells that have a static water-level elevation above the Accounting Surface are presumed to yield water that will be replaced by water from precipitation and inflow from tributary valleys. (Wiele et al. 2008)”

to explain the presumptions associated with the Accounting Surface.

Page 9.4-70, Line 34: Revise the text “and, it” to “The Accounting Surface” in the Final PEIS in the phrase “and it establishes a surface of static groundwater elevations,” to begin a new sentence after incorporating the previous comment.

Page 9.4-70, Line 35: Revise the text “below which water is” to “near, equal to or below which water is to be” in the Final PEIS in the phrase “below which water is accounted for as Colorado River water and above which water is accounted for as local tributary replenished water (Wilson and Owen-Joyce 1994; Wiele et al. 2008) to be consistent with Wiele et al. 2008, in particular pages 6 and 11 of that reference.

Page 9.4-70, Line 37: Insert the text “near, at, or” before “below” in the Final PEIS in the sentence:

“Groundwater below the Accounting Surface is subject to water management by the Law of the River, which is administered by the BOR (Wilson and Owen-Joyce 1994), and water above the Accounting Surface is subject to water management by state and local entities.”

to be consistent with Wiele et al. 2008.

Page 9.4-71, Line 14: Revise the word “develop” to “use” and insert “and Coachella Valley Water District” following “District” in the Final PEIS in the sentence:

“The PVID shares a priority right to develop up to 3.85 million ac-ft/yr (4.75 billion m³/yr) with the Yuma Project and the Imperial Irrigation District according to the California Seven Party Agreement of 1931”.

reflecting text in BOR, 2010, *The Colorado River Documents 2008*, Lower Colorado Region, Sep..

Page 9.4-74, Line 17: Insert the phrase “are recommended to be” before “less” and revise the phrase “for prolonged use to meet California drinking water standards” to “to meet secondary maximum contaminant levels” in the Final EIS in the sentence:

“As mentioned previously, TDS values in a potable water supply must be lower than 1,500 mg/L for short durations and less than 500 mg/L for prolonged use to meet California drinking water standards (*California Code*, Title 22, Article 16, Section 64449).”

to be consistent with the text on page 9.4-73 at line 22.

Page 9.4-77, Line 26: Insert the text “near, at, or” before “below” in the Final PEIS in the sentence:

“An additional constraint on groundwater development in the proposed Riverside East SEZ is the water rights issue related to the Colorado River Accounting Surface, which defines a

groundwater elevation below which the groundwater is accounted for as fully allocated Colorado River water.”

to be consistent with Wiele et al. 2008.

Page 9.4-121, Line 40: Revise the phrase “wetlands and the CRA.” to “and wetlands. Avoid the CRA and its associated right-of-way without prior Metropolitan approval.” in the Final PEIS in the sentence, “To the extent practicable, avoid ephemeral drainages, Ford Dry Lake and Palen Lake, wetlands, and the CRA.”

Page 10.1-328, Line 46, Page 10.2-266, Line 34, Page 10.3-319, Line 27, and Page 10.4-300, Line 42: Cite a source for the statement, “Hydrologic studies of the Upper Colorado River Basin estimate average decreases in runoff of 6 to 20% by 2050 (as compared to the twentieth century average)”. Include the source in the References.

Page 11.3-10 and Page 11.3-125, Line 35: Revise the word “Meade” to “Mead” in the Final PEIS in the sentence, “Minimize or eliminate the impact of groundwater withdrawals on streams near the SEZ such as the Muddy River, and springs such as those along the north shore of Lake Meade and within Desert NWR and Moapa NWR” to correct a typographical error.

Page 11.3-123, Line 32: Revise the word “Meade” to “Mead” in the Final PEIS in the sentence, “The nearest perennial stream (Muddy River) and permanent water body (Lake Meade) are both more than 14 mi (24 km) away from the SEZ.” to correct a typographical error.

Page 11.2-123, Line 35: Revise the word “Meade” to “Mead” in the Final PEIS in the sentences:

“Several springs are located within 50 mi (80 km) of the Dry Lake SEZ, including springs on the north shore of Lake Meade, and springs within the Desert NWR and the Moapa Valley NWR. Historically, some springs on the north shore of Lake Meade contained native fishes like the speckled dace (*Rhinichthys osculus*), but introduced fishes like cichlids have reduced or eliminated native species (Courtenay and Deacon 1983).”

to correct typographical errors.

Page 11.3-125, Line 1: Revise the word “Meade” to “Mead” in the Final PEIS in the sentence:

“In addition, groundwater withdrawals could alter the size and chemical and physical conditions of groundwater-dependent springs (including those on the north shore of Lake Meade and within Desert NWR and Moapa NWR) in the vicinity of the SEZ, and adversely affect associated aquatic communities.”

to correct a typographical error.

Page 13.1-271, Line 35 and Page 13.2-267, Line 26: Revise the phrase “on the Lower Colorado River” to “in the Upper Colorado River Basin” in the Final PEIS in the sentence:

“To meet future increases in water demand, Washington, Iron, and Kane Counties in southwestern Utah are studying the feasibility of an agreement to obtain water from Lake Powell on the Lower Colorado River via a pipeline.”

as Lake Powell is in the Upper Colorado River Basin as indicated by the text on page 4-95 beginning at line 12.

Page 13.1-271, Line 44 and Page 13.2-267, Line 35: In the Final PEIS, revise the sentence “It would tap into Utah’s unused portion of the Upper Colorado River, which was defined as belonging to Utah in the 1922 Colorado River Compact.” to:

“The water diverted into the pipeline will be a portion of Utah’s Upper Colorado River Basin Compact allocation, and will consist of water rights to be held or acquired by the three water districts and the Utah Board of Water Resources.” (Utah Division of Water Resources, 2011, Lake Powell Pipeline, General Information. Available at <http://www.water.utah.gov/LakePowellPipeline/GeneralInformation/default.asp>.)

as the 1948 Upper Colorado River Basin Compact rather than the 1922 Colorado River Compact allocated consumptive use of water from the Upper Colorado River System to Utah.

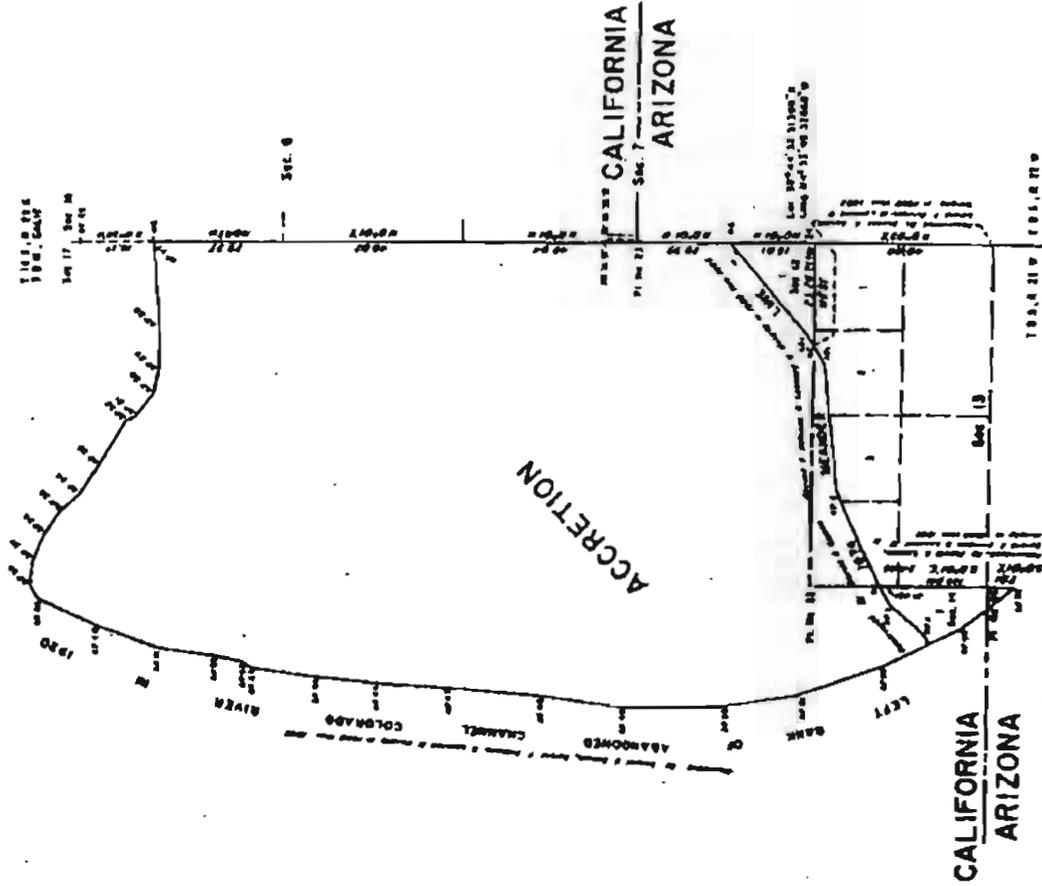
Page H-14: Following the row that includes “Safe Drinking Water Act (42 USC 300(f) et seq.)”, in the Final PEIS insert:

- “Boulder Canyon Project Act of 1928 (43 USC. §§ 1501, et seq.)”

as a federal law applicable to proponents of solar energy projects utilizing groundwater from near, at, or below the Colorado River Accounting Surface, based on the text on page 4-51.

TOWNSHIP 8 SOUTH, RANGE 23 WEST, OF THE GILA AND SALT RIVER MERIDIAN, ARIZONA

DEPENDENT RESURVEY



A history of surveys is contained in the field notes.

This plat represents the dependent acreage of a portion of the range line between T. 8 S., R. 23 W. and 27 W., (south boundary T. 8 S., R. 21 W.) Gila and Salt River Meridian, Arizona, and is intended to show the corners in their true original positions according to the best available evidence, and showing of accreted lands in front of Sec. 6, 7, and 10, T. 8 S., R. 21 W., Gila and Salt River Meridian, Arizona.

This plat represents that portion of the survey with of the 1915 Number 1214 as shown on the plat accepted March 21, 1915.

The showing of the position of the left bank of the Colorado River is based on the field notes made at the survey conducted March 21, 1907 and the showing of the former-California boundary is based on the plat accepted April 9, 1907.

The locations and areas are as shown on the plat approved April 19, 1914.

Survey conducted by Harry E. Smith, Supervisory Chief of Survey, beginning December 15, 1911, and completed December 16, 1911, pursuant to Special Instructions dated December 14, 1911, for Group No. 27, Arizona.

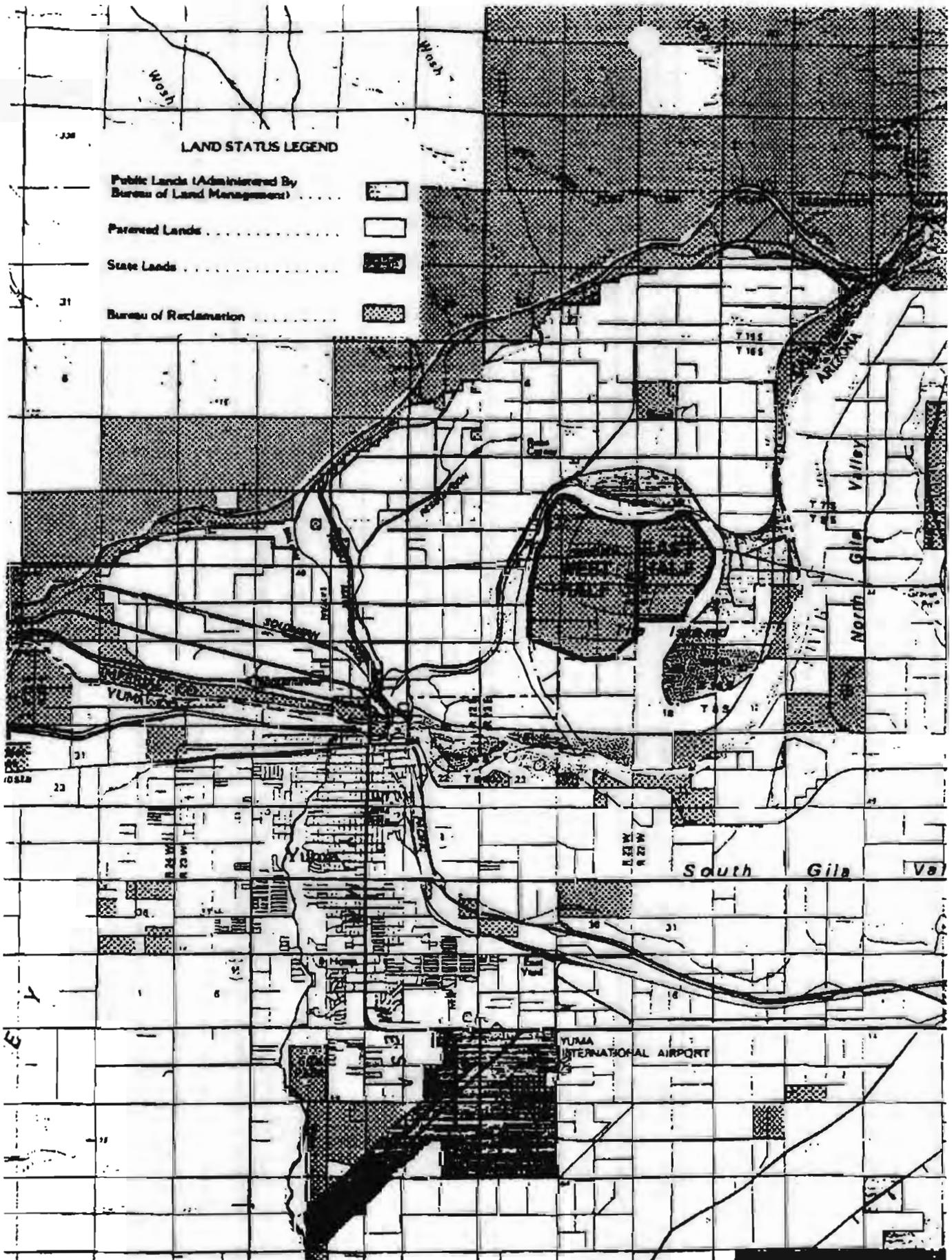
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Denver, Colorado February 4, 1912

This plat is strictly conformable to the approved field notes, and the survey, having been correctly executed in accordance with the requirements of law and the regulations of this Bureau, is hereby accepted.

For the Director

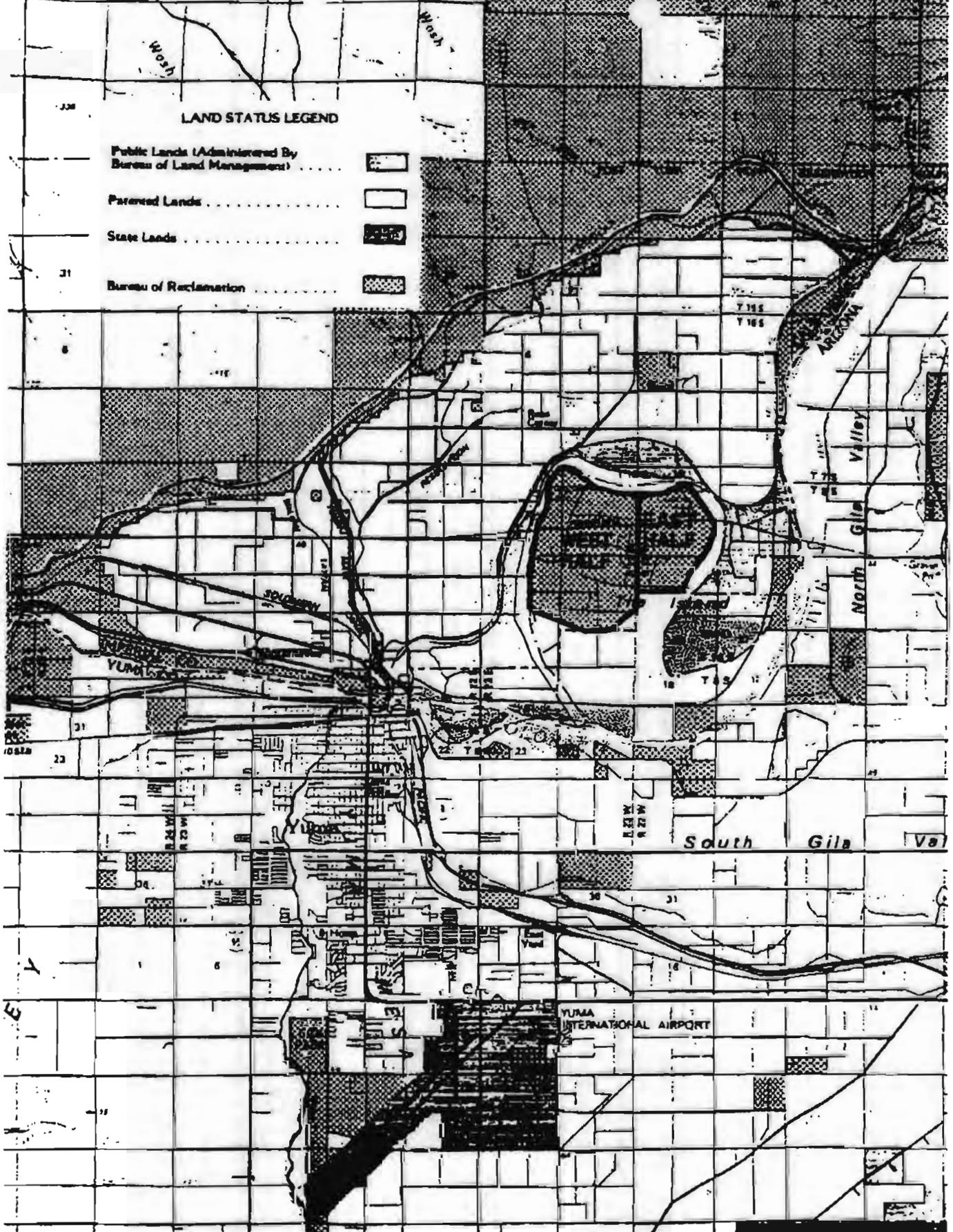
Harry A. Spaight

Walter Chase, Chief of Survey
Assistant and Approval Staff.

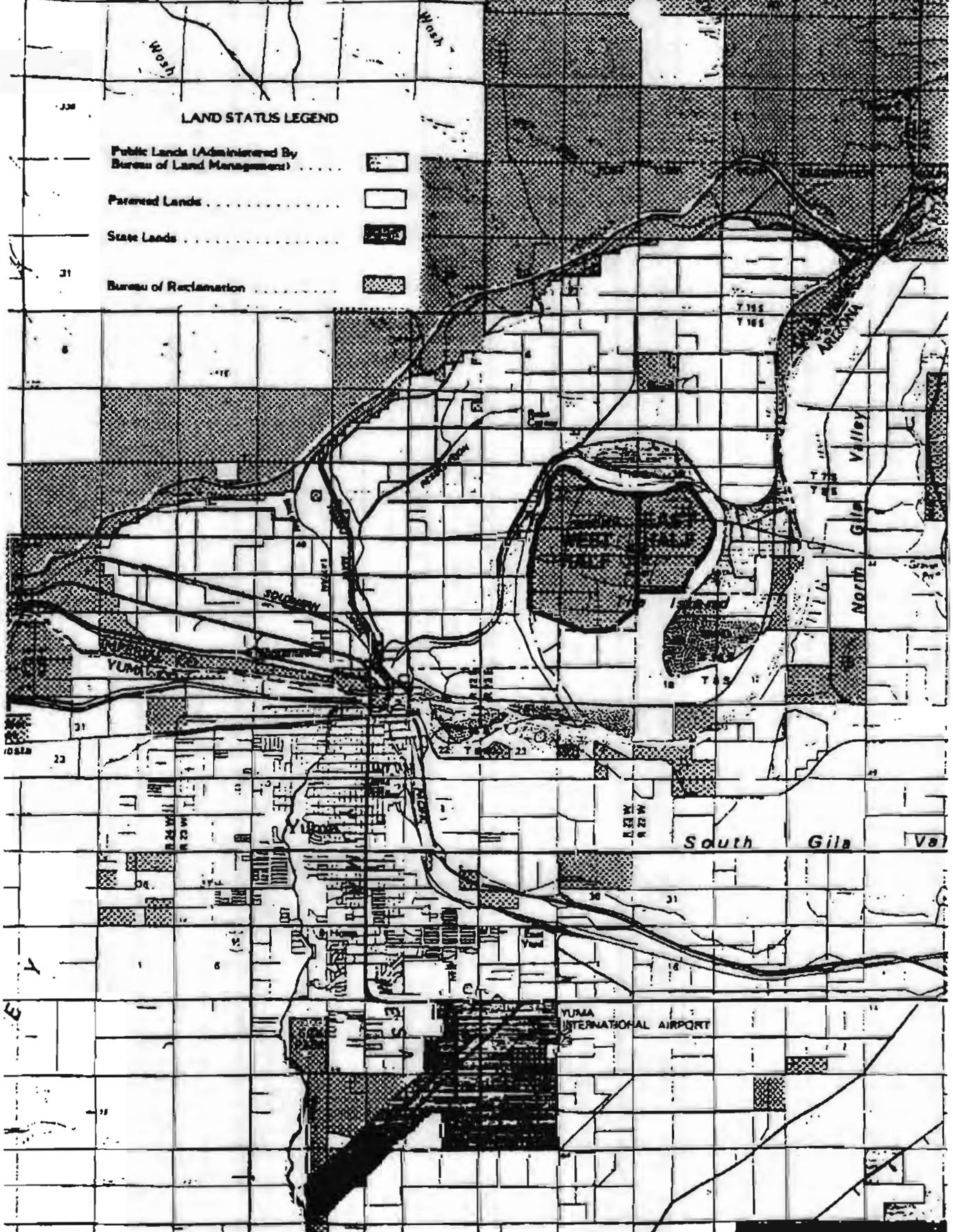


LAND STATUS LEGEND

- Public Lands (Administered By Bureau of Land Management) [Symbol]
- Patented Lands [Symbol]
- State Lands [Symbol]
- Bureau of Reclamation [Symbol]



- Public Lands (Administered By Bureau of Land Management) [Symbol]
- Patented Lands [Symbol]
- State Lands [Symbol]
- Bureau of Reclamation [Symbol]



- Public Lands (Administered By Bureau of Land Management) [Symbol]
- Patented Lands [Symbol]
- State Lands [Symbol]
- Bureau of Reclamation [Symbol]

Thank you for your comment, Gayle Early.

The comment tracking number that has been assigned to your comment is SolarD11569.

Comment Date: April 14, 2011 17:36:23PM
Solar Energy Development PEIS
Comment ID: SolarD11569

First Name: Gayle
Middle Initial:
Last Name: Early
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I'm very concerned that BLM has already, at least once, downgraded scenic areas in order to accelerate energy development in our back country areas. Please respect hard-won EXISTING laws.

Thank you for your comment, Dennis Trembly.

The comment tracking number that has been assigned to your comment is SolarD11570.

Comment Date: April 14, 2011 18:06:30PM
Solar Energy Development PEIS
Comment ID: SolarD11570

First Name: Dennis
Middle Initial:
Last Name: Trembly
Organization:
Address: 880 West 1st St. #301
Address 2:
Address 3: 880 West 1st St. #301
City: Los Angeles
State: CA
Zip: 90012
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is necessary now, as well as in the future.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11571.

Comment Date: April 14, 2011 18:16:21PM
Solar Energy Development PEIS
Comment ID: SolarD11571

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors and tourism.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife and tourism.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 35 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
MME

Thank you for your comment, Ken Gilmour.

The comment tracking number that has been assigned to your comment is SolarD11572.

Comment Date: April 14, 2011 18:22:50PM
Solar Energy Development PEIS
Comment ID: SolarD11572

First Name: Ken
Middle Initial:
Last Name: Gilmour
Organization:
Address: 173 Adeline Street
Address 2:
Address 3:
City: Peterborough
State: ON
Zip: K9J 5E2
Country: Canada
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten your national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Casey Herr.

The comment tracking number that has been assigned to your comment is SolarD11573.

Comment Date: April 14, 2011 18:28:55PM
Solar Energy Development PEIS
Comment ID: SolarD11573

First Name: Casey
Middle Initial:
Last Name: Herr
Organization:
Address: 2669 Shillington Rd
Address 2: PMB 189
Address 3: 2669 Shillington Rd
City: Sinking Spring
State: PA
Zip: 19608
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, aSybil Schlesinger.

The comment tracking number that has been assigned to your comment is SolarD11574.

Comment Date: April 14, 2011 18:50:44PM
Solar Energy Development PEIS
Comment ID: SolarD11574

First Name: aSybil
Middle Initial: E
Last Name: Schlesinger
Organization:
Address: 22 Rockland Street
Address 2:
Address 3:
City: Natick
State: MA
Zip: 01760
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jennifer Danner.

The comment tracking number that has been assigned to your comment is SolarD11575.

Comment Date: April 14, 2011 19:21:21PM
Solar Energy Development PEIS
Comment ID: SolarD11575

First Name: Jennifer
Middle Initial:
Last Name: Danner
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment.

Thank you for your comment, Annette Overstreet.

The comment tracking number that has been assigned to your comment is SolarD11576.

Comment Date: April 14, 2011 19:36:58PM
Solar Energy Development PEIS
Comment ID: SolarD11576

First Name: Annette
Middle Initial: S
Last Name: Overstreet
Organization:
Address: 202 Shady Oak Lane
Address 2:
Address 3:
City: Forest
State: VA
Zip: 245511112
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Fossil fuels are killing our planet, but those who stand to gain from their exploitation are fighting tooth and nail to maintain their status as the world's only sensible means of energy. This is so not true. Solar energy is a practical and readily available source, and we even already have the research and knowledge to integrate it into the system. Our powers that be just don't have the incentive to let go their prejudices and, most of all, their greed. Please do all possible to promote solar energy as quickly as possible.

Thank you for your comment, Christian Camphire.

The comment tracking number that has been assigned to your comment is SolarD11577.

Comment Date: April 14, 2011 19:52:57PM
Solar Energy Development PEIS
Comment ID: SolarD11577

First Name: Christian
Middle Initial: T
Last Name: Camphire
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I would strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Tracey McManus.

The comment tracking number that has been assigned to your comment is SolarD11578.

Comment Date: April 14, 2011 20:07:09PM
Solar Energy Development PEIS
Comment ID: SolarD11578

First Name: Tracey
Middle Initial: A
Last Name: McManus
Organization:
Address: 69 Valley Rd
Address 2:
Address 3:
City: Hazelbrook
State:
Zip:
Country: AUS
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

get with the program and support anything renewable to assist in the protection of our fragile environment. It's our world too

Thank you for your comment, Melinda Burgess.

The comment tracking number that has been assigned to your comment is SolarD11579.

Comment Date: April 14, 2011 20:09:38PM
Solar Energy Development PEIS
Comment ID: SolarD11579

First Name: Melinda
Middle Initial:
Last Name: Burgess
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11580.

Comment Date: April 14, 2011 20:20:11PM
Solar Energy Development PEIS
Comment ID: SolarD11580

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Betty Sabo.

The comment tracking number that has been assigned to your comment is SolarD11581.

Comment Date: April 14, 2011 21:00:50PM
Solar Energy Development PEIS
Comment ID: SolarD11581

First Name: Betty
Middle Initial:
Last Name: Sabo
Organization:
Address: 3137 Palmdesert Way
Address 2:
Address 3:
City: Las Vegas
State: NV
Zip: 891203460
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a resident of Nevada, I support solar energy development; however, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. The sensitive desert ecology must be preserved.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Again, I support the idea of solar energy development, but I do not want us to make the same mistakes we have made and continue to make with mining and oil drilling. Let's move forward only after the impacts on our natural habitats have been eliminated. Let's be the guardians of the earth while we find ways to lesson our reliance on fossil fuels.

Thank you for taking the time to speak up for responsible solar development. Your actions today will impact all of our tomorrows.

Thank you for your comment, Al Giles.

The comment tracking number that has been assigned to your comment is SolarD11582.

Comment Date: April 14, 2011 21:32:04PM
Solar Energy Development PEIS
Comment ID: SolarD11582

First Name: Al
Middle Initial:
Last Name: Giles
Organization:
Address: 8503 Forest Heights Lane
Address 2:
Address 3:
City: Austin
State: TX
Zip: 78749
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Cecilia Burns.

The comment tracking number that has been assigned to your comment is SolarD11583.

Comment Date: April 14, 2011 21:58:27PM
Solar Energy Development PEIS
Comment ID: SolarD11583

First Name: Cecilia
Middle Initial:
Last Name: Burns
Organization:
Address: 3080 S. Telluride St.
Address 2:
Address 3:
City: Aurora
State: CO
Zip: 80013
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Liz Ritter.

The comment tracking number that has been assigned to your comment is SolarD11584.

Comment Date: April 14, 2011 22:02:06PM
Solar Energy Development PEIS
Comment ID: SolarD11584

First Name: Liz
Middle Initial:
Last Name: Ritter
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Why is it 'Private For Profit Businesses' need to use 'Public Property' to get the job done.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ needs to be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ needs to be reduced and reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Please do what's right for 'all', which includes Mother Nature and her family members. We can all co-exist.

Thank you for you consideration!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11585.

Comment Date: April 14, 2011 22:08:49PM
Solar Energy Development PEIS
Comment ID: SolarD11585

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The National Parks should be preserved, and energy production--solar or wind--should be evaluated before it is placed on public land, where it may cause unforeseen damage to the flora and fauna of the area.

Thank you for your comment, Larry Orzechowski.

The comment tracking number that has been assigned to your comment is SolarD11586.

Comment Date: April 14, 2011 22:29:01PM
Solar Energy Development PEIS
Comment ID: SolarD11586

First Name: Larry
Middle Initial:
Last Name: Orzechowski
Organization:
Address: 2835 E. Sylvia St.
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 85032
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Put solar panels on large buildings and factories like you see in Germany. You don't need to destroy open space for solar collectors.

End profit making electric companies that are against multiple building use of solar panels.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11587.

Comment Date: April 14, 2011 22:30:20PM
Solar Energy Development PEIS
Comment ID: SolarD11587

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

To whom it may concern:

I believe this is a terrible idea to build a solar energy. Nothing ever satisfied the people, when you give them a little taste of something they rather have the entire thing than just a bite. It is just ridiculous and harmful what they plan to do. They're not really thinking about the negative effects and damages this is going to cause to our beautiful land and free animals. How could they have the heart to remove the shelter of our desert animals? It is just crazy how they want to just remove them like if it wasn't going to do any harm. Well, they should put themselves in the animal's shoes, and really think if that's what is best for them. Where would the animals go, If 80% of the land is destroyed to make this machines. Not only are we damaging our wild life animals but our desert. Our land is the most precious thing and memory that we can carry for as long as we shall live. These memories that we have as children can be passed down to our loving children and it is the best and most valuable memory in the world.

Thank you for your comment, Michelle Buerger.

The comment tracking number that has been assigned to your comment is SolarD11588.

Comment Date: April 14, 2011 22:36:55PM
Solar Energy Development PEIS
Comment ID: SolarD11588

First Name: Michelle
Middle Initial:
Last Name: Buerger
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time!

Thank you for your comment, Janice Jochum.

The comment tracking number that has been assigned to your comment is SolarD11589.

Comment Date: April 14, 2011 22:47:03PM
Solar Energy Development PEIS
Comment ID: SolarD11589

First Name: Janice
Middle Initial: C
Last Name: Jochum
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Janice C. Jochum

Thank you for your comment, Randi Reed.

The comment tracking number that has been assigned to your comment is SolarD11590.

Comment Date: April 14, 2011 22:52:19PM
Solar Energy Development PEIS
Comment ID: SolarD11590

First Name: Randi
Middle Initial: J
Last Name: Reed
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Although I am an avid supporter of solar energy it must be developed responsibly, in solar energy zones that don't mar the beauty or environment of our National Parks. These solar energy zones must not compromise national park wildlife, scenery, archaeological sites, water resources, or night sky viewing.

Additionally, I would like to see the BLM work with the Sierra Club to ensure that:

- * The Riverside East SEZ be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Additionally, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument. This must be changed.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ruth Mendelson.

The comment tracking number that has been assigned to your comment is SolarD11591.

Comment Date: April 14, 2011 23:05:15PM
Solar Energy Development PEIS
Comment ID: SolarD11591

First Name: Ruth
Middle Initial:
Last Name: Mendelson
Organization:
Address: Rdge Rd
Address 2:
Address 3:
City: Lincoln
State: MA
Zip: 01773
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is the way to go. Enough greed.

Thank you for your comment, Patricia Kolstad.

The comment tracking number that has been assigned to your comment is SolarD11592.

Comment Date: April 14, 2011 23:12:11PM
Solar Energy Development PEIS
Comment ID: SolarD11592

First Name: Patricia
Middle Initial: A
Last Name: Kolstad
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Thank you for your comment, Sabrina Aguirre Aguirre.

The comment tracking number that has been assigned to your comment is SolarD11593.

Comment Date: April 14, 2011 23:31:44PM
Solar Energy Development PEIS
Comment ID: SolarD11593

First Name: Sabrina Aguirre
Middle Initial: M
Last Name: Aguirre
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment: Letter.rtf

Comment Submitted:

April 14, 2011

To whom it may concern:

I have been a resident of the Coachella Valley for 18 years, and believe that the implantation of an solar energy development is an insufficient proposal.

The development certainly thrives from a good intention of conserving energy; however, the research behind it lacks the whole capsulization of the negative effects it would have on the desert. There are many aspects of the development that needs to be considered.

The development is going to cover vast areas of land, as up to 80% of the land remaining in East Riverside. The potential of hazardous materials being spilled out onto the desert, and the risk of contamination to our water resources. The solar radiation from an utility-scale energy facility could have numerous effects on the plants, and animals who inhabit the desert. Also, the installation of the solar energy facilities may be viewed as being very unappealing to tourists who visit the desert. The solar energy development will convey the incorrect message of the desert being industrial land, instead of a place of nature. It should be our priority to be consistent with the true reputation of desert land.

Sincerely, Sabrina Aguirre

Thank you for your comment, maria ortega.

The comment tracking number that has been assigned to your comment is SolarD11594.

Comment Date: April 14, 2011 23:45:51PM
Solar Energy Development PEIS
Comment ID: SolarD11594

First Name: maria
Middle Initial:
Last Name: ortega
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To whom it may concern,

As a resident of Eastern Riverside County, I cannot agree with the plans of turning the 80% of the remaining public lands, in riverside, into massive winds and solar farms. At first, I did support this government plans, but I never thought about the consequences. Allowing the government to install this solar energy plants could cause many damages on our deserts. It will mainly destroy our public lands' ecosystems, such as plants, animals, water, and weather. Also, it will affect our communities' health by causing valley fibers and other bad diseases. It is definably a really bad idea to install this energy plants in our deserts.

Our desert is a very popular place; many people from all around the world come and visited frequently. It is a wonderful place where we can camp, hike, and do many other fun activities. Also, it is a bad idea to destroy them because these lands were sacred for ancient Indian tribes, they fought for it and they took care of it for many centuries. We, the community don't want our desert to disappear.

The government should spend sometime camping in our beautiful desert, that way they could see that the desert is not a waste of land. It is our home, our life, and our animals and plants reason of living. Please, think about it, don't destroy this public lands, you will destroy California's residents' heart.

Thank you for your time and consideration,

Anonymous

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11595.

Comment Date: April 15, 2011 00:01:01AM
Solar Energy Development PEIS
Comment ID: SolarD11595

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am thrilled that solar energy is being expanded, but I want to protect our natural parks as well. Being able to get away from it all and be completely surrounded by nature is restoring for my soul. I highly value space away from artificial light. Please consider this as you develop plans.

Thank you for your comment, James Jorgensen.

The comment tracking number that has been assigned to your comment is SolarD11596.

Comment Date: April 15, 2011 00:49:59AM
Solar Energy Development PEIS
Comment ID: SolarD11596

First Name: James
Middle Initial: H
Last Name: Jorgensen
Organization:
Address: 4207 Westbrook Drive
Address 2:
Address 3:
City: Ames
State: IA
Zip: 500143472
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11597.

Comment Date: April 15, 2011 00:55:51AM
Solar Energy Development PEIS
Comment ID: SolarD11597

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Monica Gilman.

The comment tracking number that has been assigned to your comment is SolarD11598.

Comment Date: April 15, 2011 00:58:40AM
Solar Energy Development PEIS
Comment ID: SolarD11598

First Name: Monica
Middle Initial:
Last Name: Gilman
Organization:
Address: 25525 s. Laura Ln
Address 2:
Address 3:
City: Estacada
State: OR
Zip: 97023
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I would like our nation to take better advantage of solar energy, but solar plants need critical placement. Please make careful considerations when placing these installations to protect fragile environments and the resident wildlife.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11599.

Comment Date: April 15, 2011 01:17:30AM

Solar Energy Development PEIS

Comment ID: SolarD11599

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment: To whom it may concern.rtf

Comment Submitted:

To whom it may concern:

I Renee Meza was born, and raised in Indio, which is a small desert town located in the Riverside County. I take the position of opposing against the Solar Energy Development project. According to this web site, this project can cause several environmental problems including increasing the demand in water. Having enough water in the desert is important to the residents here. I get a monthly notice from my local water provider stating that I need to pay in the water tier allotted to me for the size of my property. Imagine with the building of the solar panels how that would affect our water supply. This project could also cause hazardous material to leak in to the surrounding land. It would also affect the natural resources that this land has; plants, minerals that come from the desert, animal species will also suffer. The land has a life of its own and we need to protect it.

To take up 80% of the land for windmill farms and or solar panel is unconventional. This project is too large of a magnitude to leave in the hands of the BLM and the DOE. The land needs an outside advocate. The surrounding cities need to know what will happen to the environment and the possible health issues that could arise from building solar panels next to our surrounding cities. I see nothing positive from building windmill farms and solar energy panels in my back yard.

I am completely aware of the need of energy. However their need's to be another solution this particular proposal on this land is just too fragile of a subject. This land has a rich history regarding its cultural history that has carried over for hundreds of years, and this is most valuable to some residents and priceless. If anything this land should be protected as an endangered species of wild untouched land. Once again I believe the land needs to have an advocate.

I know this debate will continue on for many years. My opinion comes from living here for many years and watching the changes on the land progressively continue to change. I think the remaining 80% should be left untouched and preserved. This is America after all, I think the government or other agencies can come up with several different alternatives.

Best Regards,

Renee Meza

Thank you for your comment, Kimberly Spiegel.

The comment tracking number that has been assigned to your comment is SolarD11600.

Comment Date: April 15, 2011 01:58:17AM
Solar Energy Development PEIS
Comment ID: SolarD11600

First Name: Kimberly
Middle Initial:
Last Name: Spiegel
Organization:
Address:
Address 2:
Address 3:
City:
State: NJ
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jianshen Dai.

The comment tracking number that has been assigned to your comment is SolarD11601.

Comment Date: April 15, 2011 02:34:12AM
Solar Energy Development PEIS
Comment ID: SolarD11601

First Name: Jianshen
Middle Initial: J
Last Name: Dai
Organization:
Address: 73373 Country Club Dr
Address 2:
Address 3:
City: Palm Desert
State: CA
Zip: 92260
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Letter Desert.docx

Comment Submitted:

The issue of proposing a solar energy project in desert area has been heating up recently. In my opinion the project may do more harm than creating benefits.

Though not living in the planned projection area, I still have concern about whether this government project can achieve its expected goal without sacrifice the environment of desert area. According to the purposed plan 80% of remaining public lands in Riverside county deserts to be turned into massive wind and solar farms, which means the most public land in Riverside County, will literally, become “solar”. Imagine that if the solar plants are built in that area, then what are left for those who are living there, and natural species that have been living there for millions of years. It is inevitable that building up those massive solar plants will harm the environment to certain extent. Then who should take responsibility for the remedy? Especially in a place like California Desert where countless endangered species can only survive, we cannot afford to lose more of them. Natural scenery is a gift Nature gives us. We should tend to protect it but not to devastate.

Not only it hurts heavily on the environment of the desert, but it will impact tremendously on the local businesses. Imagine that when the solar projection takes over the desert’s economy, local businesses have to force to shut down or reduce their scales. Then thousands of people could lose jobs because of that.

So please leave the desert in peace and harmony.

Thank you for your comment, Robert Moeller.

The comment tracking number that has been assigned to your comment is SolarD11602.

Comment Date: April 15, 2011 04:45:23AM
Solar Energy Development PEIS
Comment ID: SolarD11602

First Name: Robert
Middle Initial:
Last Name: Moeller
Organization:
Address: 579 Glen St
Address 2:
Address 3:
City: Glens Falls
State: NY
Zip: 128012243
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Yes, installation and operation of wind and solar energy devices in national parks should be done with respect for nature and the public and preserve the intention of national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11603.

Comment Date: April 15, 2011 06:59:34AM
Solar Energy Development PEIS
Comment ID: SolarD11603

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy must be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's astounding heritage. Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Daniel Orfe.

The comment tracking number that has been assigned to your comment is SolarD11604.

Comment Date: April 15, 2011 07:21:18AM
Solar Energy Development PEIS
Comment ID: SolarD11604

First Name: Daniel
Middle Initial: F
Last Name: Orfe
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom it may concern,

The Joshua Tree and Death Valley National Park along with White Sands National Monument are gems of our National Parks and Monuments. The current proposals for solar energy exploitation have the following issues. The Riverside East SEZ should be reconfigured to reduce its impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ should be reduced or reconfigured to mitigate its negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Lastly, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Thank you for your consideration of the significant potential impacts to our national treasures.

Thank you for your comment, Christine Barrett.

The comment tracking number that has been assigned to your comment is SolarD11605.

Comment Date: April 15, 2011 07:59:37AM
Solar Energy Development PEIS
Comment ID: SolarD11605

First Name: Christine
Middle Initial: A
Last Name: Barrett
Organization:
Address: P.O. Box 922
Address 2:
Address 3:
City: Chester
State: CA
Zip: 96020
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the development of solar energy, but not in National Parks, Monuments, archeological areas, sacred places or other sensitive areas. Please ensure that distance buffers these priceless areas and protect them from exploitation and degradation

Thank you for your comment, Katherine Owens.

The comment tracking number that has been assigned to your comment is SolarD11606.

Comment Date: April 15, 2011 09:14:14AM
Solar Energy Development PEIS
Comment ID: SolarD11606

First Name: Katherine
Middle Initial: A
Last Name: Owens
Organization: National Parks Conservation Association
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Katherine A. Owens

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11607.

Comment Date: April 15, 2011 09:41:03AM
Solar Energy Development PEIS
Comment ID: SolarD11607

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linda North.

The comment tracking number that has been assigned to your comment is SolarD11608.

Comment Date: April 15, 2011 09:46:35AM
Solar Energy Development PEIS
Comment ID: SolarD11608

First Name: Linda
Middle Initial: J
Last Name: North
Organization:
Address: 804 Barrett Mtn Rd
Address 2:
Address 3:
City: Taylorsville
State: NC
Zip: 28681
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is exciting - I am such a believer in the possibilities of solar and wind power. For my own use I got an evaluation on some solar additions to my home, but price prevented me from action. Maybe this will change in the future as solar becomes more common.

The "doing it right" emphasis is so important to me. We certainly can learn from mistakes made in other fuel and power, the mistakes are still being found.

I believe we are destroying this planet with our current policies, but I have faith in the future if it includes responsible alternative energy sources.

Thank you for your comment, Justin Barnett.

The comment tracking number that has been assigned to your comment is SolarD11609.

Comment Date: April 15, 2011 09:47:05AM
Solar Energy Development PEIS
Comment ID: SolarD11609

First Name: Justin
Middle Initial: t
Last Name: Barnett
Organization:
Address: po Box 3544
Address 2:
Address 3:
City: Eagle
State: CO
Zip: 81631
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Renewable energy...WE WIN!!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11610.

Comment Date: April 15, 2011 09:53:21AM
Solar Energy Development PEIS
Comment ID: SolarD11610

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Protecting our national parks and producing more sustainable energy are two goals which should not be in conflict. What good is it to make less of an impact on the environment with our energy production if we harm some of the most beautiful and important ecosystems in our country. Please consider the following points on the proposed project.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Zach Freidhof.

The comment tracking number that has been assigned to your comment is SolarD11611.

Comment Date: April 15, 2011 10:01:01AM
Solar Energy Development PEIS
Comment ID: SolarD11611

First Name: Zach
Middle Initial:
Last Name: Freidhof
Organization: Akron Peace Project
Address: 8289 Brecksville Rd
Address 2:
Address 3:
City: Brecksville
State: OH
Zip: 441411543
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, G Allen Daily.

The comment tracking number that has been assigned to your comment is SolarD11612.

Comment Date: April 15, 2011 10:02:27AM
Solar Energy Development PEIS
Comment ID: SolarD11612

First Name: G Allen
Middle Initial:
Last Name: Daily
Organization:
Address: 4119 N 110th ST
Address 2:
Address 3:
City: Wauwatosa
State: WI
Zip: 532221104
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rebecca Bralek.

The comment tracking number that has been assigned to your comment is SolarD11613.

Comment Date: April 15, 2011 10:06:04AM
Solar Energy Development PEIS
Comment ID: SolarD11613

First Name: Rebecca
Middle Initial:
Last Name: Bralek
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
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- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Pat and Gary Gover.

The comment tracking number that has been assigned to your comment is SolarD11614.

Comment Date: April 15, 2011 10:19:01AM
Solar Energy Development PEIS
Comment ID: SolarD11614

First Name: Pat and Gary
Middle Initial:
Last Name: Gover
Organization:
Address: 300 Lincoln St.
Address 2:
Address 3:
City: Fairhope
State: AL
Zip: 365322818
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Pat and Gary Gover.

The comment tracking number that has been assigned to your comment is SolarD11615.

Comment Date: April 15, 2011 10:20:22AM
Solar Energy Development PEIS
Comment ID: SolarD11615

First Name: Pat and Gary
Middle Initial:
Last Name: Gover
Organization:
Address: 300 Lincoln St.
Address 2:
Address 3:
City: Fairhope
State: AL
Zip: 365322818
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Constance Mainwaring.

The comment tracking number that has been assigned to your comment is SolarD11616.

Comment Date: April 15, 2011 10:49:09AM
Solar Energy Development PEIS
Comment ID: SolarD11616

First Name: Constance
Middle Initial: W
Last Name: Mainwaring
Organization:
Address: 705 Stypmann Bl
Address 2:
Address 3:
City: Stuart
State: FL
Zip: 349942325
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

parts of the U.S. have abundant sun.

Using solar for energy only makes sense.

Just don't forget to consider the environmental impact on the creatures that live there.

Thank you for your comment, Jo Anna Heberger.

The comment tracking number that has been assigned to your comment is SolarD11617.

Comment Date: April 15, 2011 10:50:18AM
Solar Energy Development PEIS
Comment ID: SolarD11617

First Name: Jo Anna
Middle Initial:
Last Name: Heberger
Organization:
Address:
Address 2:
Address 3:
City:
State: IA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Jo Anna Heberger

Thank you for your comment, James Bauder.

The comment tracking number that has been assigned to your comment is SolarD11618.

Comment Date: April 15, 2011 10:58:01AM
Solar Energy Development PEIS
Comment ID: SolarD11618

First Name: James
Middle Initial: C
Last Name: Bauder
Organization:
Address: 15815 Indian Creek Road
Address 2:
Address 3:
City: Fort Jones
State: CA
Zip: 96032
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As commendable as the solar energy zones are they need to be balanced with already established public interest areas such as the national parks. To endanger the pup fish in Death Valley and Damage the Joshua Tree National park and ancient trees of that area is absurd. Please reconfigure the Riverside East SEZ so that it will not impact Joshua Tree National Park. Please reduce or reconfigure the Amargosa Valley SEZ so that it will not impact in any way the limited water that is available in Death Valley for the Devil's Hole Pup Fish which is a miracle in its survival in the hostile environment of Death Valley. Please remove the Iron Mountain SEZ as it will be adverse to the scenery and the wildlife of Joshua Tree National Park. Admittedly these area are ideal for solar energy development but their negative impact on these national wonders should remove them from the list Thank you for your consideration.

Thank you for your comment, Daniel Ogas.

The comment tracking number that has been assigned to your comment is SolarD11619.

Comment Date: April 15, 2011 11:04:18AM
Solar Energy Development PEIS
Comment ID: SolarD11619

First Name: Daniel
Middle Initial: R
Last Name: Ogas
Organization:
Address: 10643 Matinal Circle
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 92127
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please insure that ANY solar or other renewable energy projects are only done with the utmost concern for the environment and any National, State or Local parks that may be impacted. We really should be putting in solar where the electricity is consumed. I think that here in San Diego and the southern States we should be putting solar panels and roofs on every horizontal or near horizontal surfaces. It seems like such a simple idea if we would just get away from the profit and control mindset of the greedy energy providers.

Thank you for your comment, Daniel Ogas.

The comment tracking number that has been assigned to your comment is SolarD11620.

Comment Date: April 15, 2011 11:04:31AM
Solar Energy Development PEIS
Comment ID: SolarD11620

First Name: Daniel
Middle Initial: R
Last Name: Ogas
Organization:
Address: 10643 Matinal Circle
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 92127
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please insure that ANY solar or other renewable energy projects are only done with the utmost concern for the environment and any National, State or Local parks that may be impacted. We really should be putting in solar where the electricity is consumed. I think that here in San Diego and the southern States we should be putting solar panels and roofs on every horizontal or near horizontal surfaces. It seems like such a simple idea if we would just get away from the profit and control mindset of the greedy energy providers.

Thank you for your comment, Elisabeth Fiekowsky.

The comment tracking number that has been assigned to your comment is SolarD11621.

Comment Date: April 15, 2011 11:11:11AM
Solar Energy Development PEIS
Comment ID: SolarD11621

First Name: Elisabeth
Middle Initial:
Last Name: Fiekowsky
Organization:
Address: PO Box 2476
Address 2:
Address 3:
City: Sebastopol
State: CA
Zip: 95473
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Brian Waters.

The comment tracking number that has been assigned to your comment is SolarD11622.

Comment Date: April 15, 2011 11:14:08AM
Solar Energy Development PEIS
Comment ID: SolarD11622

First Name: Brian
Middle Initial:
Last Name: Waters
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I completely support solar energy I would like to go on record that because i am a huge supporter and user of our national parks and a citizen who is concerned that we conserve our biological diversity that I want to see solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks or the surrounding ecosystems.

I am in total agreement with the NPCA when it states that There are four proposed Solar Energy Zones that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I have visited both Joshua Tree National Park and Death Valley, and have plans to do so again within the next couple of years.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11623.

Comment Date: April 15, 2011 11:18:27AM
Solar Energy Development PEIS
Comment ID: SolarD11623

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

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Thank you for your comment, Lisa Koehl.

The comment tracking number that has been assigned to your comment is SolarD11624.

Comment Date: April 15, 2011 11:25:03AM
Solar Energy Development PEIS
Comment ID: SolarD11624

First Name: Lisa
Middle Initial: M
Last Name: Koehl
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I am in support of the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Lisa M Koehl

Thank you for your comment, Taylor Riek.

The comment tracking number that has been assigned to your comment is SolarD11625.

Comment Date: April 15, 2011 11:29:27AM
Solar Energy Development PEIS
Comment ID: SolarD11625

First Name: Taylor
Middle Initial: A
Last Name: Riek
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom it may concern,

I am a 13 year resident of the Coachella Valley, but I am originally from Scottsdale, Arizona so I spend many weekends driving the freeway and seeing the beautiful desert we call home. Although I believe we need to come up with a way too implement green solar energy we also need a way to do this without destroying vast amounts of beautiful desert landscape.

It is mostly definitely a great opportunity for the Coachella Valley because not only would it be great alternative energy source but would also create a lot of jobs, but to destroy all this beautiful land that has been there for many, many years would be such a down fall. Also animals would be killed and would not be able to run freely as they have for so long.

Thank you for your comment, Eric Cadora.

The comment tracking number that has been assigned to your comment is SolarD11626.

Comment Date: April 15, 2011 11:54:46AM
Solar Energy Development PEIS
Comment ID: SolarD11626

First Name: Eric
Middle Initial:
Last Name: Cadora
Organization:
Address: 1344 Park St.
Address 2:
Address 3:
City: Salt Lake City
State: UT
Zip: 84105
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am absolutely for solar development but only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Nathan Wilson.

The comment tracking number that has been assigned to your comment is SolarD11627.

Comment Date: April 15, 2011 11:58:28AM
Solar Energy Development PEIS
Comment ID: SolarD11627

First Name: Nathan
Middle Initial:
Last Name: Wilson
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robyn Sumners.

The comment tracking number that has been assigned to your comment is SolarD11628.

Comment Date: April 15, 2011 11:58:31AM
Solar Energy Development PEIS
Comment ID: SolarD11628

First Name: Robyn
Middle Initial:
Last Name: Sumners
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I believe solar power for our parks is a no-brainer, my only concern is that the fragile ecosystems aren't compromised, so please let the park officials and the community be apart of the input process. Thank you!!!

Thank you for your comment, Nathan Wilson.

The comment tracking number that has been assigned to your comment is SolarD11629.

Comment Date: April 15, 2011 12:00:26PM
Solar Energy Development PEIS
Comment ID: SolarD11629

First Name: Nathan
Middle Initial:
Last Name: Wilson
Organization: National Parks Conservation Association
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kathy Gottberg.

The comment tracking number that has been assigned to your comment is SolarD11630.

Comment Date: April 15, 2011 12:13:35PM
Solar Energy Development PEIS
Comment ID: SolarD11630

First Name: Kathy
Middle Initial:
Last Name: Gottberg
Organization: Coachella Valley Green.com
Address: 42335 Washington St. #F303
Address 2:
Address 3:
City: Palm Desert
State: CA
Zip: 92211
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very much in favor of renewable energy. However, I believe that renewables like solar and wind power should be done in the urban landscape rather than destroying natural desert landscapes. Besides the environmental impact on undisturbed landscape, the transmission of such far away power will be extremely costly and inefficient. The benefits of decentralized power in urban areas and on rooftops is much greater for national security, transmission issues, putting people to work where they live, and helping citizens become self-sufficient instead of dependent upon public utilities. A FIT Program that rewards local business and homeowners is a MUCH better plan than sticking solar out in the desert!

Thank you for your comment, Mike Sanni.

The comment tracking number that has been assigned to your comment is SolarD11631.

Comment Date: April 15, 2011 12:23:15PM
Solar Energy Development PEIS
Comment ID: SolarD11631

First Name: Mike
Middle Initial: L
Last Name: Sanni
Organization:
Address:
Address 2:
Address 3:
City: Chambersburg
State: PA
Zip: 17202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

For once, let's do this right and THINK AHEAD! Keep solar where it's most effective - in solar zones!

Thank you for your comment, Susan Valdivia.

The comment tracking number that has been assigned to your comment is SolarD11632.

Comment Date: April 15, 2011 12:32:26PM
Solar Energy Development PEIS
Comment ID: SolarD11632

First Name: Susan
Middle Initial: K
Last Name: Valdivia
Organization: NPCA, Sierra Club, Center for Biological Diversity
Address:
Address 2:
Address 3:
City: Tucson
State: AZ
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

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- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Beaver County Commission Beaver County Commission .

The comment tracking number that has been assigned to your comment is SolarD11633.

Comment Date: April 15, 2011 12:35:13PM
Solar Energy Development PEIS
Comment ID: SolarD11633

First Name: Beaver County Commission
Middle Initial:
Last Name: Beaver County Commission
Organization: Beaver County Commission
Address: 105 E. Center
Address 2:
Address 3:
City: Beaver
State: UT
Zip: 84713
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SEZ PEIS COMMENT_BEAVER COUNTY UTAH_4-11-11.pdf

Comment Submitted:

The attached document is to replace the document/comment submitted on April 11, 2011 at 9:29 a.m. comment # SEDD10161.

Please disregard the document with the comment # SED10161.

The attached document is the official statement from Beaver County. Any other comments besides this one are not official and should not be considered valid from Beaver County.

**BEAVER COUNTY BOARD OF COUNTY
COMMISSIONERS**

**COMMENTS REGARDING: BLM & DOE'S
DRAFT SOLAR ENERGY DEVELOPMENT PEIS**

EXECUTIVE SUMMARY	3
INTRODUCTION	4
BEAVER COUNTY'S RENEWABLE ENERGY PORTFOLIO	5
PEIS COMMENTS (Items 1-4)	6-8
1. SEZ'S & ALTERNATIVE OPTIONS' EFFECTS UPON THE AUM PERMITEES	6
2. SEZ'S & EFFECTS UPON OTHER POTENTIAL RENEWABLE ENERGY RESOURCES	6-7
3. CRITERIA USED IN EXCLUDING LAND FROM THE SUZ'S	7
4. COUNTY'S RECOMMENDATION RE: ACTION AND NO ACTION ALTERNATIVES	7-8
CONCLUDING REMARKS	8

EXECUTIVE SUMMARY

As an entity having two (2) proposed SEZ's within its jurisdiction, Beaver County welcomes the opportunity to be involved in the SEZ PEIS process. The Beaver County Board of County Commissioners are pro renewable energy, as seen in the Beaver County's Renewable Energy Portfolio section of this document.

It is the intent of Beaver County, through this document, to coordinate with and assist the Department of Energy and Bureau of Land Management in developing an effective and efficient renewable energy program.

After reviewing the draft SEZ PEIS document the county provides within this document comments addressing the following topics:

- **SEZ'S & ALTERNATIVE OPTIONS' EFFECTS UPON THE AUM PERMITEES**
Beaver County must protect the agriculture and the subsets of that industry (grazing) in order to maintain the economy and lifestyle of its citizens. Appropriate mediation standards should be set and if the affects upon the AUM holders is too significant and the mediation requirements are not sufficient Beaver County would not support the creation of the SEZ(s)
- **SEZ'S & EFFECTS UPON OTHER POTENTIAL RENEWABLE ENERGY RESOURCES**
Beaver County does not want other Renewable Energy Resources and Potential Developments upon the proposed SEZ(s) area to be hindered or prohibited because of the creation of the SEZ(s).
- **CRITERIA USED IN EXCLUDING LAND FROM THE SUZ'S**
What has BLM done to ensure all data is accurate, adequate and unbiased in forming their proposed SEZs? If some areas that may be a viable resource, or may become viable resources through technology, for utility scale solar energy development were left out due to either inaccurate, inadequate, or biased information, these areas would either not be considered or not benefit from the streamlined process and therefore both the developer and Beaver County suffer great economic and social set-backs, especially if the SEZ program alternative is chosen.
- **COUNTY'S RECOMMENDATION RE: ACTION AND NO ACTION ALTERNATIVES**
Beaver County promotes RE Energy development and feels if the other conditions/concerns are met as discussed in this document, we select the Solar Energy Development Program alternative.

For each topic listed above Beaver County has provided the concern, why the concern is valid, and recommendations to the DOE & BLM of how to mediate the concern.

INTRODUCTION

Beaver County was first formally introduced to the Solar Energy Zones Programmatic Environmental Impact Statement (PEIS) process at the public scoping meeting held in Cedar City, UT on March 9, 2011. Though there may have been attempts in the past to coordinate with or introduce Beaver County to the process, Beaver County had not been involved due to reasons that may have included personnel changes, undelivered mail, miscommunications and others. Please do not take our lack of involvement in the process thus far as an indicator that Beaver County is not interested in the process, or in Solar Energy development.

Since the scoping meeting held on March 9th Beaver County has been inundated with the task of catching up on information regarding the PEIS, developing a consensus among the County Commissioners regarding the county's view on the SEZ PEIS and finally providing comments regarding the draft PEIS.

Beaver County is obligated to act in accordance with the Beaver County Land Use Ordinances.

As stated in your Executive Summary line 26-27 "utility-scale energy facilities have not yet been constructed on BLM-administered public lands, but there is great interest in such development." Beaver County also has no utility-scale solar energy facilities within Beaver County, but there is great interest in such development.

Beaver County is aware of the abundant renewable energy resource for a variety of technologies within the county boundaries. Beaver County has and will continue to be a advocate for Renewable Energy. Both the Board of County Commissioners and the Beaver County Planning and Zoning Commission have taken considerable steps in allowing for a streamlined yet thorough Plan of Development and permitting process for existing utility-scale renewable energy facilities. It is imperative that the decisions made within the PEIS are in line with the efforts made by Beaver County to allow a streamlined yet sufficiently thorough permitting process.

With the land within the County only having 12% private land and 88% Federally and State owned land, Beaver County is greatly affected by decision made concerning the management of and development on land owned by the Federal and State Government. Much of the existing renewable energy resources are located on Federal or State Land. Therefore, in planning for future revenue for Beaver County, the decisions affecting renewable energy on Federal land directly and significantly impact the future of Beaver County.

BEAVER COUNTY'S RENEWABLE ENERGY PORTFOLIO

BLUNDELL GEOTHERMAL. This geothermal plant has been in operation since 1981. It is located on BLM administered ground. Beaver County performs all maintenance on the transportation routes allowing access to the plant. The plant produces 28 MW of energy for use within the Rocky Mountain Power grid.

FIRST WIND. First Wind has had their utility scale wind farm in operation since 2009. Phase I and II have been completed with the majority of turbines located in Beaver County. They are currently working on Phase III, which is located in Millard County. Phase I & II are located on a mix of BLM administered land and private land. Beaver County performs all maintenance on the transportation routes allowing access to the project. Phase I & II has the capacity of 305 MW and contracts with SCAPA to buy their power.

RAZOR TECHNOLOGIES. Razor has been in operation since 2009. It is located primarily on SITLA administered land but involves some private as well. The County maintains all roads accessing the plant. Razor produces 10 MW.

ENEL. Enel is in the design phase of their proposed geothermal plant. The proposed site had been used for geothermal power generation several years ago but has been dormant for the last few years. The County also maintains all roads accessing the proposed plant. Enel proposed to produce 25 MW of power-using 5 internally and selling the remaining 20.

PEIS COMMENTS

1. SEZ'S & ALTERNATIVE OPTIONS' EFFECTS UPON THE AUM PERMITEES

Being a rural county with the population of 6,629 and not being in relatively close proximity to any large urban areas, Beaver County's agriculture and livestock industries are an intercut and vital part of these communities past, present and future. As of 2009 and according to the Department of Workforces Services data, Agriculture made up 19% of the County's jobs distribution. Thus, it is imperative that Beaver County protects and promotes the agriculture industry. As a subset and an integral part of the agriculture industry is the use of AUM's on BLM administered land. Without the availability of grazing on BLM administered ground, many agriculture and cattle operations would not be viable and would result in the loss of the culture, livelihood, and sustainability of many families and even entire communities.

For these reasons we ask that in the PEIS the BLM and DOE intensely look into the effects of the SEZ's on AUM holders within the SEZ boundary. With the average SEZ being approximately 6,500 acres, this could potentially have a substantial impact on AUM holders.

If the effect is either minimal or significant, and the BLM and DOE decide to move forward with the proposed SEZ, Beaver County would strongly recommend appropriate and generous mediation standards be set to compensate the AUM holder for his/her loss. Whether the mediation be through the BLM by redistribution of AUMs or some other compensation or the mediation measures are placed upon the developer of the SEZ, they need to be fair and generous. When figuring the appropriate compensation formula, the BLM should not only consider the monetary value of the AUMs to the holder, but also the value of the lifestyle and culture the holder has and has had in some cases for four to five generations.

Beaver County would also suggest the BLM explores all options that would allow the SEZ to be a multiple use area. If technology permits, Beaver County would support the coexistence of the solar development(s) and the grazing of cattle upon the proposed SEZ. Practical in the mechanical sense but may not be in the technical or economical sense, options may include requiring the mounting systems to be elevated high enough that the cattle could not affect the actual solar panels. Another option may include individual fences around each array instead of fencing off the entire development.

2. SEZ'S & EFFECTS UPON OTHER POTENTIAL RENEWABLE ENERGY RESOURCES

As noted in the Beaver County's Renewable Energy Portfolio section of this document, Beaver County has several existing utility scale renewable energy generating facilities with the resources for many more in the areas of wind, solar, geothermal, and biomass. Because of these abundant resources for a variety of renewable energies and because many of those resources for the different types of renewable energy are within the same area and would require the use of the same land, Beaver County provides the following recommendation/suggestions.

BLM & DOE include in their analysis the impact(s) the SEZ may or may not have upon other renewable energy sources/technologies. Located within the Wah-Wah valley is promising and encouraging data that indicates enough wind resource for the development of a utility scale wind power generation facility. This data most likely includes the area proposed as the Wah-Wah Valley SEZ. It is the concern of Beaver County that through the declaration of this SEZ the possibility and potential of wind development would either be completely diminished or heavily restricted. By declaring these areas as SEZ does it set aside that area only for the use of solar energy? Or, does it give priority to solar energy development and make other applications for other sources of RE go through a less expedited or even more cumbersome permitting process? Beaver County would recommend that if this area does become a SEZ it does not completely prohibit or even restrict other viable applications for development of other RE technologies.

The Milford Flat South proposed SEZ does not have any existing data that we are aware of other RE sources. However, Razor Technologies geothermal facility is located within relative close proximity to the SEZ, therefore the possibility of their being adequate geothermal resources are likely. Thus, we ask that the same suggestions/recommendations expressed in the preceding paragraph be applied to the Milford Flat South site as well.

3. CRITERIA USED IN EXCLUDING LAND FROM THE SEZ'S

It is Beaver County's understanding that the development of the proposed SEZ(s) were derived mainly from the input, research, and information from the local BLM office. Beaver County has a good relationship with the local office and does not question their integrity, however, it is a concern that the input, research, and information provided by the local BLM may either be inadequate, inaccurate, lacking in detail, or biased in some way. The concern of this last sentence is not so much on the selection of the existing proposed sites (Wah-Wah and Milford Flat South) but on the areas that may have been excluded. For example, if for some reason the option of SEZ program alternative is selected and another resource for solar development is located, either due to the finding of additional or more accurate data/information or technology improves, this new finding would not be recognized and the possible permit would not even be looked at. What has the BLM/DOE done to secure and make sure the most accurate, sufficient, and unbiased information has been selected to base the proposed SEZ(s) off of?

4. COUNTY'S RECOMMENDATION RE: ACTION AND NO ACTION ALTERNATIVES

After review of the two action alternatives and the no action alternative, Beaver County has selected the solar energy development program alternative as our preferred alternative.

As stated in the opening statements Beaver County is pro renewable energy and strives to promote the development of it. Beaver County has chosen their preferred alternative as part of these efforts. It is imperative to improve the current permitting process/system to allow development of RE be expedited and to relieve cost to the developer for the permitting process. For these reason Beaver County supports the development of SEZ as long as the points of concern as stated in this document are addressed.

Furthermore, as long as the impacts upon AUM holders is minimal or if it is deemed significant the mediation standards are fair and generous; the development of other RE sources is not prohibited or restricted, and the information used to form the SEZ is deemed accurate, sufficient and unbiased, Beaver County supports the solar energy development program alternative.

We thank you for your efforts in the development of renewable energy and specifically solar power.

Sincerely,



Mark S. Whitney
Chairman



William L. Dalton
Commissioner



Chad W. Johnson
Commissioner

Dated this 11 day of April, 2011

Thank you for your comment, Joe Stuart.

The comment tracking number that has been assigned to your comment is SolarD11634.

Comment Date: April 15, 2011 13:01:55PM
Solar Energy Development PEIS
Comment ID: SolarD11634

First Name: Joe
Middle Initial:
Last Name: Stuart
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As a home owner in San Luis Valley in southwestern Colorado I welcome any project which will provide jobs and stimulus to the area.

Thank you for your comment, Francis Palmer.

The comment tracking number that has been assigned to your comment is SolarD11635.

Comment Date: April 15, 2011 13:35:00PM
Solar Energy Development PEIS
Comment ID: SolarD11635

First Name: Francis
Middle Initial: H
Last Name: Palmer
Organization:
Address: 5724 7th Avenue
Address 2:
Address 3:
City: Sacramento
State: CA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please designate areas of federal lands that are appropriate for solar development.

Thank you for your comment, Elizabeth Schlein.

The comment tracking number that has been assigned to your comment is SolarD11636.

Comment Date: April 15, 2011 13:55:11PM
Solar Energy Development PEIS
Comment ID: SolarD11636

First Name: Elizabeth
Middle Initial:
Last Name: Schlein
Organization:
Address: 1911 Post Oak Park Dr. #5220
Address 2:
Address 3:
City:
State: TX
Zip: 77027
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need Power from the sun. It's better than oil or gas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11637.

Comment Date: April 15, 2011 14:01:38PM
Solar Energy Development PEIS
Comment ID: SolarD11637

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

It's what we need to do!!!!
The technology is there, but it's too expensive for most people.
Instead of bailing out the car manufacturers, the government should have invested in turning their plants in solar panel production facilities.

Thank you for your comment, Robert Pope.

The comment tracking number that has been assigned to your comment is SolarD11638.

Comment Date: April 15, 2011 14:03:58PM
Solar Energy Development PEIS
Comment ID: SolarD11638

First Name: Robert
Middle Initial: H
Last Name: Pope
Organization:
Address:
Address 2:
Address 3:
City:
State: PA
Zip: 194032241
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a great supporter of solar energy and am very interested in seeing parks utilize fossil fuel alternatives to work towards becoming as energy efficient as possible.
Having said that, I must also add that I never want those efforts to compromise historic preservation in any way! I also would, of course, want to see a minimal impact on the natural ecosystem and on scenic views.

Thank you for your comment, Arthur Morris.

The comment tracking number that has been assigned to your comment is SolarD11639.

Comment Date: April 15, 2011 14:29:53PM
Solar Energy Development PEIS
Comment ID: SolarD11639

First Name: Arthur
Middle Initial:
Last Name: Morris
Organization: HEAL Utah
Address: 68 South Main
Address 2:
Address 3:
City: Salt Lake City
State: UT
Zip: 84101
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: PEIS HEAL Comments_Final.doc

Comment Submitted:

April 6, 2011
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/900
Argonne, IL 60439

HEAL Utah is grateful for the opportunity to submit comments regarding the Bureau of Land Management and Department of Energy's (the Agencies) Solar Energy Development Programmatic EIS (PEIS). HEAL is a Utah-based non-profit organization dedicated to protecting Utah's public health and promoting environmentally- and economically-responsible development of renewable energy resources in Utah. In our view, solar development is a key component of a renewable energy portfolio needed to protect the health of Utahans and support long-term public health and economic stability for the state and the region. We support careful efforts toward the Agencies' goal of developing renewable energy sources on public lands.

HEAL would also like to recognize the previously submitted comments of numerous organizations. The Wilderness Society, Natural Resources Defense Council, Defenders of Wildlife, Wild Utah Project, Center for Native Ecosystems, Western Resource Advocates, New Mexico Wilderness Alliance, Arizona Wilderness Coalition, Californians for Western Wilderness, National Wildlife Federation, California Native Plant Society, Wyoming Outdoor Council, Colorado Environmental Coalition, Great Old Broads for Wilderness, Soda Mountain Wilderness Council, California Wilderness Coalition, Desert Protective Council, Sierra Club, Southern Utah Wilderness Alliance, and the Mojave Desert Land Trust (the Groups) have all presented sound scientific perspectives that should be weighed as the Agencies move forward with the development of solar energy plans. As HEAL strives to support the development of renewable energy sources within Utah's borders, we are encouraged by the quality of the process and comments thus far. To assure that solar energy can be affordably developed in Utah, we wish to draw the Agencies' attention to two specific areas of concern:

- We see, in the comments submitted by the Groups, strong support for the adoption of two localized Solar Energy Zones. These zones represent a significant resource and a PEIS would allow development on these lands to move forward quickly and in a cost effective manner. Our first concern is that lumping these

well-studied and qualified zones together with the 2 million acres of unstudied BLM lands considered under the Solar Development Energy Plan (SDP) and the Wah-Wah Valley SEZ, will effectively derail what to this point has been an effective and open process. Moving forward with a PEIS that includes the SDP and the Wah-Wah SEZ, in spite of concerns over the environmental protection and technical feasibility which have surfaced through the comment process, will materially disadvantage the process and slow the development of solar power in Utah. We, therefore, urge the Agencies to set aside the SDP alternative and the Wah-Wah SEZ to ensure that the PEIS and resulting solar development will be approved with minimal cost and delays. Furthermore, given the consensus on the technical and environmental viability of establishing SEZs in Milford Flats and the Escalante Valley, we recommend that the Agencies develop both of these areas as SEZs. These actions will support the timely development of cost-effective solar energy on Utah's public lands.

- Our second and more general concern is about the economics of renewable energy. HEAL would like to reinforce the Agencies' consideration of electricity transmission costs. Given the potentially scattered and remote development of solar projects under the SDP alternative, transmission would surely be more cost effective under the SEZ alternative. Furthermore, given the lack of currently available infrastructure for the Wah-Wah Valley SEZ, transmission would be significantly less cost effective if this SEZ were developed. Therefore, we recommend that the Agencies continue the process through which they identified the Milford Flats and Escalante Valley SEZs. We also urge the Agencies to pay close attention to the concerns of local and regional stakeholders with regard to both the 2 million recently added acres of the SDP alternative and the establishment of the Wah-Wah Valley SEZ. These actions will support the most cost effective and efficient development of solar energy on Utah's public lands.

Thank you for your comment, Janet Rafferty.

The comment tracking number that has been assigned to your comment is SolarD11640.

Comment Date: April 15, 2011 15:08:05PM
Solar Energy Development PEIS
Comment ID: SolarD11640

First Name: Janet
Middle Initial: E
Last Name: Rafferty
Organization:
Address:
Address 2:
Address 3:
City:
State: MS
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a strong supporter of solar and other renewable energy use. Any development of areas where such energy collection occurs should be carefully planned to avoid adverse effects on archaeological and other significant cultural resources, as well as on National Parks and monuments. Preserving these resources should be a high priority that has no necessary conflict with renewable energy sites.

Thank you for your comment, Stephanie Foster.

The comment tracking number that has been assigned to your comment is SolarD11641.

Comment Date: April 15, 2011 15:36:23PM
Solar Energy Development PEIS
Comment ID: SolarD11641

First Name: Stephanie
Middle Initial: H
Last Name: Foster
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Adrienne Frey.

The comment tracking number that has been assigned to your comment is SolarD11642.

Comment Date: April 15, 2011 15:50:30PM
Solar Energy Development PEIS
Comment ID: SolarD11642

First Name: Adrienne
Middle Initial:
Last Name: Frey
Organization:
Address: 403 Stable Dr
Address 2:
Address 3:
City: Franklin
State: TN
Zip: 37069
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is vital for the future.

Thank you for your comment, Raven Dorantes.

The comment tracking number that has been assigned to your comment is SolarD11643.

Comment Date: April 15, 2011 15:54:54PM
Solar Energy Development PEIS
Comment ID: SolarD11643

First Name: Raven
Middle Initial:
Last Name: Dorantes
Organization:
Address: 1425 Mcallister St
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 941154518
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Maria Nasif.

The comment tracking number that has been assigned to your comment is SolarD11644.

Comment Date: April 15, 2011 15:56:08PM
Solar Energy Development PEIS
Comment ID: SolarD11644

First Name: Maria
Middle Initial:
Last Name: Nasif
Organization:
Address: 6601 N Longfellow Drive
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85718
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

More solar energy!

Thank you for your comment, Doug Landau.

The comment tracking number that has been assigned to your comment is SolarD11645.

Comment Date: April 15, 2011 16:15:05PM
Solar Energy Development PEIS
Comment ID: SolarD11645

First Name: Doug
Middle Initial:
Last Name: Landau
Organization:
Address: 150 73rd St. S.
Address 2:
Address 3:
City: St. petersburg
State: FL
Zip: 33707
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Carl Stein.

The comment tracking number that has been assigned to your comment is SolarD11646.

Comment Date: April 15, 2011 16:53:34PM
Solar Energy Development PEIS
Comment ID: SolarD11646

First Name: Carl
Middle Initial:
Last Name: Stein
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology, once it is amended.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thomas Proett.

The comment tracking number that has been assigned to your comment is SolarD11647.

Comment Date: April 15, 2011 17:49:02PM
Solar Energy Development PEIS
Comment ID: SolarD11647

First Name: Thomas
Middle Initial:
Last Name: Proett
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I think solar development is a good thing but doing so on otherwise undeveloped land should be much lower in priority than using existing structures. Any new development should only be considered in urban or suburban areas -- far from wilderness or parks.

Thank you for your comment, Tom Reidy.

The comment tracking number that has been assigned to your comment is SolarD11648.

Comment Date: April 15, 2011 18:29:09PM
Solar Energy Development PEIS
Comment ID: SolarD11648

First Name: Tom
Middle Initial:
Last Name: Reidy
Organization:
Address: 9708 10th Pl. SW.
Address 2: #202
Address 3:
City: Seattle
State: WA
Zip: 981063230
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

please do move ahead with research and consideration of using solar as alternative energy future on public lands.

Thank you for your comment, Lorna Paisley.

The comment tracking number that has been assigned to your comment is SolarD11649.

Comment Date: April 15, 2011 19:07:31PM
Solar Energy Development PEIS
Comment ID: SolarD11649

First Name: Lorna
Middle Initial:
Last Name: Paisley
Organization:
Address: 664 N. Hickory St
Address 2:
Address 3: 664 N. Hickory St
City: Joliet
State: IL
Zip: 604356369
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is time for the US to step up to the plate like the rest of the world.
We are being very foolish in letting the rest of the industrial world get ahead of us in production of solar energy panels and in their use.
We have really dumbbed ourselves down.

Thank you for your comment, Tara Hess-McGeown.

The comment tracking number that has been assigned to your comment is SolarD11650.

Comment Date: April 15, 2011 19:56:33PM
Solar Energy Development PEIS
Comment ID: SolarD11650

First Name: Tara
Middle Initial: D
Last Name: Hess-McGeown
Organization: Washoe Tribe of NV & CA
Address: 919 US Hwy. 395 South
Address 2:
Address 3:
City: Gardnerville
State: NV
Zip: 89410
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: BLM_DOE Comment Ltr DEO_EIS draft PEIS 041511.pdf

Comment Submitted:

Please find the following attachment

Washoe Tribe of Nevada and California

Environmental Protection Department



April 15, 2011

Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, Illinois 60439

RE: Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States – DES 10-59; DOE/EIS-0403

To Whom It May Concern:

In 2010 the Bureau of Land Management (BLM) and the Department of Energy (DOE) prepared the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States. The Draft PEIS was released to the public on December 17, 2010 and the comment period extended until April 16, 2011. The Washoe Environmental Protection Department (WEPD) understands that the state of Nevada is an important resource for solar energy development and could have large impacts to our neighboring Tribes. WEPD is submitting the following comments/questions regarding the Draft PEIS:

- The Draft PEIS does not treat Tribes as a sovereign nation relative to DOE's allocation of solar energy zones (SEZ) by state per renewable energy portfolio requirements as a driver for allocating solar project demand. The Washoe Tribe has a Strategic energy plan goal of providing all its energy renewably from tribal lands by 20xx, and thus has an energy portfolio standard that is no less than that adopted by the state of Nevada, and is bounded by tribal lands. If a Tribe had an established renewable energy portfolio standard, and Tribes were treated in a manner similar to a state, Tribes could make the argument that DOE should allocate this influence to Tribal lands as a market driver. Additionally, how do the agencies plan on addressing the Tribes' that do not have an established renewable energy portfolio standard, but still have interests in having their energy needs met with renewable energy, and/or from tribal lands?

- Has the BLM completed compiling new visual resources inventory (VRI) data for each of the BLM field offices in Nevada? If not, will these VRIs be completed prior to the Final PEIS? We would like to be able to view this data collection and have the opportunity to comment.
- How will the Tribes be able to view proposed "fast track" project applications or solar energy Right-of-Way applications now that LR2000 is no longer available on line? Many Tribes in Nevada are in remote areas and will have to travel great distances to go to the Reno State Office to view any proposed applications.
- The interests of Tribes in getting priority right of first refusal/and or option(s) to acquire or the right to use adjacent/proximate BLM surplus properties to tribal holdings and/or historic range for energy projects or other uses is not considered in the PEIS. How are the agencies planning on addressing the Tribes' land adjacency/ proximity issues and interests?
- How will the agencies address proposed project areas that are adjacent to areas with important cultural and archaeological resources, such as traditional cultural properties and Native American sacred sites?

Thank you for your consideration in review of this document. We look forward to your response and appreciate your continued efforts with government-to-government consultation. If you have any questions, please call me at 775-265-8691.

Sincerely,

Tara Hess-McGeown
Environmental Specialist II

THM/ns

Thank you for your comment, Tara Hess-McGeown.

The comment tracking number that has been assigned to your comment is SolarD11651.

Comment Date: April 15, 2011 20:01:20PM
Solar Energy Development PEIS
Comment ID: SolarD11651

First Name: Tara
Middle Initial: D
Last Name: Hess-McGeown
Organization: Washoe Tribe of NV & CA
Address: 919 U.S. Hwy. 395 South
Address 2:
Address 3:
City: Gardnerville
State: NV
Zip: 89410
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: BLM_DOE Comment Ltr DEO_EIS draft PEIS 041511.rtf

Comment Submitted:

please find the attached comment letter

Washoe Tribe of Nevada and California

Environmental Protection Department



April 15, 2011

Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, Illinois 60439

RE: Draft Programmatic Environmental Impact Statement for Solar Energy
Development in Six Southwestern States – DES 10-59; DOE/EIS-0403

To Whom It May Concern:

In 2010 the Bureau of Land Management (BLM) and the Department of Energy (DOE) prepared the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States. The Draft PEIS was released to the public on December 17, 2010 and the comment period extended until April 16, 2011. The Washoe Environmental Protection Department (WEPD) understands that the state of Nevada is an important resource for solar energy development and could have large impacts to our neighboring Tribes. WEPD is submitting the following comments/questions regarding the Draft PEIS:

- The Draft PEIS does not treat Tribes as a sovereign nation relative to DOE's allocation of solar energy zones (SEZ) by state per renewable energy portfolio requirements as a driver for allocating solar project demand. The Washoe Tribe has a Strategic energy plan goal of providing all its energy renewably from tribal lands by 20xx, and thus has an energy portfolio standard that is no less than that adopted by the state of Nevada, and is bounded by tribal lands. If a Tribe had an established renewable energy portfolio standard, and Tribes were treated in a manner similar to a state, Tribes could make the argument that DOE should allocate this influence to Tribal lands as a market driver. Additionally, how do the agencies plan on addressing the Tribes' that do not have an established renewable energy portfolio standard, but still have interests in having their energy needs met with renewable energy, and/or from tribal lands?

- Has the BLM completed compiling new visual resources inventory (VRI) data for each of the BLM field offices in Nevada? If not, will these VRIs be completed prior to the Final PEIS? We would like to be able to view this data collection and have the opportunity to comment.
- How will the Tribes be able to view proposed "fast track" project applications or solar energy Right-of-Way applications now that LR2000 is no longer available on line? Many Tribes in Nevada are in remote areas and will have to travel great distances to go to the Reno State Office to view any proposed applications.
- The interests of Tribes in getting priority right of first refusal/and or option(s) to acquire or the right to use adjacent/proximate BLM surplus properties to tribal holdings and/or historic range for energy projects or other uses is not considered in the PEIS. How are the agencies planning on addressing the Tribes' land adjacency/ proximity issues and interests?
- How will the agencies address proposed project areas that are adjacent to areas with important cultural and archaeological resources, such as traditional cultural properties and Native American sacred sites?

Thank you for your consideration in review of this document. We look forward to your response and appreciate your continued efforts with government-to-government consultation. If you have any questions, please call me at 775-265-8691.

Sincerely,

Tara Hess-McGeown
Environmental Specialist II

THM/ns

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11652.

Comment Date: April 15, 2011 20:23:58PM
Solar Energy Development PEIS
Comment ID: SolarD11652

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The opposition to megaprojects in places like Colorado must not be viewed as a NIMBY issue. It includes those of us who reside in New England. I was head of the engineering department at a multi-state company that has installed megawatts of solar systems, only to be told after the very successful completion of a huge project, that this nation's best panels were no longer available to us for similar projects because every panel being manufactured was now being dedicated to megaprojects on public lands. The many systems we designed contiguous to high demand locations now operate with full efficiency and almost no transmission loss. Electrical energy wastefully degenerates to heat when power is transmitted from a remote wilderness area and your approval of such land use would mean that this country's best solar panels are NO LONGER AVAILABLE to high-demand zones where those panels would provide the most efficient power contribution and grid de-stressing benefit. Thousands of huge roofs are available for solar development in high-density parts of the nation. I no longer have any personal financial interest whatsoever in your decision, but for my grandchildren, I want you to make an intelligent distinction between good solar and bad solar.

Thank you for your comment, Walter McClatchey.

The comment tracking number that has been assigned to your comment is SolarD11653.

Comment Date: April 15, 2011 21:36:11PM
Solar Energy Development PEIS
Comment ID: SolarD11653

First Name: Walter
Middle Initial: P
Last Name: McClatchey
Organization:
Address: 203 Terra Avenue
Address 2:
Address 3:
City: Alexandria
State: LA
Zip: 713032237
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Maria Brady.

The comment tracking number that has been assigned to your comment is SolarD11654.

Comment Date: April 15, 2011 22:18:44PM
Solar Energy Development PEIS
Comment ID: SolarD11654

First Name: Maria
Middle Initial: C
Last Name: Brady
Organization:
Address: 20 Whispering Way NE
Address 2:
Address 3: 20 Whispering Way NE
City: Sandy Springs
State: GA
Zip: 30328
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is the key to energy independence and American jobs.

Thank you for your comment, Sandra Smallwood-Beltran.

The comment tracking number that has been assigned to your comment is SolarD11655.

Comment Date: April 15, 2011 23:09:17PM
Solar Energy Development PEIS
Comment ID: SolarD11655

First Name: Sandra
Middle Initial:
Last Name: Smallwood-Beltran
Organization: NPCA supporter
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am writing about the federal government initiating an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

I urge you to keep in mind that there's a right way and a wrong way to take this on. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Thank you for your comment, William Schoene.

The comment tracking number that has been assigned to your comment is SolarD11656.

Comment Date: April 15, 2011 23:39:36PM
Solar Energy Development PEIS
Comment ID: SolarD11656

First Name: William
Middle Initial: J
Last Name: Schoene
Organization:
Address: 1519 Oak Street
Address 2:
Address 3:
City: Santa Monica
State: CA
Zip: 904054847
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's hugely important that we ramp-up the generation of solar power as quickly as possible, but there's no reason we can't carefully choose solar installation sites, so that they don't adversely affect other things we value highly such as wildlife, scenic vistas, water resources and public lands with significant recreational potential. If our needs for more solar energy become so compelling that we need to expand beyond carefully-selected solar energy zones, then those tradeoffs can be dealt with at that time.

Thank you for your comment, Bruce Gabbard.

The comment tracking number that has been assigned to your comment is SolarD11657.

Comment Date: April 15, 2011 23:48:46PM
Solar Energy Development PEIS
Comment ID: SolarD11657

First Name: Bruce
Middle Initial:
Last Name: Gabbard
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment: A landscape.doc

Comment Submitted:

A landscape, a meadow of orange and yellow flowers, rock formations like no other place, joyous animals running freely all found in an area they call home, the Mojave Desert. Twenty years into the future, same place, but yet different. Dry plants rooted up, corpses cover the land and a lonely kangaroo rat looks overhead at his mother, who once breathed life, and he cries. A creature with two feet and that walked upright has ruined his home with giant pieces of technology and now he's the only one left of his kind.

I live in an area where four towns are very close to each other, interact, and rely on one another to maintain stability and stay economically sound. These towns are Morongo Valley, Yucca Valley, Joshua Tree, and Twentynine Palms. There has been an intensely large solar project being proposed by the government near our community. From what I understand, the Bureau of Land Management has sold over much of the private lands in southern California and Arizona which includes the Mojave Desert.

We know that there is a need to move toward clean, renewable energy sources in order to preserve our earth and its atmosphere but we need to realize that this is not the right way to go about it at all. This method of flattening out the land to put in technology to power our whole country will directly kill our desert with its rare plant and animal life. We need something more environmentally safe projects. It's the environment that makes our towns what they are. These proposed projects will touch Joshua Tree National Park, the Big Morongo Canyon Preserve, and will inevitably affect our communities. This immense industry will kill our natural beauty that we hold dear to preserve, and it will murder our local economy.

Not only will it hurt the economy but it will devastate the natural balance of the desert life. The beautiful night sky is diminishing before our eyes as technology improves. Rare and unique animals will struggle to survive. There are protected species that live here in the desert. The Kangaroo Rats are one. I remember as a child I would see these adorable animals run all over the place and now there's very little of them left. It has been over a decade since I have seen one. Why destroy what is left of them? The little known Burrowing Owls also roam these parts and relies on the ecosystem very heavily; they too are a protected species. The most well-known endangered animal of the desert is none other than the desert tortoise itself. These animals have lived here since anyone can remember and they are not only endangered but also sacred to the Native Indians. An important plant life in this area is the Joshua Tree. The Joshua Tree is an endangered species of plant life/ tree which only grows primarily in the Mojave Desert region and the middle east in the state of Israel.

These reasons and more should be why there shouldn't be an environmentally dangerous project in the desert. Instead use other means of going about it, without destroying the lives of many innocent creatures.

Thank you for your comment, susan Schrader.

The comment tracking number that has been assigned to your comment is SolarD11658.

Comment Date: April 15, 2011 23:57:38PM
Solar Energy Development PEIS
Comment ID: SolarD11658

First Name: susan
Middle Initial:
Last Name: Schrader
Organization:
Address: 1660 bidwell ve
Address 2:
Address 3:
City: chico
State: CA
Zip: 95926
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Let's get smart about developing solar energy. It's the way to go - the least polluting to the planet. I think it's stupid to keep talking about nuclear and spending a ton of money on it or oil subsidies.

Thank you for your comment, Jeff Lowry.

The comment tracking number that has been assigned to your comment is SolarD11659.

Comment Date: April 16, 2011 12:46:56PM
Solar Energy Development PEIS
Comment ID: SolarD11659

First Name: Jeff
Middle Initial:
Last Name: Lowry
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please consider Solar for the good of our future.

Thank you for your comment, Ronald Tipps.

The comment tracking number that has been assigned to your comment is SolarD11660.

Comment Date: April 16, 2011 13:09:46PM
Solar Energy Development PEIS
Comment ID: SolarD11660

First Name: Ronald
Middle Initial: G
Last Name: Tipps
Organization: Retired Power Plant Engineer
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Forget about the turtles, tortoises, rattlesnakes, and frogs, etc. Build all the solar power plants possible. We are in an energy crunch, especially clean energy. It is ridiculous to think that a damned tortoise is holding up these projects! Please use some Common Sense and stop acting like bureaucrats. You can do better than this!

Thank you for your comment, Carol Schramke.

The comment tracking number that has been assigned to your comment is SolarD11661.

Comment Date: April 16, 2011 13:32:46PM
Solar Energy Development PEIS
Comment ID: SolarD11661

First Name: Carol
Middle Initial: J
Last Name: Schramke
Organization:
Address: 940 Beech Ave
Address 2:
Address 3:
City: Pittsburgh
State: PA
Zip: 15233
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support amending the Solar Energy Zone alternative in order to concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

I believe these four proposed Solar Energy Zones (SEZ) threaten our national parks.

- 1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4) the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Gerard and Ann Findlan.

The comment tracking number that has been assigned to your comment is SolarD11662.

Comment Date: April 16, 2011 13:46:33PM
Solar Energy Development PEIS
Comment ID: SolarD11662

First Name: Gerard and Ann
Middle Initial:
Last Name: Findlan
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

We feel that four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. At the same park, the Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. As we have visited that park we know it is very fragile.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to consider our thoughts on this subject. Solar energy is a great potential resource, but it should not be developed at the cost of damage to our already stressed National Parks.

Thank you for your comment, Ann Albrecht.

The comment tracking number that has been assigned to your comment is SolarD11663.

Comment Date: April 16, 2011 14:26:24PM
Solar Energy Development PEIS
Comment ID: SolarD11663

First Name: Ann
Middle Initial:
Last Name: Albrecht
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11664.

Comment Date: April 16, 2011 14:28:33PM
Solar Energy Development PEIS
Comment ID: SolarD11664

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--I strongly support the Solar Energy Zone alternative,once amended, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to read this message and for giving your attention to this important matter.

Sincerely,
Susan Kessler

Thank you for your comment, Nichole Ebel-Bailey.

The comment tracking number that has been assigned to your comment is SolarD11665.

Comment Date: April 16, 2011 15:11:27PM
Solar Energy Development PEIS
Comment ID: SolarD11665

First Name: Nichole
Middle Initial: D
Last Name: Ebel-Bailey
Organization:
Address: 1200 River Road Lot #121
Address 2:
Address 3:
City: Sparta
State: WI
Zip: 54656
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Develop energy without jeopardizing our environment

Thank you for your comment, Helen Goldenberg.

The comment tracking number that has been assigned to your comment is SolarD11666.

Comment Date: April 16, 2011 15:12:49PM
Solar Energy Development PEIS
Comment ID: SolarD11666

First Name: Helen
Middle Initial: A
Last Name: Goldenberg
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Don't develop solar energy in environmentally sensitive areas. Thank you.

Thank you for your comment, James Pierson.

The comment tracking number that has been assigned to your comment is SolarD11667.

Comment Date: April 16, 2011 15:22:05PM
Solar Energy Development PEIS
Comment ID: SolarD11667

First Name: James
Middle Initial:
Last Name: Pierson
Organization:
Address: 1079 Yorktown Dr
Address 2:
Address 3:
City: Charleston
State: SC
Zip: 29412
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, please support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11668.

Comment Date: April 16, 2011 15:36:36PM
Solar Energy Development PEIS
Comment ID: SolarD11668

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support the position of the National Parks Conservation Association (NPCA) on the siting of Solar Energy Zones. In addition to the NPCA's comments, reproduced below, I ask you to consider the following.

The deserts of the American West are an extraordinary resource that must be treated with a like amount of care. These deserts are treasured, and increasingly, by visitors from around the world. It is likely that their economic value will continue to grow because of the easy access to these magnificent places from high density population zones. Please consider the current and future value of cordons in the course of mapping development plans.

From the NPCA:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, carolyn massey.

The comment tracking number that has been assigned to your comment is SolarD11669.

Comment Date: April 16, 2011 18:02:51PM
Solar Energy Development PEIS
Comment ID: SolarD11669

First Name: carolyn
Middle Initial: e
Last Name: massey
Organization:
Address: 632 1/2 north 6th
Address 2:
Address 3:
City: quincy
State: IL
Zip: 62301
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

carolyn massey

Thank you for your comment, Danny Thorn.

The comment tracking number that has been assigned to your comment is SolarD11670.

Comment Date: April 16, 2011 18:31:17PM
Solar Energy Development PEIS
Comment ID: SolarD11670

First Name: Danny
Middle Initial:
Last Name: Thorn
Organization:
Address: 710 18th Avenue West
Address 2:
Address 3:
City: Kirkland
State: WA
Zip: 98033
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11671.

Comment Date: April 16, 2011 19:12:35PM
Solar Energy Development PEIS
Comment ID: SolarD11671

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

This is my citizen's comments on the use of national parks for solar energy collection. It is my opinion that only sites that do not adversely affect, now or in the future, the park's mission should be used. The impact of the solar panels on wildlife, on recreation, on night sky, etc. should be taken into consideration, and no solar panel should be introduced that harms the park's traditional mission.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11672.

Comment Date: April 16, 2011 19:18:36PM
Solar Energy Development PEIS
Comment ID: SolarD11672

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

April 14th, 2011

To Whom It May Concern,

I was technically born in Palm Springs, California, but I have otherwise always lived in Palm Desert. I have also continually felt that there has been an even greater need to protect the natural environment of California, and its surrounding areas, in order to keep its natural beauty preserved. This unappreciated feature has many purposes of a vital need for safety. However, the dire consequences of ignoring these qualities have other effects.

While this plan can benefit the ecosystem, it can also bring unintended harm to it. Zoning issues aside, the solar energy zone cannot be allowed to destroy the land it inhabits and encompasses. In the case of a failure, the resulting damages from it could very well be devastating. Not only does the area need to be secured, but also the people living near it must be reassured that they are not in any sort of danger. Before rushing into energy plans, I request that any and all safety measures and precautions are taken care of.

Thank you for understanding my concerns.

Thank you for your comment, Laura Meek.

The comment tracking number that has been assigned to your comment is SolarD11673.

Comment Date: April 16, 2011 19:25:23PM
Solar Energy Development PEIS
Comment ID: SolarD11673

First Name: Laura
Middle Initial: A
Last Name: Meek
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. --Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Deborah Burckhardt.

The comment tracking number that has been assigned to your comment is SolarD11674.

Comment Date: April 16, 2011 20:02:57PM
Solar Energy Development PEIS
Comment ID: SolarD11674

First Name: Deborah
Middle Initial:
Last Name: Burckhardt
Organization:
Address: Third St
Address 2:
Address 3:
City: San Rafael
State: CA
Zip: 94901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is environmentally friendly and this can help save our planet.

Thank you for your comment, Hilary Entley.

The comment tracking number that has been assigned to your comment is SolarD11675.

Comment Date: April 16, 2011 21:05:23PM
Solar Energy Development PEIS
Comment ID: SolarD11675

First Name: Hilary
Middle Initial:
Last Name: Entley
Organization:
Address:
Address 2:
Address 3:
City: erie
State: PA
Zip: 16507
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Ruth Brown.

The comment tracking number that has been assigned to your comment is SolarD11676.

Comment Date: April 16, 2011 22:09:22PM
Solar Energy Development PEIS
Comment ID: SolarD11676

First Name: Ruth
Middle Initial:
Last Name: Brown
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There are 4 proposed Solar Energy Zones that threaten the National Parks: 1- The Riverside East SEZ which should be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. 2- The Iron Mt. SEZ which must be removed to prevent impacts to Joshua Tree National Park's scenery and wildlife. 3- The Amargosa Valley SEZ which must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. 4- The Red Sands SEZ which threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument

Any proposed solar projects sited within 15 miles of a national park boundary should result in a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. I also believe that it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I support the development of Solar Energy as an alternative fuel, but very strongly desire that this take place in a responsible manner that protects our natural resources, especially the National Park Lands. I hope we can develop Solar Energy without the loss of lands that were put aside for the the joy of the people, now and in the future. Ruth Brown

Thank you for your comment, Dollie Feld.

The comment tracking number that has been assigned to your comment is SolarD11677.

Comment Date: April 16, 2011 22:44:51PM
Solar Energy Development PEIS
Comment ID: SolarD11677

First Name: Dollie
Middle Initial:
Last Name: Feld
Organization: CTTC
Address: 1487 Villa Cardiff Drive
Address 2:
Address 3:
City: cardiiff by the sea
State: CA
Zip: 92007
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please stop the large companies that hide themselves behind the shield of Solar Energy Plants to destroy the natural habitat of the American Desert Tortoise. These wonderful creatures are already endangered and now face another path of extinction from the interruption of their native land and habitat. When does the facade of progress end and the real need of keeping these wonderful animals alive and protected. Please make the right decision by disallowing these companies to obtain public land for Solar use and allowing them only to use public land that is available,
Thank you for making the right moral decision by protecting our Native Desert Tortoise...

Sincerely,
Dollie Feld

Thank you for your comment, Donna Greathouse Neel.

The comment tracking number that has been assigned to your comment is SolarD11678.

Comment Date: April 16, 2011 22:57:24PM
Solar Energy Development PEIS
Comment ID: SolarD11678

First Name: Donna
Middle Initial:
Last Name: Greathouse Neel
Organization:
Address:
Address 2:
Address 3:
City:
State: WA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
 - The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
 - The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
 - Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
- Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Leah Mae Macrohon.

The comment tracking number that has been assigned to your comment is SolarD11679.

Comment Date: April 17, 2011 00:30:20AM
Solar Energy Development PEIS
Comment ID: SolarD11679

First Name: Leah Mae
Middle Initial: A
Last Name: Macrohon
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country: PHL
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I live in a tropical country where solar energy is limitless..They (industries) say and most of us think that solar energy is something developing countries could not afford..But think of how much limitless help this would give my countrymen and other poor nations if we could only harness the power of the sun..

Thank you for your comment, emily liu-elizabeth.

The comment tracking number that has been assigned to your comment is SolarD11680.

Comment Date: April 17, 2011 01:52:58AM
Solar Energy Development PEIS
Comment ID: SolarD11680

First Name: emily
Middle Initial:
Last Name: liu-elizabeth
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy is an important piece of our energy strategy, and will help ensure our national security, environmental health, and economic wellbeing.

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Max Forest.

The comment tracking number that has been assigned to your comment is SolarD11681.

Comment Date: April 17, 2011 07:24:30AM
Solar Energy Development PEIS
Comment ID: SolarD11681

First Name: Max
Middle Initial:
Last Name: Forest
Organization:
Address:
Address 2:
Address 3:
City: Albuquerque
State: NM
Zip: 87110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I know of a multi panel photo-voltaic array installed at a government building recently. It supplies much more than the building needs. And there is no battery bank to store the excess for the no sun periods. Nor is there any fair option requiring the local utility to credit the surplus electricity to the building's electric bill. Nor are there any plans to put the excess electricity into electric government vehicles.

Did someone set this up to fail? After some years, one could just look at the balance sheets and say, "much spending, little gain; this didn't work."

Why are there no equivalent subsidies to alternative energies like the enormous ones to corporate efforts in fossil, and nuclear energy, or pharma, or any other industry?

Answer the entrenched marketeers' cries of, "it'll cost you big, and you'll suffer" with "we the people will make it work." Just like we converted to petroleum based technology from individual innovators before there were enormous marketeers to block our desires for cheaper energy.

At one government park building i know of an array of solar water heating panels that are inactive. They once worked and still do not leak. Yet all that appears to prevent their benefits - inspiring visitors and heating water - is a cheap booster pump.

ACTION Put alternative energy into the public eye - especially at oft used park and public buildings.

ACTION Install alternative energy (solar, wind) on all government buildings.

ACTION Preserve energy savings by retro-insulating all government buildings.

ACTION Upgrade antiquated water, gas and electrical consumption. Replace water wasting plumbing, gas wasting furnaces and water heaters, and electricity wasting water and space heaters. Add south facing windows and tromb walls to collect heat in winter. Design walls to shade them from solar heat in summer. Plant shade trees!

ACTION Convert all government vehicles to hybrid and electric power fueled from small local solar-wind power sources at each fleet's parking area.

ACTION Require utilities to buy back excess energy at the same rate they sell it.

ACTION Subsidize research so cheaper photo-voltaic systems reach all consumers. Introduce long lasting and substantial tax breaks and incentives for alternative energy-using households and businesses.

ACTION Subsidize research on electric storage for households and businesses.

ACTION Implement a carbon tax to fund these subsidies.

ACTION Publicly publish the externalities - the real costs of continuing to consume fossil and nuclear fuels.
Remind us of the huge health degradation of our bodies from the myriad of tested and untested petroleum based products in our food, water, clothing, cars, homes,... everywhere.
Remind us of the unspoken subsidies to the marketeers:
super cheap access to the mineral wealth on public lands,
public funded tax breaks,
public funded highways, public funded utilities, public funded health care of petroleum and nuclear caused ilth -
all the things we take for granted that the marketeers get for free from us and then turn around and charge us for when we buy petroleum products or energy and increase their addiction to our common wealth.
And implement laws that punish those that publish fraudulent or misleading information about energy extraction and use.

Thank you for your comment, Nikki Young.

The comment tracking number that has been assigned to your comment is SolarD11682.

Comment Date: April 17, 2011 09:54:46AM
Solar Energy Development PEIS
Comment ID: SolarD11682

First Name: Nikki
Middle Initial:
Last Name: Young
Organization:
Address: 5530 21st St.
Address 2:
Address 3:
City: Zephyrhills
State: FL
Zip: 33542
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As we continue to run out of fossil fuel deposits to tap, we should think about our prior impacts to the environment. In the past we have made abrupt moves to get what we as a nation "needed" without considering the impacts to the future. We now are confronted with a disappearing resource that we desperately need to replace. It is time that we as a nation take time and effort to think about the possible impacts of new power sources when installing them across this great earth. We need to learn balance between nature and technology and preserve what we have for future generations of all plants and animals.

Thank you for your comment, DAVID FURA.

The comment tracking number that has been assigned to your comment is SolarD11683.

Comment Date: April 17, 2011 12:24:55PM
Solar Energy Development PEIS
Comment ID: SolarD11683

First Name: DAVID
Middle Initial:
Last Name: FURA
Organization:
Address: POBOX 81197
Address 2:
Address 3:
City: PHOENIX
State: AZ
Zip: 85069
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development

Thank you for your comment, Daedra Smith.

The comment tracking number that has been assigned to your comment is SolarD11684.

Comment Date: April 17, 2011 12:33:06PM
Solar Energy Development PEIS
Comment ID: SolarD11684

First Name: Daedra
Middle Initial: D
Last Name: Smith
Organization: NPCA
Address: 11881 Cresta Verde
Address 2:
Address 3:
City: Saint Louis
State: MO
Zip: 63146
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While America is desiring to progress towards renewable, clean, low-impact energy sources, there is a right way and wrong way to approach its development.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration in this important step towards America's energy future!

Sincerely,

Daedra D. Smith

Thank you for your comment, Steve Hemstreet.

The comment tracking number that has been assigned to your comment is SolarD11685.

Comment Date: April 17, 2011 13:35:46PM
Solar Energy Development PEIS
Comment ID: SolarD11685

First Name: Steve
Middle Initial:
Last Name: Hemstreet
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Place solar panels on buildings in the city - we don't have to destroy the environment to get solar. We need higher MPG requirements for all vehicles, make use of geothermal and no fracking

Thank you for your comment, Sarah Danner.

The comment tracking number that has been assigned to your comment is SolarD11686.

Comment Date: April 17, 2011 15:48:33PM
Solar Energy Development PEIS
Comment ID: SolarD11686

First Name: Sarah
Middle Initial: C
Last Name: Danner
Organization:
Address: 6661 Fairmont St.
Address 2:
Address 3:
City: Navarre
State: FL
Zip: 32566
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While we do need solar energy development, we need to also protect our National Parks and Monuments by not situating these solar field in them.

Thank you for your comment, John Schumacher.

The comment tracking number that has been assigned to your comment is SolarD11687.

Comment Date: April 17, 2011 15:59:56PM
Solar Energy Development PEIS
Comment ID: SolarD11687

First Name: John
Middle Initial:
Last Name: Schumacher
Organization:
Address: po box 551
Address 2:
Address 3:
City: Clearwater
State: FL
Zip: 337570551
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Do the right thing.....

Thank you for your comment, James Gibson.

The comment tracking number that has been assigned to your comment is SolarD11688.

Comment Date: April 17, 2011 16:06:38PM
Solar Energy Development PEIS
Comment ID: SolarD11688

First Name: James
Middle Initial:
Last Name: Gibson
Organization:
Address: 339 Glen Ave
Address 2:
Address 3:
City: Sea Cliff
State: NY
Zip: 11579
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I request that the United States government use all available and appropriate lands to develop solar energy but not within the National Park System.

Thank you for your comment, David Beaumont.

The comment tracking number that has been assigned to your comment is SolarD11689.

Comment Date: April 17, 2011 16:13:50PM
Solar Energy Development PEIS
Comment ID: SolarD11689

First Name: David
Middle Initial: M
Last Name: Beaumont
Organization: Mojave Trails Group
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

1. Comments Centered Around Addressing The Cumulative Impacts To A Wide Variety Of Human Contact In The Desert Region Of Southern California Resulting From The Incremental Impact Of The Combined Actions Of Various Federal Agencies.

1.A Cumulative Effect Analysis Fails To Study, Consider, And Offer An Alternative Which Achieves A Balance Between Population And Resource Use Which Permits High Standards Of Living And A Wide Sharing Of Life's Amenities In The Southern California Desert Region:

NEPA requires that all related and connected actions be considered for cumulative impact as well as direct and indirect effect. This effort is extended to region wide areas by NEPA and the Council on Environmental Quality. Also, NEPA requires that the significance of an action must be analyzed in several contexts such as society as a whole, including human, and affected interests.

At this time, there are three separate NEPA actions concurrently running in the desert region of southern California which cumulatively impact, in a negative manner, human contact and interaction with nature by incrementally eliminating activities such as driving for sport, back country exploring, rock hounding, hunting, back country camping, access for the disabled, elderly, scientific and educational activities, just to mention a few. The common denominator to all of these interests is the necessity for transportation by the use of motorized vehicles.

Two main renewable energy actions, that which is being addressed in this Solar PEIS, and the Desert Renewable Energy Conservation Plan (DRECP), will eventually directly interact and complement each other. The Solar PEIS aids in creating renewable energy zones on public lands in this one region, the DRECP fast tracks the permitting process for the renewable energy projects which may very well be located inside these renewable energy zones, while also implementing a Natural Community Conservation Plan (NCCP) and Habitat Conservation Plan (HCP) over the entire same region. The existence of both these conservation plans are the direct effect of actions taken by state and federal entities and will exacerbate the cumulative impact being discussed here and need to be analyzed for cumulative impacts also. Both main actions will cause environmental stress for the human community in social, cultural, and economic manners as well as having detrimental effects on physical and emotional health on individuals negatively affected. Both plans will deny the opportunity to "encourage a productive and enjoyable harmony between man and his environment". The solar energy zones will deny human access to the resources closed off by future resulting project areas, and the resulting environmental mitigations lands which will no doubt come with the projects. (Mitigation lands will be addressed later in this document.) Recent DRECP documentation has made it clear that it's conservation aspects will prevail over motorized access inside it's plan area. A plan area which is essentially the entire Mojave desert region of southern California.

Furthermore, an area commonly known as Johnson Valley is located inside that same desert region and is the largest recreational area of it's type for the same region. Some two-thirds of the area is currently being analyzed for acquisition by the United States Marine Corp.

The obvious direct impact of closing the majority of Johnson Valley will cause direct impacts and effects to the remaining open area in regards to safety, quality of experience due to over-crowding, and increased environmental degradation due to this same over-crowding. As well, indirect effects in other areas of this same region will occur when people begin to leave the Johnson Valley area in search of better recreational opportunities elsewhere. This will cause environmental stress in conservation and social manners in other areas of the same region as well as economic stress to the communities around Johnson Valley which support the current users of the Valley with goods and services.

All three actions create a classic conflict where "doing something beneficial" for one interest causes damage in other regards to other groups of people who are losing their opportunities to benefit from their connection with nature and our physical environment.

Each one of these three process' have their own separate NEPA actions running concurrently.

NEPA, through CEQ documentation further clarifies the subject of being "all inclusive" when considering what some might inadvertently consider to be unrelated multiple projects:

"The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects. Specifically, NEPA requires that all related actions be addressed in the same analysis."

Document quoted from found at: <http://ceq.hss.doe.gov/nepa/ccenepa/sec1.pdf>

In order to properly analyze the cumulative impacts, direct and indirect effects, of all three of these concurrently running programs, each should be combined under ONE NEPA ACTION due to the manner in which they interconnect and affect each other. The situation involving the cumulative impacts, direct and indirect effects, on this one desert region cannot be properly handled by three separate NEPA actions. None of these actions are established in a manner which accommodates the cumulative effect of the others to the same region. NEPA, and policies established by the CEQ, all require the combination of these actions under one NEPA process due to their connected actions, common regional location and combined cumulative impact.

The fact that none of these three plans are not yet finished only compounds this situation and further sets the stage for a failure to properly analyze the combined cumulative impacts of these plans. Part of my responsibility as a citizen commenting on this and other actions which fall under NEPA, is to identify trends, to look at immediate and future effects. To myself and those which I associate with, the combined cumulative effects of these three actions are as clear and present as the sun at noon during a July visit to the deserts whose fate we are deciding here. Yet there is little in black and white that I can actually hold out as direct evidence in present time. This situation calls for careful analysis of which scenarios, and the significance of the impacts of those scenarios, will arise in the foreseeable future as these three actions mature and are implemented.

The DRECP, save for its comment about the priority between conservation and motorized travel, is in it's infancy with many internal plans yet to be developed or finalized.

This plan for solar energy zones, with this Solar PEIS, paints a wide brush of potential areas to be utilized for solar energy projects. Yet, by design of these zones and the current plan, there is no specific, on the ground locations for any specific solar energy projects which I can directly comment on at this time. While we understand that the opportunity for comments on these future individual projects inside the renewable energy zones will be afforded the public, where inside of that future process will be the opportunity to properly examine the cumulative impact of these three actions on the entire region? That opportunity will simply not exist. That opportunity is in the present time and will have passed by the time that the future site specific projects go through their own NEPA process. The public commenter's will have their hands tied at that future time by the concept that such comments encompassing the entire region are outside the scope of those individual future projects. The public, for whom these actions are allegedly being implemented for, are caught in a true catch 22 situation. Those of this category of public land users are being denied their due protections under NEPA as the system is being implemented currently. The CEQ clearly calls for timely analysis of cumulative impacts. Now is that time.

While the mix of lead agencies may be different across the three projects, you'll discover with simple examination, that first off and foremost, all these actions involve all the individual components which are brought together under the key word "environment" inside NEPA. To deal with issues such as this is one of the reasons NEPA was created and passed into law. To condone, and maintain, a system of governmental behavior which disregards the fact that multiple actions, by the same or different agencies inside the federal government, which affect one common region with cumulative impacts leading to environmental degradation is a process which in of its self denies the very meaning of, and the ability to apply, the concepts of analyzing cumulative impacts as established under NEPA and the CEQ.

NEPA does not contain an escape clause which allows separate agencies of the federal government to avoid or evade their responsibility to analyze and appropriately mitigate the cumulative effects of actions by multiple agencies, or different actions of the same agency, of the federal government when those agency's individual actions have a cumulative impact on the environment of one region.

The concerns and interests of NEPA are not limited to strictly conservation efforts for wild species and their habitats. NEPA contains language which specifically protects and encourages human interaction with our environment. NEPA requires analysis for human socio-cultural issues as well.

This process needs to include the cumulative impact of all these actions under discussion, determine appropriate mitigation, and apply that appropriate mitigation for all aspects of the term "environmental" as defined by NEPA.

From the same CEQ document quoted earlier in this comment I leave you with this:

William Odum (1982) succinctly described environmental degradation from cumulative effects as "the tyranny of small decisions."

1.B The Actual Amounts Of Land Used For This Program:

Specifically related to this EIS, the amount of land required for renewable energy facilities is immense. In California alone, the current estimates are that four hundred (400) square miles of land will be needed to supply a third (1/3rd.) of our States electrical needs with renewable energy sources. But the amount does not stop at this number. One cumulative impact which this EIS needs to consider is the effect of the resulting mitigation lands legally required for building these renewable energy facilities in areas where there are threatened or endangered species. While there has already been one extreme exception to this issue at the first Ivanpah facility in California, which at the end of the day required over one hundred fifty (150) square miles of mitigation land for a renewable energy facility of approximately ten (10) square miles in size, the conventional thinking is that the mitigation ratio will be three to one (3:1).

Under the conventional thinking as described above, the amount of mitigation land equates to one-thousand two-hundred (1,200) square miles. ($3 \times 400 = 1,200$).

Add these two values together and you'll see that the total burden on land use is actually one-thousand six-hundred (1,600) square miles to supply California with one-third (1/3rd.) of its electrical needs through the types of renewable energy projects being considered.

Then there is the corridors needed to transport the electricity to the consumers which further adds to this issue. All the states involved in this process will be affected in the same manner.

As renewable energy portfolio numbers are pushed higher and higher by political and conservation entities the cumulative impact of this trend will become even worse.

1.C Negative Cumulative Impacts Of Mitigation Lands As Historically Designed:

While mitigation lands may have a positive effect on the viability of certain species, there is a negative cumulative impact to the Nation, citizens, and local economies.

The source of mitigation lands is private lands with willing sellers. The current thinking is to attempt to amass large blocks of lands rather than scattering smaller tracts across a wide area as has been the general practice in the past.

Considering the means by which these lands are established there are certain injustices being done to the citizens of California in regards to the ownership and continued use of these mitigation lands and surrounding public lands.

1.C.1 The renewable energy facilities will have a finite life span of approximately 25 to 30 years. The project sites will be restored at the end of their life cycle. For that brief period of time where the project developer is leasing public lands, for the benefit of the public and the benefit of reduced environmental damage through clean energy production, at the request of the conservation community and federal government, our State's citizens are being forced to trade off these mitigation lands in-perpetuity for the benefit of this federal program and its creators.

1.C.2 It has been my personal experience that mitigation lands which are established for conservation purposes are fenced and closed to public access by the private land trust groups which become the owners. Where desert roads once existed allowing the public access across or alongside these lands, fences are put up which block access to public lands which border, or are on the other side, of these private mitigation lands which were established through this process.

1.C.3 The cumulative effects of mitigation land on the Nations social, cultural and natural resources, effects on human health and their connectivity with nature, could potentially be staggering due to the amount of land utilized for mitigation in this action and future project sites which are allowed inside the solar energy zones which will be established.

1.C.4 The alternatives need to include the requirement to leave access along, or across, mitigation lands to maintain access to public lands for all forms of human transport including motorized vehicles.

1. D Land Ownership And Control Trends In The Southern California Desert Region Are Shifting Due To Renewable Energy Plans:

In this desert region of southern California, a new group of significant land owners is about to be created by the various renewable energy plans being implemented by various political, governmental and non-governmental forces. These new land owners, typically known as conservation land trusts, essentially create categories of land use which exceed the restrictive use of true Wilderness as declared by Congress. As discussed above, we may be talking an amount of land which may exceed three quarters of a million acres. (1,200 square miles).

There is also the concern that a form of mitigation for specific projects may involve the elevation of existing public use land

designations into more restrictive classifications where conservation, rather than multiple use, is the priority. This again adds into the cumulative impact of this and other plans under way for this region. And of course, we have to remember the original effects which restrict access for the project specific sites.

2. Land Use Patterns Are Being Changed For The Benefit Of One Umbrella Group, Military Efforts, And Renewable Energy Concerns While Discounting Other Needs Of Our Nation And The Human Population As A Whole:

The desert region of southern California already contains vast areas which are set aside and protected in a manner where conservation is the primary directive. The region is also home to vast in holdings by various branches of military organizations. While I personally believe that sound conservation practice, and a prepared military, is essential to the well being of our Nation and life on this planet, it is clear that the past, present, and future incremental effects of these efforts are continuing the process of further restricting access to the natural resources of our public lands by those who utilize motorized transportation.

The conservation movement, as an umbrella group of many individual organizations with their own specific missions, have made tremendous progress to further their overall objectives in this region. I see no indicator which points to the idea that the members of this group, either individually or collectively, are satisfied with their current level of progress in furthering their efforts in this region. The military is obviously not satisfied as well.

As this process evolves, a process which is being enabled by governmental agencies who are failing to work together on the cumulative impacts of their larger strategies and policies, the result is inevitable: the majority of the public lands in this desert region will become a cloistered environment for this one umbrella group, our military, and renewable energy companies. In this process, large blocks of land will be set aside for use by only those in our society who are fortunate enough to be physically fit enough, and have the leisure time, to explore these areas on foot. In this process, humans who do not share this physical ability or the leisure time, who by virtue of necessity by their station in life, or their individual choice of how to use the resources of our public lands, are being excluded from the experience of interactions with the resources of our public lands in this region. I do not see that NEPA, nor any other federal or state laws requires such a design scenario for this region's public lands.

3. Necessity To Address Population Growth:

NEPA requires that the examination of the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures be conducted. As the population of this Nation continues to grow more and more people will spend more time on our public lands. The uses of those lands will be mixed, and will include the necessity for further expansion of opportunities by motorized travel. I do not see this issue addressed inside this or any other NEPA action currently underway for this particular desert region under discussion. Again, more incremental cumulative impact.

4. Alternatives For The Solar PEIS, Or By Any Other Currently Active NEPA Action, Do Not Adequately Address The Concerns Submitted By This Commenter Or The Concerns Of The Mojave Trails Group As A Whole:

Either by virtue of the combination of the various NEPA actions mentioned in these collective comments, or by an overriding all inclusive action which is binding on the individual NEPA actions which have been mentioned in these collective comments, the issue of cumulative impacts to all aspects of the human environment need to be addressed for this entire desert region. Alternatives for such cumulative impacts, with appropriate mitigation for the benefit of lost opportunities to the motorized users on public lands, should be formulated and adopted by any and all agencies involved in any and all of the NEPA actions mentioned in these collective comments.

5. Failure To Exhaust All Options For Locating Renewable Energy Generation Devices:

There are millions of acres of roof tops, open spaces, and previously disturbed lands, which are in or near the major areas of electrical consumption inside the six states impacted by this program. Toward the effort of reducing environmental damage in our desert regions with large scale renewable energy facilities, and the required electrical transmission infrastructure, every effort should be made to avoid desert regions for this effort.

6. Renewable Energy Developers Should Continue The Practice Of Re-Routing Roads For Public Access Around Their Projects.

Simple enough, so far current developers have been gracious enough to allow motorized access around and beyond their facilities by constructing new roads when those facilities block existing roads.

7. Renewable Energy Project Developers Or Operators Who Utilize Public Lands In This Region As A Location For Their Facilities Would Pay A Fee To Help Offset Damage Occurring To The Motorized Access Community In This Region.

At a rate of 1/5th. of one cent per kilowatt hour of electricity sold to electrical consumers, each operator or developer of any type of renewable energy facility which is located on public lands shall be required to pay a fee back to the community of motorized desert users for this region of Southern California.

The moneys collected shall be used for such items or actions as: legal defense of access to our public lands of the desert which require motorized vehicles to afford access by a broad range of public users; enhancement of, or creation of campgrounds, picnic

areas or such amenities as deemed required by the motorized access community; purchase, set up, and operational costs of new areas for the purposes of operating motorized vehicles; maintenance costs of new or existing routes of travel on public lands.

Details of the distribution of the funds would have to be worked out.

8. Applicability Of These Comments To The Solar PEIS As A Whole:

As applicable and relevant, please apply these comments as a whole, or in part, to the entire list of states affected by the Solar PEIS.

Sincerely,

David M Beaumont
Founder: Mojave Trails Group
savecaliforniasdeserts@gmail.com

Thank you for your comment, David Beaumont.

The comment tracking number that has been assigned to your comment is SolarD11690.

Comment Date: April 17, 2011 16:25:37PM
Solar Energy Development PEIS
Comment ID: SolarD11690

First Name: David
Middle Initial: M
Last Name: Beaumont
Organization: Mojave Trails Group
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

1. Comments Centered Around Addressing The Cumulative Impacts To A Wide Variety Of Human Contact In The Desert Region Of Southern California Resulting From The Incremental Impact Of The Combined Actions Of Various Federal Agencies.

1.A Cumulative Effect Analysis Fails To Study, Consider, And Offer An Alternative Which Achieves A Balance Between Population And Resource Use Which Permits High Standards Of Living And A Wide Sharing Of Life's Amenities In The Southern California Desert Region:

NEPA requires that all related and connected actions be considered for cumulative impact as well as direct and indirect effect. This effort is extended to region wide areas by NEPA and the Council on Environmental Quality. Also, NEPA requires that the significance of an action must be analyzed in several contexts such as society as a whole, including human, and affected interests.

At this time, there are three separate NEPA actions concurrently running in the desert region of southern California which cumulatively impact, in a negative manner, human contact and interaction with nature by incrementally eliminating activities such as driving for sport, back country exploring, rock hounding, hunting, back country camping, access for the disabled, elderly, scientific and educational activities, just to mention a few. The common denominator to all of these interests is the necessity for transportation by the use of motorized vehicles.

Two main renewable energy actions, that which is being addressed in this Solar PEIS, and the Desert Renewable Energy Conservation Plan (DRECP), will eventually directly interact and complement each other. The Solar PEIS aids in creating renewable energy zones on public lands in this one region, the DRECP fast tracks the permitting process for the renewable energy projects which may very well be located inside these renewable energy zones, while also implementing a Natural Community Conservation Plan (NCCP) and Habitat Conservation Plan (HCP) over the entire same region. The existence of both these conservation plans are the direct effect of actions taken by state and federal entities and will exacerbate the cumulative impact being discussed here and need to be analyzed for cumulative impacts also. Both main actions will cause environmental stress for the human community in social, cultural, and economic manners as well as having detrimental effects on physical and emotional health on individuals negatively affected. Both plans will deny the opportunity to "encourage a productive and enjoyable harmony between man and his environment". The solar energy zones will deny human access to the resources closed off by future resulting project areas, and the resulting environmental mitigations lands which will no doubt come with the projects. (Mitigation lands will be addressed later in this document.) Recent DRECP documentation has made it clear that it's conservation aspects will prevail over motorized access inside it's plan area. A plan area which is essentially the entire Mojave desert region of southern California.

Furthermore, an area commonly known as Johnson Valley is located inside that same desert region and is the largest recreational area of it's type for the same region. Some two-thirds of the area is currently being analyzed for acquisition by the United States Marine Corp.

The obvious direct impact of closing the majority of Johnson Valley will cause direct impacts and effects to the remaining open area in regards to safety, quality of experience due to over-crowding, and increased environmental degradation due to this same over-crowding. As well, indirect effects in other areas of this same region will occur when people begin to leave the Johnson Valley area in search of better recreational opportunities elsewhere. This will cause environmental stress in conservation and social manners in other areas of the same region as well as economic stress to the communities around Johnson Valley which support the current users of the Valley with goods and services.

All three actions create a classic conflict where "doing something beneficial" for one interest causes damage in other regards to other groups of people who are losing their opportunities to benefit from their connection with nature and our physical environment.

Each one of these three process' have their own separate NEPA actions running concurrently.

NEPA, through CEQ documentation further clarifies the subject of being "all inclusive" when considering what some might inadvertently consider to be unrelated multiple projects:

"The range of actions that must be considered includes not only the project proposal but all connected and similar actions that could contribute to cumulative effects. Specifically, NEPA requires that all related actions be addressed in the same analysis."

Document quoted from found at: <http://ceq.hss.doe.gov/nepa/ccenepa/sec1.pdf>

In order to properly analyze the cumulative impacts, direct and indirect effects, of all three of these concurrently running programs, each should be combined under ONE NEPA ACTION due to the manner in which they interconnect and affect each other. The situation involving the cumulative impacts, direct and indirect effects, on this one desert region cannot be properly handled by three separate NEPA actions. None of these actions are established in a manner which accommodates the cumulative effect of the others to the same region. NEPA, and policies established by the CEQ, all require the combination of these actions under one NEPA process due to their connected actions, common regional location and combined cumulative impact.

The fact that none of these three plans are not yet finished only compounds this situation and further sets the stage for a failure to properly analyze the combined cumulative impacts of these plans. Part of my responsibility as a citizen commenting on this and other actions which fall under NEPA, is to identify trends, to look at immediate and future effects. To myself and those which I associate with, the combined cumulative effects of these three actions are as clear and present as the sun at noon during a July visit to the deserts whose fate we are deciding here. Yet there is little in black and white that I can actually hold out as direct evidence in present time. This situation calls for careful analysis of which scenarios, and the significance of the impacts of those scenarios, will arise in the foreseeable future as these three actions mature and are implemented.

The DRECP, save for its comment about the priority between conservation and motorized travel, is in it's infancy with many internal plans yet to be developed or finalized.

This plan for solar energy zones, with this Solar PEIS, paints a wide brush of potential areas to be utilized for solar energy projects. Yet, by design of these zones and the current plan, there is no specific, on the ground locations for any specific solar energy projects which I can directly comment on at this time. While we understand that the opportunity for comments on these future individual projects inside the renewable energy zones will be afforded the public, where inside of that future process will be the opportunity to properly examine the cumulative impact of these three actions on the entire region? That opportunity will simply not exist. That opportunity is in the present time and will have passed by the time that the future site specific projects go through their own NEPA process. The public commenter's will have their hands tied at that future time by the concept that such comments encompassing the entire region are outside the scope of those individual future projects. The public, for whom these actions are allegedly being implemented for, are caught in a true catch 22 situation. Those of this category of public land users are being denied their due protections under NEPA as the system is being implemented currently. The CEQ clearly calls for timely analysis of cumulative impacts. Now is that time.

While the mix of lead agencies may be different across the three projects, you'll discover with simple examination, that first off and foremost, all these actions involve all the individual components which are brought together under the key word "environment" inside NEPA. To deal with issues such as this is one of the reasons NEPA was created and passed into law. To condone, and maintain, a system of governmental behavior which disregards the fact that multiple actions, by the same or different agencies inside the federal government, which affect one common region with cumulative impacts leading to environmental degradation is a process which in of its self denies the very meaning of, and the ability to apply, the concepts of analyzing cumulative impacts as established under NEPA and the CEQ.

NEPA does not contain an escape clause which allows separate agencies of the federal government to avoid or evade their responsibility to analyze and appropriately mitigate the cumulative effects of actions by multiple agencies, or different actions of the same agency, of the federal government when those agency's individual actions have a cumulative impact on the environment of one region.

The concerns and interests of NEPA are not limited to strictly conservation efforts for wild species and their habitats. NEPA contains language which specifically protects and encourages human interaction with our environment. NEPA requires analysis for human socio-cultural issues as well.

This process needs to include the cumulative impact of all these actions under discussion, determine appropriate mitigation, and apply that appropriate mitigation for all aspects of the term "environmental" as defined by NEPA.

From the same CEQ document quoted earlier in this comment I leave you with this:

William Odum (1982) succinctly described environmental degradation from cumulative effects as "the tyranny of small decisions."

1.B The Actual Amounts Of Land Used For This Program:

Specifically related to this EIS, the amount of land required for renewable energy facilities is immense. In California alone, the current estimates are that four hundred (400) square miles of land will be needed to supply a third (1/3rd.) of our States electrical needs with renewable energy sources. But the amount does not stop at this number. One cumulative impact which this EIS needs to consider is the effect of the resulting mitigation lands legally required for building these renewable energy facilities in areas where there are threatened or endangered species. While there has already been one extreme exception to this issue at the first Ivanpah facility in California, which at the end of the day required over one hundred fifty (150) square miles of mitigation land for a renewable energy facility of approximately ten (10) square miles in size, the conventional thinking is that the mitigation ratio will be three to one (3:1).

Under the conventional thinking as described above, the amount of mitigation land equates to one-thousand two-hundred (1,200) square miles. ($3 \times 400 = 1,200$).

Add these two values together and you'll see that the total burden on land use is actually one-thousand six-hundred (1,600) square miles to supply California with one-third (1/3rd.) of its electrical needs through the types of renewable energy projects being considered.

Then there is the corridors needed to transport the electricity to the consumers which further adds to this issue. All the states involved in this process will be affected in the same manner.

As renewable energy portfolio numbers are pushed higher and higher by political and conservation entities the cumulative impact of this trend will become even worse.

1.C Negative Cumulative Impacts Of Mitigation Lands As Historically Designed:

While mitigation lands may have a positive effect on the viability of certain species, there is a negative cumulative impact to the Nation, citizens, and local economies.

The source of mitigation lands is private lands with willing sellers. The current thinking is to attempt to amass large blocks of lands rather than scattering smaller tracts across a wide area as has been the general practice in the past.

Considering the means by which these lands are established there are certain injustices being done to the citizens of California in regards to the ownership and continued use of these mitigation lands and surrounding public lands.

1.C.1 The renewable energy facilities will have a finite life span of approximately 25 to 30 years. The project sites will be restored at the end of their life cycle. For that brief period of time where the project developer is leasing public lands, for the benefit of the public and the benefit of reduced environmental damage through clean energy production, at the request of the conservation community and federal government, our State's citizens are being forced to trade off these mitigation lands in-perpetuity for the benefit of this federal program and its creators.

1.C.2 It has been my personal experience that mitigation lands which are established for conservation purposes are fenced and closed to public access by the private land trust groups which become the owners. Where desert roads once existed allowing the public access across or alongside these lands, fences are put up which block access to public lands which border, or are on the other side, of these private mitigation lands which were established through this process.

1.C.3 The cumulative effects of mitigation land on the Nations social, cultural and natural resources, effects on human health and their connectivity with nature, could potentially be staggering due to the amount of land utilized for mitigation in this action and future project sites which are allowed inside the solar energy zones which will be established.

1.C.4 The alternatives need to include the requirement to leave access along, or across, mitigation lands to maintain access to public lands for all forms of human transport including motorized vehicles.

1. D Land Ownership And Control Trends In The Southern California Desert Region Are Shifting Due To Renewable Energy Plans:

In this desert region of southern California, a new group of significant land owners is about to be created by the various renewable energy plans being implemented by various political, governmental and non-governmental forces. These new land owners, typically known as conservation land trusts, essentially create categories of land use which exceed the restrictive use of true Wilderness as declared by Congress. As discussed above, we may be talking an amount of land which may exceed three quarters of a million acres. (1,200 square miles).

There is also the concern that a form of mitigation for specific projects may involve the elevation of existing public use land

designations into more restrictive classifications where conservation, rather than multiple use, is the priority. This again adds into the cumulative impact of this and other plans under way for this region. And of course, we have to remember the original effects which restrict access for the project specific sites.

2. Land Use Patterns Are Being Changed For The Benefit Of One Umbrella Group, Military Efforts, And Renewable Energy Concerns While Discounting Other Needs Of Our Nation And The Human Population As A Whole:

The desert region of southern California already contains vast areas which are set aside and protected in a manner where conservation is the primary directive. The region is also home to vast in holdings by various branches of military organizations. While I personally believe that sound conservation practice, and a prepared military, is essential to the well being of our Nation and life on this planet, it is clear that the past, present, and future incremental effects of these efforts are continuing the process of further restricting access to the natural resources of our public lands by those who utilize motorized transportation.

The conservation movement, as an umbrella group of many individual organizations with their own specific missions, have made tremendous progress to further their overall objectives in this region. I see no indicator which points to the idea that the members of this group, either individually or collectively, are satisfied with their current level of progress in furthering their efforts in this region. The military is obviously not satisfied as well.

As this process evolves, a process which is being enabled by governmental agencies who are failing to work together on the cumulative impacts of their larger strategies and policies, the result is inevitable: the majority of the public lands in this desert region will become a cloistered environment for this one umbrella group, our military, and renewable energy companies. In this process, large blocks of land will be set aside for use by only those in our society who are fortunate enough to be physically fit enough, and have the leisure time, to explore these areas on foot. In this process, humans who do not share this physical ability or the leisure time, who by virtue of necessity by their station in life, or their individual choice of how to use the resources of our public lands, are being excluded from the experience of interactions with the resources of our public lands in this region. I do not see that NEPA, nor any other federal or state laws requires such a design scenario for this region's public lands.

3. Necessity To Address Population Growth:

NEPA requires that the examination of the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures be conducted. As the population of this Nation continues to grow more and more people will spend more time on our public lands. The uses of those lands will be mixed, and will include the necessity for further expansion of opportunities by motorized travel. I do not see this issue addressed inside this or any other NEPA action currently underway for this particular desert region under discussion. Again, more incremental cumulative impact.

4. Alternatives For The Solar PEIS, Or By Any Other Currently Active NEPA Action, Do Not Adequately Address The Concerns Submitted By This Commenter Or The Concerns Of The Mojave Trails Group As A Whole:

Either by virtue of the combination of the various NEPA actions mentioned in these collective comments, or by an overriding all inclusive action which is binding on the individual NEPA actions which have been mentioned in these collective comments, the issue of cumulative impacts to all aspects of the human environment need to be addressed for this entire desert region. Alternatives for such cumulative impacts, with appropriate mitigation for the benefit of lost opportunities to the motorized users on public lands, should be formulated and adopted by any and all agencies involved in any and all of the NEPA actions mentioned in these collective comments.

5. Failure To Exhaust All Options For Locating Renewable Energy Generation Devices:

There are millions of acres of roof tops, open spaces, and previously disturbed lands, which are in or near the major areas of electrical consumption inside the six states impacted by this program. Toward the effort of reducing environmental damage in our desert regions with large scale renewable energy facilities, and the required electrical transmission infrastructure, every effort should be made to avoid desert regions for this effort.

6. Renewable Energy Developers Should Continue The Practice Of Re-Routing Roads For Public Access Around Their Projects.

Simple enough, so far current developers have been gracious enough to allow motorized access around and beyond their facilities by constructing new roads when those facilities block existing roads.

7. Renewable Energy Project Developers Or Operators Who Utilize Public Lands In This Region As A Location For Their Facilities Would Pay A Fee To Help Offset Damage Occurring To The Motorized Access Community In This Region.

At a rate of 1/5th. of one cent per kilowatt hour of electricity sold to electrical consumers, each operator or developer of any type of renewable energy facility which is located on public lands shall be required to pay a fee back to the community of motorized desert users for this region of Southern California.

The moneys collected shall be used for such items or actions as: legal defense of access to our public lands of the desert which require motorized vehicles to afford access by a broad range of public users; enhancement of, or creation of campgrounds, picnic

areas or such amenities as deemed required by the motorized access community; purchase, set up, and operational costs of new areas for the purposes of operating motorized vehicles; maintenance costs of new or existing routes of travel on public lands.

Details of the distribution of the funds would have to be worked out.

8. Applicability Of These Comments To The Solar PEIS As A Whole:

As applicable and relevant, please apply these comments as a whole, or in part, to the entire list of states affected by the Solar PEIS.

Sincerely,

David M Beaumont
Founder: Mojave Trails Group
savecaliforniasdeserts@gmail.com

Thank you for your comment, sarah dickinson.

The comment tracking number that has been assigned to your comment is SolarD11691.

Comment Date: April 17, 2011 16:49:47PM
Solar Energy Development PEIS
Comment ID: SolarD11691

First Name: sarah
Middle Initial: B
Last Name: dickinson
Organization: LOWV
Address: 6124 SW 30 Avenue
Address 2:
Address 3:
City: Gainesville
State: FL
Zip: 326082120
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for this opportunity to comment on placement of solar collectors. ALthough this precise effort is on behalf of the spectacular desert lands in the west, it truly applies to all National Parks, Monuments, and Proposed Sites under those designations. While there is no question we have the ability and prudent need to invest in solar energy (and other alternative energy forms), UNTIL we understand that we CANNOT build ourselves out of an energy crunch UNTIL w, as a county, initiate massive and stringent conservation measures and assure a requirement (or incentives) for maximum efficiency in our homes, businesses and manufacturing processes, we will always be far behind and enslaved by a false need. SO the immediate message has to be CONSERVE and BE EFFICIENT.

That said, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. This situation requires close collaboration of any solar proposals with the representatives of National Parks and Monuments to assure the "people's lands" will remain protected from visual, water and air pollution and a trammeling of the lands.

The desert zones are some of the most fragile we have. A friend has studied desert varnish for most of his career and describes how easily the whole is fragmented and destroyed. The Park Service has been trying to protect visitor sites for years by being proactive, and they certainly have a lot of experience that can be brought to bear.

The immediate proposal of Riverside East SEZ, the Amargosa Valley SEZ, the Iron Mountain SEZ, Red Sands SEZ and Mountain SEZ must be removed or reconfigured in collaboration with the National Parks and Monuments folks....for reasons from preserving thousands of years old trees, wildlife corridors and water impacts, among others. Failure to do this would be to trample the protections for these one-of-a-kind areas.

A consideration might be to evaluate the western grasslands under BLM management. These lands are currently notoriously UNMANAGED.....rented out at essentially NO money to the federal government (the cost is so low) with essentially NO management plan to rotate animals in and out of pieces of the lease. The result, highly degraded lands which truly only support sagebrush (no watershed protection there!) and are deeply marred. Solar power in these areas would be a vast improvement and perhaps, land surrounding the installations could recover.

We urge you to go back to the table to protect our heritage. It is unretrievable, once lost. Thank you.

Josh and Sally Dickinson

Thank you for your comment, Marjorie Ann Ottenberg.

The comment tracking number that has been assigned to your comment is SolarD11692.

Comment Date: April 17, 2011 17:26:31PM
Solar Energy Development PEIS
Comment ID: SolarD11692

First Name: Marjorie Ann
Middle Initial:
Last Name: Ottenberg
Organization: DeAnzaCollege
Address: 12881 Foothill Lane
Address 2:
Address 3: 12881 Foothill Lane
City: Saratoga
State: CA
Zip: 95070
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am concerned about suggestions that we cover the California desert(s) with solar panels to produce the needed energy--but many forget that those deserts are HOME to many creatures whose lives would be changed or ended by such construction! Our cities have square miles of flat roofs--ideal locations for solar panels! That space is generally not utilized, and putting solar panels THERE would eliminate the need for miles of cable to connect provider with users!

Thank you for your comment, David Banfield.

The comment tracking number that has been assigned to your comment is SolarD11693.

Comment Date: April 17, 2011 17:49:52PM
Solar Energy Development PEIS
Comment ID: SolarD11693

First Name: David
Middle Initial: A
Last Name: Banfield
Organization:
Address: 4919 Greystone Drive
Address 2:
Address 3:
City: Bettendorf
State: IA
Zip: 52722
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michelle Rivers.

The comment tracking number that has been assigned to your comment is SolarD11694.

Comment Date: April 17, 2011 20:00:55PM
Solar Energy Development PEIS
Comment ID: SolarD11694

First Name: Michelle
Middle Initial: O
Last Name: Rivers
Organization:
Address: 8332 Beardsley Dr.
Address 2:
Address 3:
City: Charlotte
State: NC
Zip: 282697168
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Michelle O. Rivers

Thank you for your comment, William Crum.

The comment tracking number that has been assigned to your comment is SolarD11695.

Comment Date: April 17, 2011 20:26:55PM
Solar Energy Development PEIS
Comment ID: SolarD11695

First Name: William
Middle Initial: S
Last Name: Crum
Organization: N/A
Address:
Address 2:
Address 3:
City: Surprise
State: AZ
Zip: 85374
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I want my Grand Canyon to be let alone. I don't want the foreign country to poison. Especially since they get all the money and we get nothing. Put yourself in my shoes. and twenty-five million people.

Thank you for your comment, LeeAnn Bennett.

The comment tracking number that has been assigned to your comment is SolarD11696.

Comment Date: April 17, 2011 21:18:24PM
Solar Energy Development PEIS
Comment ID: SolarD11696

First Name: LeeAnn
Middle Initial:
Last Name: Bennett
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which when amended as below, would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for this opportunity to express my opinions.

Thank you for your comment, Jen Smith.

The comment tracking number that has been assigned to your comment is SolarD11697.

Comment Date: April 17, 2011 22:18:36PM
Solar Energy Development PEIS
Comment ID: SolarD11697

First Name: Jen
Middle Initial:
Last Name: Smith
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Most sincerely,

Jen Smith

Thank you for your comment, Charlene Rush.

The comment tracking number that has been assigned to your comment is SolarD11698.

Comment Date: April 17, 2011 23:30:41PM
Solar Energy Development PEIS
Comment ID: SolarD11698

First Name: Charlene
Middle Initial:
Last Name: Rush
Organization:
Address:
Address 2:
Address 3:
City:
State: PA
Zip: 15101
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is one reason, and one reason, only, for solar energy NOT to be actively developed. That reason, of course, is Big Business' power and financing, to prevent it.

Thank you for your comment, Caroline Brown.

The comment tracking number that has been assigned to your comment is SolarD11699.

Comment Date: April 18, 2011 00:17:15AM
Solar Energy Development PEIS
Comment ID: SolarD11699

First Name: Caroline
Middle Initial: B
Last Name: Brown
Organization:
Address: 680 Alta Vista Dr
Address 2:
Address 3:
City: Sierra Madre
State: CA
Zip: 91024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Use parking lots and structures for solar installation, infill in the cities where there are miles and miles of abandoned factories parking areas for this. It is absurd to put solar collectors on the desert, destroying habitat, when there are acres of flat topped industrial buildings in cities such as Los Angeles and many, many others in the southwest.

Thank you for your comment, Carol Taggart.

The comment tracking number that has been assigned to your comment is SolarD11700.

Comment Date: April 18, 2011 01:35:30AM
Solar Energy Development PEIS
Comment ID: SolarD11700

First Name: Carol
Middle Initial:
Last Name: Taggart
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Develop wind energy but, by all means, not sacrificing our country's migrating birds, who all too often are killed by the whirling blades of windmills. Location of these windmills must be given careful consideration in wildlife corridors.

Thank you for your comment, Barb Mathews.

The comment tracking number that has been assigned to your comment is SolarD11701.

Comment Date: April 18, 2011 05:10:39AM
Solar Energy Development PEIS
Comment ID: SolarD11701

First Name: Barb
Middle Initial:
Last Name: Mathews
Organization:
Address: 2803 Grovewood Ave
Address 2:
Address 3:
City: cleveland
State: OH
Zip: 441341911
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, i strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11702.

Comment Date: April 18, 2011 10:58:56AM

Solar Energy Development PEIS

Comment ID: SolarD11702

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Human being can use solar energy so that keep environment that substitute wildlife.

Thank you for your comment, James Kunz.

The comment tracking number that has been assigned to your comment is SolarD11703.

Comment Date: April 18, 2011 11:54:07AM
Solar Energy Development PEIS
Comment ID: SolarD11703

First Name: James
Middle Initial:
Last Name: Kunz
Organization:
Address: 1218 Coral Reef Ct.
Address 2:
Address 3:
City: New Bern
State: NC
Zip: 28560
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please exercise extreme care in establishing solar zones which do not disturb flora or fauna in construction or use and maintenance.
Roads should be minimized.

Thank you for your comment, Mallika Henry.

The comment tracking number that has been assigned to your comment is SolarD11704.

Comment Date: April 18, 2011 12:35:42PM
Solar Energy Development PEIS
Comment ID: SolarD11704

First Name: Mallika
Middle Initial:
Last Name: Henry
Organization:
Address: 18 Broad St.
Address 2:
Address 3:
City: Cambridge
State: NY
Zip: 12816
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. However the following four proposed Solar Energy Zones (SEZ) threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Mallika Henry

Thank you for your comment, Janet Moser.

The comment tracking number that has been assigned to your comment is SolarD11710.

Comment Date: April 18, 2011 14:07:34PM
Solar Energy Development PEIS
Comment ID: SolarD11710

First Name: Janet
Middle Initial: L
Last Name: Moser
Organization:
Address: 45 Kildare Road
Address 2:
Address 3:
City: Island Park
State: NY
Zip: 11558
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is a wonderful renewable source of energy that I am glad to see further developed. I do hope and advocate for a sensible approach which protects wildlife, protected lands such as national parks, and other sensitive areas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11711.

Comment Date: April 18, 2011 15:26:09PM
Solar Energy Development PEIS
Comment ID: SolarD11711

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I believe humans are supposed to be the caregivers of all the rest of civilization: including wildlife, the wellbeing of the planet, air and water. Putting solar energy where it doesn't disturb these things is to me the most sensible thing to do. Also, the beauty of the parks refreshes the soul.

Thank you for your comment, leon biggs.

The comment tracking number that has been assigned to your comment is SolarD11712.

Comment Date: April 18, 2011 16:20:31PM
Solar Energy Development PEIS
Comment ID: SolarD11712

First Name: leon
Middle Initial:
Last Name: biggs
Organization:
Address: 9317 w sr 114
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Address 3:
City: renssealer
State: IN
Zip: 47978
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Go green!!!!

Thank you for your comment, William McVay.

The comment tracking number that has been assigned to your comment is SolarD11713.

Comment Date: April 18, 2011 16:39:24PM
Solar Energy Development PEIS
Comment ID: SolarD11713

First Name: William
Middle Initial: J
Last Name: McVay
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Address 2:
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City: Hendersonville
State: NC
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jessica Coy.

The comment tracking number that has been assigned to your comment is SolarD11714.

Comment Date: April 18, 2011 17:09:22PM
Solar Energy Development PEIS
Comment ID: SolarD11714

First Name: Jessica
Middle Initial: L
Last Name: Coy
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear conservatives,

Losing any land, especially ancestral land, can be devastating. No one wants to see their home change into something that is unfamiliar to the vegetation and the local animals. This earth is in constant change and growth and the only blame for it goes to the humans. Our mind set has thrown us out of balance with nature. We are still in the 'Manifest Destiny' mode. This mind set is not at all bad if we use it in a positive manner. It sounds bad because we relate it to the Industrial Evolution. We created our lives with fossil fuel. Our resources became abundant with limitless growth which created limitless consumption. Most corporate people in the fuel industry cover up the long term effects of the energy source that they are selling to the consumers for their own pocket. They saying ' money is the root of all evil' goes a long way in the corporate industry. They are not considering their grandchild's future or their great grandchild's child. This environmental crisis is based on selfishness. Humans are the only animal on this planet that can recognize the consequences of our actions today and how they may effect the earth in the future. We only see isolated 'natural disasters' around the world through the media. This doesn't allow us to open up our eyes and see the big picture. If we connected these events and growing amount of damage they are causing we would see that our everyday life is effecting our earth in a negative manner through consumption. In the early 1900's people would say, " Do we want it? Do we need it? ...and can we afford it?" This should be our mind set now. Not necessarily afford as in paper but as in our planet. And the answer is no. We can't afford to buy into Big Oil and ' keep up with the Jones'. The gas prices are at a record high here in Southern California and we must participate in order to commute to work so that we can buy that nice car and big house up on the hill. The American dream has gone too far and we need to do something about it now before it is too late. We have already lost about thirty years in the battle of global warming by just sitting around and discussing whether or not it is a hoax. We need to wake up! It is not a hoax; it's staring us straight in the face. Therefore, solutions to this epidemic is to stay on the futuristic tract, yet use our natural resources to do it, such as wind and sun. Why not put solar panels on the tops every home? This may sound expensive at first but it will pay for itself in the long run. If this land east of the Coachella Valley is not being used why not set up sustainable energy sources. All who knows the Manifest Destiny knows that if we do not create something positive and useful on this land then it will only be used for a negative purpose, like more shopping centers, gas stations, and tract homes. The land is going to be used no matter how much you want to preserve it, so the only question is- how do you like to see this land be utilized?

Jessica Coy

Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11715.

Comment Date: April 18, 2011 17:31:22PM
Solar Energy Development PEIS
Comment ID: SolarD11715

First Name: Alex
Middle Initial:
Last Name: Daue
Organization: The Wilderness Society
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City: Denver
State: CO
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Country: USA
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Attachment: Solar DPEIS Comments - Arizona Final (TWS and partners 4-18-11).pdf

Comment Submitted:

April 18th, 2011

Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).

Linda Resseguie, BLM Solar PEIS Project Lead
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Sonoran Institute, Sierra Club – Grand Canyon Chapter, Arizona Wilderness Coalition, Tucson Audubon Society, Friends of Ironwood Forest, Defenders of Wildlife, Sky Island Alliance, Grand Canyon Wildlands Council, Natural Resources Defense Council, Soda Mountain Wilderness Council and Sierra Treks. We appreciate the opportunity to comment.

Table of Contents

- | | | | |
|------|--|------|---|
| I. | Introduction (p.2) | F. | Habitat connectivity, wildlife movement corridors, and fencing (p.13) |
| II. | Alternatives (p.3) | G. | Playa wetlands (p.14) |
| A. | The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative (p.3) | H. | Desert tortoise relocation (p.15) |
| B. | The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative (p.4) | I. | Transmission, roads and other associated infrastructure (p.16) |
| C. | As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate (p.4) | IV. | Lands in SEDP Alternative that are not appropriate for development (p.16) |
| III. | Overarching Issues for Solar Development on Public Lands in Arizona (p.6) | A. | Recommended screening criteria for utility-scale solar development (p.17) |
| A. | Water resources (p.6) | B. | Specific examples of lands in the SEDP Alternative in Arizona that are not appropriate for development (p.17) |
| i. | Cumulative impacts to water resources (p.7) | i. | Citizens' Proposed Wilderness Lands (p.17) |
| B. | Water quality (p.8) | ii. | House Rock Valley (p.21) |
| C. | Impacts to groundwater-dependent species and their habitats (p.8) | iii. | Kaibab- Paunsagunt Wildlife Corridor (p.23) |
| D. | Soil erosion and associated vegetation impacts (p.8) | iv. | Species-specific biological conflicts with the SEDP Alternative (p.24) |
| E. | Soil diseases and toxins (p.11) | v. | Impacts to the San Pedro River (p.26) |
| | | vi. | Alignment with local open space plans (p.27) |

- vii. Cultural resources (p.30)
- V. Solar Energy Zones in Arizona (p.31)
 - A. Brenda SEZ (p.31)
 - i. Overview (p.31)
 - ii. Overarching issues for this SEZ (p.32)
 - iii. Recommended boundary adjustments (p.33)
 - iv. Sensitive natural resources and recommended additional impacts analysis (p.33)
 - v. Opportunities for environmentally responsible development (p.34)
 - vi. Corrections (p.34)
 - B. Bullard Wash SEZ (p.34)
 - i. Overview (p.35)
 - ii. Overarching issues for this SEZ (p.35)
 - iii. Recommended boundary adjustments (p.37)
 - iv. Sensitive natural resources and recommended additional impacts analysis (p.37)
 - v. Opportunities for environmentally responsible development (p.38)
 - vi. Corrections (p.38)
 - C. Gillespie SEZ (p.38)
 - i. Overview (p.39)
 - ii. Overarching issues for this SEZ (p.39)
 - iii. Recommended boundary adjustments (p.40)
 - iv. Sensitive natural resources and recommended additional impacts analysis (p.40)
 - v. Opportunities for environmentally responsible development (p.41)
 - vi. Corrections (p.41)

I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address Arizona.

II. Alternatives

A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative

The SEZ Alternative would designate 24 Solar Energy Zones. The DPEIS defines a Solar Energy Zone as ~~an~~ area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

One of the key elements that make a Modified SEZ Alternative preferable both for the environmental community and the developers is the reasonable certainty it provides when siting solar development. This principal enhances both the effectiveness of good development location and encourages development by reducing the risk associated with poor location and high resource conflicts. Similar to municipal zoning, clear direction from the BLM encourages such development and reduces potential impacts, making this alternative the most preferable.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ Alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

B. The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM's oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to development – this is over 100 times more land than what the agency's own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM's solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources –fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

C. As part of a modified SEZ Alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM's solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM's solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

For Arizona specifically, we encourage the BLM to consider the Arizona BLM Office's Restoration Design Energy Project as a possible model to identify such zones.

While it is premature for us to endorse the RDEP (the project has yet to release a draft EIS), we are encouraged by the following project elements that we believe should be part of any process that the BLM agrees to pursue to identify additional zones in Arizona:

- A focus on disturbed lands that may be suitable for renewable energy development (not limited to solar) at various scales (i.e., utility- and community-scale projects).
- A state-wide-level suitability assessment that includes federal (BLM and US Forest Service), state trust, and private lands and sets the stage for renewable energy development that extends across land ownerships and jurisdictions.
- Extensive consultations with cooperating agencies that resulted in a more comprehensive inventory of lands with known sensitive resources that are excluded from development.
- The development of a reasonable (renewable energy) development forecast for the next 20 years (measured in gigawatt hours and acres) tied to the state's renewable energy standard and export potential.
- Consideration of the following key factors in the ultimate selection of lands that may be included in the final alternative:
 - proximity to existing and approved transmission corridors,
 - avoidance of areas identified as essential for wildlife connectivity
 - impacts on water quality and quantity,
 - proximity to load or demand centers, and
 - opportunities for land tenure adjustments that facilitate protection of lands with high conservation values.
- A pro-active stakeholder engagement and consultation process that includes numerous opportunities for input prior to the release of a draft EIS.
- Provision of incentives for developers, including the amendment of all affected Resource Management Plans, to propose projects on lands ultimately identified as potentially suitable.

As a result of the above factors, and having gone through a more detailed and focused assessment process, the RDEP will identify lands that are more likely to be suitable for renewable energy development and therefore provide greater certainty for renewable energy developers than the SEDP Alternative.

We want to emphasize that the lands ultimately identified by the RDEP do not constitute SEZs in themselves. However, the RDEP sets the stage for the BLM to strategically select new SEZs from the lands identified, based on additional environmental and other constraints analyses, and we recommend that the BLM consider incorporating the results of the RDEP in their process for designating additional SEZs in Arizona.

III. Overarching Issues for Solar Development on Public Lands in Arizona

The issues below should be addressed for any solar development on public lands in Arizona, whether inside or outside of a SEZ.

A. Water resources

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that "water use and water availability are key considerations" when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,¹ to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

¹ We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. "The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource."

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and concentrating PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within every proposed SEZ in Arizona. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

i. Cumulative impacts to water resources

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

B. Water quality

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored and or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

C. Impacts to groundwater-dependent species and their habitats

There are a variety of groundwater dependent species that could be impacted by changes in hydrology caused by solar development, particularly groundwater withdrawal. The species impacted are site-specific, and are discussed in comments for each SEZ, below.

D. Soil erosion and associated vegetation impacts

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital

role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZs.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Dust implications for the areas near or in the Phoenix PM10 Nonattainment Area are significant. The area has violated the health-based standards for PM10, has failed to submit an approved plan to reach compliance, and currently an 18-month sanctions clock is ticking that jeopardizes federal highway dollars and could result in requirements for two-to-one offsets of emissions for any new projects with PM10 emissions. Any increases in fugitive dust in this area are significant and every effort should be made to minimize them.

Soil disturbance should be minimized, and any reseeding should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeding mixtures are not polluted with non-native seed. Sahara mustard is already present in some of these areas, so every attempt should be made to limit its spread. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

The vegetation in Brenda SEZ is sparse and contains a fair amount of flat “desert pavement” that should require little or no grading. Other SEZ areas, such as the southern end of Gillespie and many areas of Bullard Wash, would require extensive grading, drainage work, plant salvage, and disturbance of diverse and sensitive areas. The vegetation in portions of the proposed solar development areas is characteristic of the Sonoran Desert, including creosote bush, palo verde, ironwood, white bursage, brittlebush, and a variety of other Sonoran desert plants. Some portions contain Saguaro cacti and Joshua trees. Every effort should be made to minimize impact on these plants and, wherever possible, plants should be relocated. It should be noted that plant salvage activities, although required, has a relatively low success rate for many desert species REF; avoidance of particularly diverse areas is the best way to mitigate impacts. Construction should be shifted away from key washes, which are critical for both desert plants and wildlife.

Most native desert plants are protected by the Arizona Native Plant Law, including all cacti, most of the trees, and many of the smaller plants (ARS § 3-7). The purpose of the Arizona Native Plant Law is to protect these species from theft, vandalism, or unnecessary destruction. Plants should not be removed unless absolutely necessary, in which case authorization must be given by the Department of Agriculture.

While not a threatened or endangered species, each year the Sonoran Desert loses more of its old growth ironwood trees, which appear to live over 800 years. This species is listed on both the “Salvage Assessed” and “Harvest Restricted” lists in the Native Arizona Plant Law due to its high value. Mature ironwood trees appear in both washes and throughout the proposed solar development areas. These trees provide important habitat functions and increase the biological diversity of areas. They act as both “nurse plants” and keystone species that modify habitats and provide benefits to over 500 species including other plants and wildlife. Protecting mature ironwood trees can help limit the impacts to wildlife as well as other plant species. If ironwoods were eliminated from Sonoran Desert habitats, there would be a decrease in the density of associated plants and subsequently in associated local faunal communities. Ironwoods must be protected both to maintain the diversity and lushness of the Sonoran Desert communities they

inhabit and to maintain the regeneration dynamics of rare plant populations that grow under its canopies.²

Many plant species, including grasses, are important for a variety of reasons, including soil stability and wildlife forage. Some species, such as globe mallow (*Sphaeralcea ambigua*) and prickly pear (*Opuntia spp.*), offer critical food sources for a variety of wildlife, including birds, rodents, large mammals, and reptiles, such as the desert tortoise. Removal of such species may increase soil erosion and would negatively affect wildlife in the area.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

E. Soil diseases and toxins

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without

² http://www.desertmuseum.org/programs/ifnm_ironwoodtree.php , accessed on February 7, 2011.

biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

Valley fever

Coccidioides species is a fungus residing in the top 8” of some desert soils that causes a serious and potentially fatal disease known as “valley fever”. This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

Coccidioides sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.³

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.⁴

Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy and Patriet 2005, McClure et al 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Mormon 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal

³ <http://www.mayoclinic.com/health/valley-fever/DS00695> .

⁴ Ibid.

lake valleys in southern California and Nevada in which solar developments are being contemplated in this PEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, Mormon 2010).

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Mormon 2010).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

F. Habitat connectivity, corridors, and fencing

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Arizona is among the western states that have brought together leaders from numerous governmental, non-governmental and academic sectors to identify, map model and describe priority wildlife linkages on a statewide basis. While the solar energy zone alternative avoids overlapping the (priority subset of) modeled wildlife linkages, the SEDP Alternative identifies lands with significant overlap and conflict with numerous wildlife linkages identified by experts linkage models. The SEDP Alternative overlaps with 45744 acres, or 4.8% of the subset of the twelve priority wildlife linkages that have been modeled to date. The SEDP Alternative conflicts with approximately half of modeled linkages, including: Gila Bend – Sierra Estrella, Hualapai – Cerbat, Mount Perkins – Warm Springs, Wickenburg – Hassayampa, Rincons – Santa Ritas – Whetstones, Tumacorori – Santa Ritas, Hualapai – Peacock – Kingman and Ironwood – Picacho. Industrial-scale solar development in these linkages could result in their permanent impairment, fragmentation and loss of functionality for certain species.

These wildlife linkages models utilize the best available information and a defensible “least cost corridor” approach that has been developed under the guidance of Dr. Paul Beier at Northern Arizona University.

Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

For public lands affected by the proposed action and alternatives in Arizona, we recommend that the Arizona Wildlife Linkages Assessment and subset of modeled multi-species linkages be utilized to identify areas of avoidance and/or mitigation⁵.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it’s important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

G. Playa wetlands

⁵ Information on the assessment can be found at: http://www.azdot.gov/inside_adot/OES/AZ_WildLife_Linkages/assessment.asp and spatial data for the modeled multi-species wildlife linkages can be downloaded at: <http://corridordesign.org/linkages/arizona>

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al. 2010).

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al 2008; Liebowitz, Scot 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa (GBBO 2010).

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (GBBO 2010; Liebowitz, Scot 2003; Comer et al. 2005). Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO₂, particularly as the amount of CO₂ in the atmosphere increases. In the case of the *playa* crusts, the net photosynthetic rate of the algae rose by *a factor of two* in going from the ambient CO₂ concentration characteristic of their normal environment (385 ppm) to the

maximum value the scientists investigated (1000 ppm), while in the case of the *dune* crusts, the net photosynthetic rate *tripled* (Brostoff et al. 2002).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

H. Desert tortoise relocation

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “Translocation of Desert Tortoises (Mojave Population) from Project Sites: Plan Development Guidance” (U.S. Fish and Wildlife Service, August 2010).⁶

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.⁷
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.⁸
- Translocation plans should be finalized before project approvals, and made public for review.

I. Transmission, roads and other associated infrastructure

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

IV. Lands and resources in the SEDP Alternative that are not appropriate for development

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both

⁶http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx

⁷<http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

⁸ Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.

recommended screening criteria for utility-scale solar development as well as a number of examples of lands and resources within the SEDP Alternative that need to be protected from development.

A. Recommended screening criteria for utility-scale solar development

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, attached as Attachment 1. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

B. Specific examples of lands in the SEDP Alternative that are not appropriate for development

i. Citizens' Proposed Wilderness Lands - Western Arizona

Citizens' Proposed Wilderness (CPW) lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

The analysis below summarizes significant potential conflicts between the agencies' SEDP Alternative and lands proposed for wilderness protection by citizens and organizations throughout Arizona.

The SEDP Alternative includes roughly 4.49 million acres of BLM lands in Arizona, representing 38% of all surface lands managed by the agency across the state. The BLM's Reasonably Foreseeable Development Scenario anticipates approximately 21,816 acres of solar energy development on its lands over the next 20 years. DPEIS p. ES 2.3.4. A significant discrepancy exists between the scope of foreseeable development and the SEDP Alternative; including this large amount of additional land runs counter to explicit goals of the PEIS such as "Standardizing and streamlining the authorization process for utility-scale solar energy development on BLM-administered lands," and "Facilitating near-term utility-scale solar energy development on public lands." DPEIS p. ES.2.1.

While various datasets were used by the agencies to exclude certain areas from the SEDP Alternative, the Arizona map includes the majority of relatively flat public lands regardless of their juxtaposition with existing or planned energy infrastructure and sensitive areas. Because of the breadth of the SEDP Alternative, potential conflict does occur with areas recommended for wilderness protection.

Since 2000, citizens and volunteers have inventoried Arizona's BLM lands for wilderness characteristics, noting opportunities for solitude, the lack of substantial human development, and other characters defined by the 1964 Wilderness Act (P.L. 88-577). These citizen wilderness proposals cover approximately 2.2 million acres of BLM land in Arizona. The GIS data for these areas is enclosed as Attachment 2. Many of these areas have been identified by the agency as Areas with Wilderness Characteristics in various Resource Management Plans. Under Interior Secretarial Order 3310 (23 Dec 2010), lands with wilderness characteristics, regardless of whether currently adopted in Resource Management Plans, will be inventoried and included in RMP's. Citizen wilderness proposals will be considered by the BLM during this inventory process, and **we request that such areas are excluded from the SEDP Alternative to minimize negative impacts to the wilderness environment in Arizona.**

Currently, potential conflicts do exist between the SEDP Alternative and Arizona's citizen-proposed wilderness areas. Currently, 510,697 acres, or roughly 11.5% of the SEDP Alternative, overlaps with the statewide dataset for citizen proposed wilderness. This conflict is shown in the map enclosed as Attachment 3. In certain areas, particularly those where slope is less than 5%, the potential conflict makes up a significant percentage of the proposed unit. In these areas of overlap, the SEDP Alternative infringes upon unique attributes of solitude, primitiveness, seclusion, and other increasingly rare attributes of the wilderness environment. Below, we highlight two areas where potential conflict occurs between the SEDP Alternative and citizen proposed wilderness areas in southwest Arizona. We have also included a map of each area, enclosed as Attachments 4 and 5.

East Clanton Hills

The East Clanton Hills proposed wilderness area is 47,524 acres in size. The SEDP Alternative overlaps 38,455 acres, or roughly 81% of the area. It is bound by Clanton Well Road on the north, an El Paso Natural Gas line on the east, checkered land tenure on the south, and a dirt road on the west. The low band of desert hills that comprise the unit are punctuated by the 1,300 foot Clanton Hill. Located in remote area of southwestern Arizona, East Clanton Hills is a desert-lovers paradise with ample opportunity for solitude and unconfined recreation, along with unique and threatened ecological attributes that make the area eligible for wilderness protection.

Naturalness

The vegetation found in the flats and bajadas of the East Clanton Hills are classified as part of the Creosote bush-White Bursage Series of the Lower Colorado River Valley Subdivision. The steeper canyons and rocky mountain slopes have more representative plant species from the upper Sonoran life zone consisting of palo verde, saguaro, and other mixed cacti. The area—generally appears to have been affected primarily by the forces of nature, with the imprint of

man's work substantially unnoticeable" as outlined in The Wilderness Act of 1964. Unmaintained roads and campsites occur at the fringes of the area, some of which are being reclaimed by the forces of nature.

East Clanton Hills also includes iconic Sonoran Desert wildlife such as desert bighorn sheep, Sonoran desert tortoise, banded Gila monster, and several types of bats. One of the most significant values of the area is the connective habitat it provides for wildlife between the core complexes in the Eagletail, Signal Peak, and Woolsey Peak Wilderness Areas.

The area's rugged terrain is accentuated by extraordinary scenic views from the top of many peaks, including Clanton Hill, Black Mountain and Turtleback Mountain, as well as from various points within the area. Most of the bedrock within the area is composed of volcanic rock, primarily black basalt, however, the southeast portion of the Red Rock Canyon proposed unit has a unique geologic sedimentary stratum which is red in coloration.

Opportunities for Solitude

Importance is placed on factors affecting solitude that occur inside the wilderness area and not that of outside factors, such as cities and highways. The BLM's Wilderness Inventory and Study Procedures manual H-6310-1.22 section (b)(1) gives direction on the assessment of solitude in inventory units. Below are the five features for evaluating solitude:

- Size and configuration: The proposed East Clanton Hills wilderness unit meets the 5,000-acre size criteria, is not long and narrow and does not have irregular extensions or cherry-stems.
- Topographic screening: There are many hills, ridges, and desert swales where the topography provides outstanding isolation and solitude from other visitors, whom are rare to begin with.
- Vegetative screening: In bajadas below the many rugged mountains of the proposed units, vegetative screening is exceptional with a diversity of vegetation ranging from stands of saguaro and palo verde to wide expanses of creosote and bursage. As in any Sonoran desert landscape, the excellent vegetative screening of the washes provides exceptional opportunities for solitude from other visitors.
- Ability of user to find a secluded spot: With the desert canyons and swales of the hills, visitors can easily find seclusion within this unit due to its remoteness from significant developments. In many areas, visitors can wander across vast expanses of wide-open creosote plains and feel the true solitude of the desert.
- Presence of outside sights and sounds: Congress has clarified (e.g. H.R. 95-540), as has the BLM (e.g. Handbook H- 6310-1) that sights and sounds visible or audible outside of a potential wilderness should not affect – or may even enhance – the need to protect the area. Aside from distant roads and limited agricultural lands, visual intrusions from outside the area are minimal.

Primitive and Unconfined Recreation

The proposed East Clanton Hills wilderness unit allows for a variety of primitive and unconfined recreational activities as addressed in section 2(c)(2) of the Wilderness Act of 1964 and in the BLM's *Wilderness Inventory and Study Procedures* manual H-6310-1 section .22(A)1(b)2. The proposed unit offers various levels of hiking, from flat walking in the bajadas, to rock scrambling on the many peaks and ridges. Backpacking, hunting, horseback riding, photography, bird watching, and sightseeing for archeological and geological features are all possible primitive and unconfined recreational opportunities within the proposed unit.

Red Rock Canyon

The Red Rock Canyon proposed wilderness area is 23,298 acres in size. The SEDP Alternative overlaps 10,412 acres, or roughly 45% of the area. It is bound by private land on the east, Gila Bend Indian Reservation on the South, and public lands on the west and north. Red Rock Canyon rises 1,200 feet above the Gila River and contains unique geologic sedimentary strata and significant archeological evidence. The proposed wilderness area adjoins the existing Woolsey Peak Wilderness and protects important lands between that wilderness area and the nearby Gila River.

Naturalness

The proposed Red Rock Canyon wilderness unit has retained substantial wilderness characteristics despite the proximity to the Greater Phoenix Area. The proposed unit possesses both outstanding opportunities for solitude and primitive and unconfined recreation.

The proposed Red Rock Canyon wilderness unit –generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable” as outlined in The Wilderness Act of 1964. The human impacts that do exist within the area come in the form of established roads and campsites as well as other unmaintained routes.

The proposed units also includes iconic Sonoran Desert wildlife such as desert bighorn sheep, Sonoran desert tortoise, banded Gila monster, lowland leopard frog, and several types of bats. One of the most significant values of this area is the contiguous habitat that it provides for wildlife. This area is critical to maintaining viable wildlife populations and linkages between Woolsey Peak, Signal Mountain, and Eagletail Mountains Wildernesses in the west to the Gila River and the North Maricopa Mountains Wilderness and Sonoran Desert National Monument to the east.

The area's rugged terrain is accentuated by extraordinary scenic views throughout the unit. Most of the bedrock within the area is composed of volcanic rock, primarily black basalt, however, the southeast portion of the Red Rock Canyon proposed unit has a unique geologic sedimentary stratum which is red in coloration.

Opportunities for Solitude

Importance is placed on factors affecting solitude that occur inside the wilderness area and not that of outside factors, such as cities and highways. The BLM's *Wilderness Inventory and Study Procedures* manual H-6310-1.22 section (b)(1) gives direction on the assessment of solitude in inventory units. Below are the five features for evaluating solitude:

- Size and configuration: The proposed Red Rock Canyon wilderness unit meets the 5,000-acre size criteria, is not long and narrow and does not have irregular extensions or cherry-stems.
- Topographic screening: There are many ridges, basins, and bajadas, and ridge tops where the topography provides outstanding isolation and solitude from other visitors.
- Vegetative screening: Within the proposed units, vegetative screening is exceptional with a diversity of vegetation ranging from stands of saguaro and palo verde to wide expanses of creosote and bursage. As in any Sonoran desert landscape, the excellent vegetative screening of the washes provides exceptional opportunities for solitude from other visitors.
- Ability of user to find a secluded spot: Seclusion in the many washes and canyons throughout the proposed units is not difficult. There are basins, ridgelines, and even mountaintops that provide outstanding opportunities for solitude. In many areas, visitors can wander across vast expanses of wide-open creosote plains and feel the true solitude of the desert.
- Presence of outside sights and sounds: Congress has clarified (e.g. H.R. 95-540), as has the BLM (e.g. Handbook H- 6310-1) that sights and sounds visible or audible outside of a potential wilderness should not affect – or may even enhance – the need to protect the area. While limited historic mining claims, as well as agricultural and residential development are visible from this unit, these factors should not disqualify the area from consideration.

Primitive and Unconfined Recreation

The proposed unit offers various levels of hiking, from flat walking in the bajadas, to rock scrambling on the many peaks and ridges. Backpacking, hunting, horseback riding, photography, bird watching, and sightseeing for archeological and geological features are all possible primitive and unconfined recreational opportunities within the proposed unit.

ii. House Rock Valley

House Rock Valley, approximately 150,000 acres of desert grass- and shrublands, lies south of Vermilion Cliffs National Monument, west of Grand Canyon National Park, and east of the North Kaibab national forest. The unique values of House Rock Valley make it an area that is not appropriate for utility-scale solar development, especially when considered in the context of the broader landscape of the region, detailed here and in Section IV. B. iii. below. Diverse native wildlife species inhabit the valley, and include pronghorn antelope, California condors, badgers, and the House Rock Valley chisel-toothed kangaroo rat. The latter, a Category 2 federal candidate under the Endangered Species Act, is found only in House Rock Valley (USWFS 1991). Early explorers described the valley's extensive grasslands, although these soon became damaged through overgrazing (Rasmussen 1941:267). Its vegetation today consists of a mosaic of plant communities best described as belonging to the Great Basin desertscrub biome (Turner 1982; see O'Farrell 1995:4). Individual plant communities contain elements of the Mohave Desert, at the lowest elevations, and Great Basin Desert over the middle and higher elevations (Phillips et al. 1987; see O'Farrell 1995:4). The Nature Conservancy classifies most of the area

as “at-risk” grasslands with less than five percent perennial native grass cover and/or severe soil erosion (Schussman and Gori 2004:21). House Rock Valley has the potential to be restored back to functioning grassland communities if grazing pressure is removed (Schussman and Gori 2004:45).

Pronghorn

Historically, pronghorn ranged over a larger portion of Arizona but were extirpated from many areas (Nelson 1925). Surveys found only 700 pronghorn in Arizona in 1924, but these populations were primarily due to transplants from neighboring states. This number increased to over 10,000 by the mid 1980’s (Bright 1999:1). Despite recent increases in state-wide numbers, northern Arizona herds appear to have experienced a recent decline (Ockenfels, 1994).

Researchers reported that pronghorn antelope were once common in the grassland adjoining the plateau (Rasmussen 1941:238). Early inhabitants exploited this significant food resource. Paiutes would patiently wait in concealed pits until the antelope approached near enough to be shot by bow and arrow, a practice that apparently did not threaten the population’s long-term viability (Rasmussen 1941:267). Pronghorn extermination occurred shortly after the arrival of white settlers (Rasmussen 1941:238). Current populations consist of stock derived from reintroduced animals.

Pronghorn are known to occur mainly in grasslands but also use drier shrub-grass plains, steppes and deserts. They are opportunistic and selective, taking the most palatable and succulent forage available at all seasons (see Bright 1999:3). Pronghorn typically inhabit open grasslands, shrub-grasslands, steppes and deserts that provide adequate forage supplies, shelter, and hiding cover for fawns (see Bright 1999:53). Researchers found that pronghorn prefer vegetation less than 60 cm high (see Bright 1999:53).

House Rock Valley Chisel-Toothed Kangaroo Rat

The chisel-toothed kangaroo rat (*Dipodomys microps*) occupies the Great Basin Desert of Nevada with more limited distribution in adjoining states (Hayssen 1991). Of the 13 subspecies currently recognized, two (*Dipodomys microps ordii* and *Dipodomys microps leucotis*) occur in the extreme northwestern portion of Arizona designated as the Arizona Strip (O’Farrell 1995:1). *Dipodomys microps leucotis*, the House Rock Valley chisel-toothed kangaroo rat, is found only in House Rock Valley and is currently recognized as a candidate species in Arizona (AZGF 1998) and a Category 2 federal candidate under the Endangered Species Act (USWFS 1991). The candidate status of *D. m. leucotis* mandates that the jurisdictional agencies address potential impacts to the species (O’Farrell 1995).

Chisel-toothed kangaroo rats occur in a variety of habitats but tend to be most abundant in saltbush or shadscale associations, or in higher elevation transitional communities dominated by blackbrush. *D. m. leucotis* appears to prefer coarse loamy soils containing a gravelly component in saltbush and blackbrush habitat types. *D. m. ordii*, appears more prevalent in sandy, mixed shrub and grassy habitats. Big sagebrush is characterized as a peripheral community delineating the southern extent of *D. m. leucotis* (O’Farrell 1995:6). The House Rock Valley is surrounded by physical and vegetation barriers, including the Grand Canyon, Vermilion Cliffs and the Kaibab Plateau, that have isolated *D. m. leucotis* (O’Farrell 1995:1). Within the 150,000-acre

House Rock valley, researchers have identified an estimated total of 73,624 acres of occupied habitat and delineated an additional 4,100 acres of potentially suitable habitat (O'Farrell 1995:ii).

The richness of rodent species within House Rock Valley is relatively high and includes ten species reflecting the valley's diversity of habitat types. These important wildlife include three species of pocket mice and the two kangaroo rats (O'Farrell 1995:9). Although the overall abundance of kangaroo rats is considered low, the two species of kangaroo rat are relatively the most abundant nocturnal small mammals found throughout most of the valley. The diurnal antelope ground squirrel (*Ammospermophilus leucurus*) may be the third most common species. Other habitat generalists such as the little pocket mouse (*Perognathus longimembris*) and deer mouse (*Peromyscus maniculatus*) are apparently uncommon (O'Farrell 1995:9).

Threats

House Rock Valley Wildlife lies adjacent to the approximately 658,000-acre Grand Canyon National Wildlife Preserve. From the Preserve's inception in 1906 to the present, wildlife protection remains, in theory, the Forest Service's *raison d'être* on the Kaibab Plateau. The 1908 Executive Order creating the Kaibab National Forest reiterated presidential commitment to the original Grand Canyon Game Preserve's purpose (Miller 1996:6). In 1992, the Office of the General Counsel for the Department of Agriculture reaffirmed that the Forest Service is bound by the law creating the Grand Canyon National Game Preserve, and that "the activities on the preserve cannot be in conflict with its stated purpose which is the protection of game animals within its boundaries" (see Miller 1996:17). The Game Preserve establishes special values that are dependent on protection of wildlife habitat and connectivity within House Rock Valley.

We believe that, in order to achieve the purposes of the Grand Canyon National Game Preserve as envisioned by President Theodore Roosevelt, the BLM should protect and restore the House Rock Valley Grassland in concert with the Forest Service as an interagency imperative.

iii. Kaibab-Paunsagunt Wildlife Corridor

The *Kaibab-Paunsagunt Wildlife Corridor* comprises a crucial wildlife linkage between the Arizona's Kaibab National Forest and Vermilion Cliffs National Monument to Utah's Grand Staircase-Escalante National Monument and the Paunsagunt Plateau (Bryce Canyon National Park region). The area's corridor function is well documented by Arizona and Utah state wildlife agencies (Carrel et al. 1999).

Conservationists have long recognized the wildlife and other natural values of this area. As early as 1906, Theodore Roosevelt established the Grand Canyon National Game Preserve to protect the region's native wildlife. The so-called "Preserve" today includes approximately 30,000 acres of BLM lands. Two decades after Roosevelt's gesture, "Ding" Darling, the head of the U.S. Biological Survey, proposed creating a vast wildlife area on the Arizona Strip. At least one rancher, Preston Nutter, expressed enthusiasm for the idea (Price and Darby 1964).

Mule deer are an important wildlife and prey species. Both Kaibab and Paunsagunt mule deer herds are renowned for their "trophy" bucks (Carrel et al. 1999). Arizona winter range is important to a significant number of Utah's Paunsagunt mule deer herd that share the Buckskin

Mountain winter range with the Arizona herd. Researchers believe genetic interchange likely occurs between the two herds, and is vital for population viability. This is an important long-term function of the corridor that should be protected. (Carrel et al. 1999).

The corridor function of the proposed ACEC for this area is well established (Carrel et al. 1999). As winter approaches, Utah's mule deer migrate off the high Paunsagunt Plateau south to lower elevation winter range. Deer migration is a learned survival strategy behavior. Does lead fawns from their summer range to winter range in autumn, passing on specific movement behavior to the next generation (Nelson 1979; see Carrel et al. 1999). Winter range includes the Wygaret Terrace east of Kanab, and the Buckskin Mountain of Utah and Arizona. In the spring, the deer return to the higher, cooler summer range of the Paunsagunt Plateau (Carrel et al. 1999). While the Grand Staircase-Escalante National Monument protects much of this important winter habitat, a significant portion lies within Arizona.

Because the Arizona and "interstate" mule deer winter range overlaps on BLM lands (Game Management Unit 12B), researchers and conservationists consider the area is important candidate for habitat protection. This area is particularly susceptible to habitat damage because: 1) a greater number of mule deer are likely to concentrate in this area since it receives mule deer from two herds derived from different summer ranges; 2) the mule deer occupy this area longer due to differences in migration timing; and 3) cattle compete with mule deer for winter range forage (Carrel et al. 1999).

The Kaibab-Paunsagunt wildlife corridor includes the existing 2,400-acre Johnson Spring ACEC, established to protect the rare Siler pincushion cactus (*Pediocactus sileri*). Our recommendations for key indicator species include Siler pincushion cactus, Kaibab pincushion cactus, mule deer, mountain lion, and raptors, including: golden eagles, rough-legged hawks, ferruginous hawks, California condor and the northern harrier. A map of the area is enclosed as Attachment 6.

iv. Species-specific biological conflicts with the SEDP Alternative

Detailed below are species-specific resources that would be damaged by utility-scale solar projects and should be protected from this level of development.

- **Pygmy-owl Proposed Critical Habitat (2002)**

The Cactus ferruginous pygmy owl (*Glaucidium ridgwayi cactorum*) (CFPO) is an imperiled species that researchers believe is on the decline in northern Sonora and southern Arizona due to a host of threats. Between 2000 and 2007, the abundance of pygmy-owls within 75 km of Arizona has declined by an average of $4.0 \pm 1.2\%$ per year ($P = 0.001$; 95% confidence interval = 1.6-6.4%) or 28% over eight years. Similarly between 2002 and 2007, territory occupancy within 110 km of Arizona has declined by an average of $3.4 \pm 0.9\%$ per year ($P < 0.001$; 95% confidence interval = 1.6-5.2%) or 17% over six years. (Flesch 2007). Flesch's findings correlated this decline with ongoing drought conditions in the region and a commensurate decline in prey abundance. The pygmy owl has been demonstrated to avoid long flights across large openings or clearings (Flesch and Steidl 2000, Flesch et al. 2009). Industrial-scale solar

development could easily create new expansive areas of cleared vegetation, eliminating existing suitable habitat and dispersal linkages. Thus, moderate to high potential pygmy owl habitat or areas targeted for restoration should be removed from further consideration. A map of the habitat is enclosed as Attachment 7.

In 2002, the Fish and Wildlife Service released a draft proposal for the designation of critical habitat for the CFPO. The ESA defines critical habitat as "the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and specific areas outside the geographical area occupied by the species at the time it is listed that are determined by the Secretary to be essential for the conservation of the species." Due to litigation, these areas were never officially designated and the species was instead delisted. However, the areas identified in the proposed critical habitat still contain important habitat elements crucial for the future recovery of this imperiled bird, and should be removed from further consideration for industrial-scale solar development.

In response to a petition for relisting the CFPO as endangered, the US Fish and Wildlife Service conducted a status review and found that there was sufficient new information to indicate the species may be indeed warranted. The final determination by the service is still pending.

- Area of CFPO proposed critical habitat affected by the SEDP Alternative = 110,742 acres
 - Total area of CFPO proposed critical habitat = 1,209,745 acres
 - Percentage of total proposed critical habitat would be affected by the SEDP Alternative = 9.1
-
- **Sonoran desert tortoise**

The Sonoran desert tortoise (*Gopherus agassizii*) is a species that many researchers believe is on the decline due to a host of compounding threats. A recent analysis shows that the Sonoran population of the desert tortoise has experienced statistically significant declines of 3.5% per year between 1987 and 2006. According to the 2008 listing petition for the species, this equates to an estimated 51% reduction in the number of adults and subadults on study plots between 1987 and 2006.⁹ Industrial-scale solar development is the newest and possibly most expansive threat to the conservation and recovery of the desert tortoise.

In response to the 2008 petition for listing as an endangered species, the US Fish and Wildlife Service found this Sonoran subspecies of desert tortoise “warranted but precluded” from listing. This means that the species’ status is such that the service believes it is deserving of protection under the Endangered Species Act, but is precluded from listing because the agency must direct limited resources and attention to species of greater conservation concern.

⁹ <http://www.westernwatersheds.org/species/desert-tortoise/sonoran/sonoran-tortoise-petition.pdf>

It is clear by comparing BLM-mapped Sonoran desert tortoise habitat with the SEDP Alternative, that there is a high level of conflict with known habitat of this already-declining and reclusive reptile. Potential future solar development in these areas under the SEDP Alternative could encircle, fragment and thus isolate desert tortoise populations – further contributing to their decline. We recommend removing habitat classified by BLM habitat suitability models as essential (38,103 acres) or “may be essential” (520,462 acres) from further consideration for solar development in order to avert accelerating their decline, and to also remove modeled or otherwise documented tortoise linkages that serve to maintain a connected metapopulation.

- Total area of desert tortoise mapped habitat in Arizona = 7,450,292 acres
- BLM modeled desert tortoise habitat in AZ classified as “essential” or “may be essential” that would be affected by BLM SEDP Alternative = 558,565 acres
- Percentage of above habitat that would be open to development under the BLM SEDP Alternative = 7.5%

v. Impacts to the San Pedro River

The San Pedro River is a vitally important national and international resource. Anything that threatens the integrity of the ecosystem functions of the San Pedro is of international concern, especially in light of the river’s ability to provide for ecoregion resilience and flexibility in the face of climate change.

The Lower San Pedro River *Important Bird Area* was identified by state and national Audubon IBA science committees for providing essential habitat supporting a suite of riparian species listed by various agencies (i.e., Arizona Game and & Fish Department, U.S. Fish and Wildlife Service, National Audubon, International Union for the Conservation of Nature) as species of high conservation concern under their programs, and that occur with significant populations within this reach of river. The “Global IBA” designation in 2008 upgraded the “Arizona IBA” designation (2007) for the globally significant population of Bell’s Vireo within this river reach.

The San Pedro River is also the last major undammed river in the American Southwest, and exhibits a remarkably intact riparian system, including extensive stands of Fremont cottonwood, Goodding's willow gallery forest, and large mesquite bosques.

According to the American Bird Conservancy, southwestern riparian habitat is the fifth most threatened habitat type in the nation. The San Pedro River serves as a corridor between the Sky Islands of the Madrean Archipelago in northern Sonora and southern Arizona in its southernmost reaches and, in the north, Arizona's Central Highlands. The river is not only a major corridor between varied habitat types and ecoregions; it represents a ribbon of water and riparian vegetation in an otherwise arid environment. The river thus exhibits a remarkably high biodiversity, both in resident and migratory species.

More than 100 species of breeding birds, including 36 species of raptors, and approximately 250 species of migrant and wintering birds, occur in the area, representing roughly half the number of known breeding species in North America. The San Pedro River serves as a migratory corridor for an estimated 4 million migrating birds each year.

The abundance of mammals, reptiles, and amphibians is also high; more than 80 species of the former and more than 40 species of the latter. While fourteen species of native fish formerly occurred in the San Pedro River, only two persist today. The high importance of the Lower San Pedro River for the recovery of the endangered Southwestern Willow Flycatcher contributed to its designation as critical habitat for the species.

Aravaipa Creek, a major tributary to the Lower San Pedro River, contains an intact native fish assemblage, including the currently threatened and proposed endangered spikedace and loach minnow. The presence of a robust population of these fishes in a tributary stream and the largely unregulated hydrology of both waters led to the designation of a 13-mile reach of the Lower San Pedro River as spikedace critical habitat.

The San Pedro River flows south to north through Cochise, Pima, and Pinal Counties. The SEDP Alternative would allow roughly 15,000 acres of land in the San Pedro River watershed to be available for solar development. We strongly recommend that these acres be removed from further consideration for solar development.

vi. Alignment with local open space plans

- **Pinal County Open Space and Trails Master Plan**

A concern we have with the SEDP Alternative involves potential conflicts with local open space plans developed at the county or municipal level. A case in point is Pinal County's Open Space and Trails Master Plan¹⁰, which was adopted by the county in 2007. As the enclosed map, Attachment 8, indicates, there is considerable overlap between BLM lands that the county seeks to preserve as open space or trails and BLM lands the agency has identified under SEDP Alternative as potentially suitable for solar development.

Pinal County began development of its open space and trails master plan in 2006. As its impetus, the county referred to the 2003 Arizona Statewide Comprehensive Outdoor Recreation Plan, which established the need for more park space in Pinal County. In developing its plan, the county involved a diverse stakeholder advisory group and collected data from multiple sources, including federal, state, and local agencies and non-profit organizations. After extensive public participation and input, the Pinal County Board of Supervisors approved the Pinal County Open Space and Trails Master Plan on October 31, 2007, identifying 3,437,517 acres within Pinal County as existing or planned public or restricted use open space and regional parks.

While the county acknowledged that its plan's designation of BLM lands as open space has no regulatory impact, the county also noted that management of lands as open space falls squarely within the agency's mission. Moreover, the designation of these lands as open space puts the agency on notice that should these lands become candidates for disposal, the county would like seek to acquire these under the Recreation and Public Purposes Act.

¹⁰ <http://pinalcountyz.gov/Departments/DevelopmentServices/Documents/Downloads/FINAL%20Open%20Space%20and%20Trails%20Master%20Plan.pdf>

In reviewing the data layers provide as part of the draft Solar PEIS, which we have included in Attachment 9, we note that nearly all of the areas identified as potentially suitable for solar development in the SEDP Alternative are located in areas with “high habitat value” in Pinal County’s plan. Moreover, it would appear that the SEDP Alternative includes areas that may overlap with or are located in close proximity with areas identified in the Pinal County plan as designated habitat for the Southwest Willow Flycatcher or as proposed designated critical habitat for the Spikedace.

What the Pinal County example underscores is a lack of rigor employed by the BLM in its identification of lands that are potentially suitable for solar development in its SEDP Alternative. The potential conflicts that may ensue, either associated with local open space planning efforts or species habitat protection efforts, would not facilitate solar development as envisioned in the SEDP Alternative. A more deliberate approach that involves more detailed, on-the-ground analysis, similar to that employed in identifying the Solar Energy Zones, would likely identify these potential areas of conflict and thereby facilitate the selection of areas that would have minimal issues of conflict and accelerate solar development on BLM lands that are truly suitable.

A map of the plan’s open space designations is found on page 42 of the plan. A map of biological resources and critical habitat is found on page 10 of the plan.

- **Pima County Open Space Plan**

Pima County, located south of Pinal County, is home of the nationally-recognized Sonoran Desert Conservation Plan¹¹ (SDCP), a regional conservation plan created in 1998 whose primary goal is to “ensure the long-term survival of the full spectrum of plants and animals that are indigenous to Pima County through maintaining or improving the habitat conditions and ecosystem functions necessary for their survival.” The SDCP is a guiding force not just for Pima County, but also for local jurisdictions such as the City of Tucson, Town of Oro Valley, and Town of Marana. As part of SDCP implementation, the Conservation Lands System (CLS) was created through a rigorous, scientifically-driven process using the most current tenets of conservation biology and biological reserve design. It was adopted into Pima County’s Comprehensive Land Use Plan in 2001 and has been in use ever since. The CLS consists of seven biologically-sensitive land use categories, and an associated map, with specific guidelines for each category. These land categories include Important Riparian Areas, Biological Core Areas, Multiple Use Management Areas, Special Species Management Areas, Critical Landscape Linkages, Scientific Resource Areas, and Agricultural In-Holdings. CLS guidelines are used by the Pima County Board of Supervisors when they are tasked with discretionary actions such as re-zonings.

The SEDP Alternative has identified extensive acreage for solar development that would, if developed, adversely impact and potentially jeopardize the integrity of the CLS and the goals set forth by the Sonoran Desert Conservation Plan to maintain native biological diversity and areas of cultural significance. Outlined below are more detailed descriptions of the CLS land use categories and an analysis of the significant impacts the SEDP Alternative could have on these biologically-sensitive lands. (Note: Only four of the seven CLS categories have associated open

¹¹ <http://www.pima.gov/cmo/sdcp/index.html>

space set-aside guidelines.) Two maps showing these conflicts are enclosed as Attachments 9 and 10.

Important Riparian Areas (IRA): The CLS guidelines call for **95% Open Space set aside** in these areas. These areas are designated for their high water availability, vegetation density, and biological productivity. Not all washes are designated as IRAs. These areas are shown as blue on the CLS map. The SEDP Alternative overlaps IRAs by **57,211 acres**. In addition to the potential for habitat destruction and fragmentation, extensive water use for solar energy production in and adjacent to IRAs is inappropriate and could lead to degradation and impairment of these riparian systems. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

Biological Core Areas: The CLS guidelines call for **80% Open Space set aside** in the Biological Core areas. These lands fulfill the five tenets mentioned above and are designated for their potential to support high value habitat for five or more [priority vulnerable species](#) identified under the SDCP and provide greater biological diversity than Multiple Use Management Areas. These areas are shown as dark green on the CLS map.

The SEDP Alternative overlaps Biological Core lands by **85,167 acres**. Direct and indirect impacts to these ecologically sensitive lands, which contain habitat for five or more priority vulnerable species, is inappropriate and could lead to loss and degradation of key habitats for threatened, endangered or otherwise imperiled species. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

Special Species Management Areas: The CLS guidelines call for **80% Open Space set aside** in these areas. These areas are defined as crucial for the conservation of specific native floral & faunal species of special concern of Pima County. Management of these areas will focus on conservation, restoration, and enhancement of habitat for these species. Much of this designation overlaps with Multiple Use Management Areas, but will retain the 80% set aside percentage. These areas are shown as hash marks over other CLS designations on the CLS map.

The SEDP Alternative overlaps Special Species Management Areas by **123,694 acres**. Direct and indirect impacts to these ecologically sensitive lands, which are crucial for the conservation of specific species of special conservation concern, is inappropriate and could lead to loss and degradation of key habitats for threatened, endangered or otherwise imperiled species. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

Multiple Use Management Areas: The CLS guidelines call for **66 and 2/3% Open Space set aside** in these areas. These lands fulfill the five tenets mentioned above, but are not as biologically rich as those areas designated as Biological Core. These areas are primarily distinguished from other lands within the CLS by their potential to support high value habitat for 3-4 priority vulnerable species identified under the SDCP. Any overlap of the Special Species Management Areas over Multiple Use Management Areas will use the 80% set aside percentage. These areas are shown as light green on the CLS map.

The SEDP Alternative overlaps Multiple Use Management areas by **1,418,536 acres**. Direct and indirect impacts to these ecologically sensitive lands are inappropriate and could lead to loss and degradation of key habitats for threatened, endangered or otherwise imperiled species. We recommend these ecologically sensitive lands, clearly identified in the CLS, be removed from further consideration for solar development.

Another implementation tool of the SDCP is Pima County's extensive open space preserve system. With monies generated through two open space bonds - \$25 million approved in 1997 and \$174 million approved in 2004 – Pima County has purchased over 71,000 acres of private land and over 127,000 acres of State Trust Land leases. These lands will be used for mitigation in Pima County's Multiple-Species Conservation Plan, part of the County's recently submitted application for an Incidental Take Permit from the U.S. Fish and Wildlife Service. The SEDP Alternative could impact approximately 2,264 acres of this open space preserve system, ~1,819 acres of Rancho Seco and ~445 acres of the Diamond Bell Ranch. We recommend these ecologically sensitive lands be removed from further consideration for solar development.

In summary, Pima County, local jurisdictions, and a wide variety of community stakeholders have invested considerable time, energy, and money into the implementation of the SDCP over the last 13 years. We strongly recommend that ecologically sensitive lands identified in the SEDP Alternative that conflict with Pima County's Conservation Lands System and open space preserve system be removed from further consideration for solar development.

vii. Cultural resources

The SEDP Alternative also includes areas with significant cultural resources that are not appropriate for development. In particular we highlight:

- **Ironwood Forest National Monument:** The BLM should exclude a small "b"-shaped parcel located adjacent to and immediately south and west of Ironwood Forest National Monument and northeast of the Tohono O'Odham Reservation, less than 20 miles west of I-10 between Tucson and Casa Grande. Any solar energy development on this extremely small parcel would undoubtedly have significant visual impacts on both the national monument and the reservation, and potentially on traditional cultural properties. The same is true of the two parcels identified near the northern aspect of the monument: one parcel northwest of the very most northwestern part of the Monument boundary in the Sawtooth Mountains and another parcel north of the "middle" of the monument, surrounded by state land. All three of these parcels can be seen in the Friends of Ironwood Forest's membership brochure and are important aspects of the experience and visual integrity of the Monument. The nearby Juan Bautista de Anza National Historic Trail Corridor and Auto Route may also be adversely impacted by development of parcels identified in this region.
- **Santa Rosa Wash:** The BLM should exclude solar development south of I-8 around Santa Rosa Wash, because of the area's many large pre-classic period Hohokam villages.
- **Area Southwest of the West Silver Bell Mountains:** The BLM should exclude the southern portion of the area southwest of the Silver Bell Mountains, near the Aguirre Wash, around the old Spanish mission site, Santa Ana del Chiquiburitac, from solar

energy development. The mission/visita was the last mission constructed in Primeria Alta in the late 1700's by Tohono O'Odham laborers for Spanish Franciscan friars. Very few Spanish mission sites are known from Arizona so this one is undoubtedly nationally and regionally significant.

- **Poston Butte:** The BLM should exclude the area around Poston Butte, northwest of Florence, from solar energy development because of its extensive, intact cultural landscape associated with major habitation sites and a prehistoric canal system. While most of the archaeological sites are located on private land that adjoins BLM land, the BLM land includes associated archaeological features.

V. Solar Energy Zones in Arizona

The proposed SEZs in Arizona include one area with good potential to be an appropriate SEZ (Brenda SEZ), one area that contains some land that may be appropriate for inclusion as a SEZ (Gillespie SEZ), and one area that may be inappropriate for designation as a SEZ (Bullard Wash). Please see the detailed comments below for more information, including details on our potential support for these SEZs.

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, and corrections.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, and there are in fact significant concerns about a few of the SEZs, we strongly caution against interpreting the detailed nature of these comments to imply opposition to the SEZs across the board. Rather, we underscore the importance of focusing on the SEZs rather than the additional 21 million acres included in the SEDP Alternative. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development within them. The SEDP Alternatives have not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

A. Brenda SEZ

i. Overview

Brenda SEZ is 2 miles east of the town of Brenda in La Paz County, western central Arizona. Located 32 miles east of the California border, 230 miles west of Los Angeles, 100 miles west of Phoenix. 45 miles southwest of Bullard Wash SEZ, and 61 miles northwest of Gillespie SEZ, Brenda is in the Ranegras Plain groundwater basin, situated in a valley with the Granite Wash and Little Harquahala Mountains to the east and the Plomosa Mountains and Bear Hills to the west. US Highway 60 runs adjacent to the southeast border, providing outstanding access to the site. The closest railroad stop is 11 miles away, and the railroad is 4 miles to the northeast at its closest approach. The area is characterized by low relief bajadas and desert plains, and supports a sparse vegetation community dominated by creosote bush, triangle bursage, ironwood, and buckhorn cholla, with occasional saguaros and ocotillo more diagnostic of higher elevation plant communities. No perennial streams, water bodies, or springs have been identified in the area of direct or indirect effects. In the Date Creek Basin that contains the SEZ, 80% of groundwater use is agricultural, 12% is domestic, and 6% is industrial. As with most of the desert southwest, limited availability of water resources may make low water use technologies most appropriate for this area.

The nearest existing transmission are two 500 kV and one 230 kV lines 12 miles south of the SEZ.¹² There is an active solar development application 6 miles southeast of Brenda and others roughly 14 miles to the northwest, west, northeast, and southwest. There are also several closed applications closer to the SEZ. This relatively high level of application activity indicates strong interest in the area. The open applications to the southeast are in the same groundwater basin, which raises concerns about cumulative development effects on groundwater. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

The Ranegras Plain basin had average annual groundwater withdrawals of 28,800 acre-feet per year (afy) between 2000-2005. Most of this water was used for irrigation; only 400 afy was used for municipal purposes. These withdrawals are far in excess of the estimated recharge rate of the basin, which has been estimated to be from less than 1,000 afy to over 6,000 afy (an additional 2,000 -3,000 afy of inflow is possible thorough seepage from the CAP canal). Most groundwater declines within the basin are attributed to agricultural uses in the eastern part of the SEZ, where groundwater levels have declined more dramatically and subsidence has occurred. Sustainable yield has not been assessed for the Ranegras Plain Basin.

Given that the recharge rate for the Ranegras Plain basin is relatively low, sustainability in water use is a major concern, particularly in relation to the special status aquatic species mentioned below. We concur with the BLM's conclusion in the DPEIS that wet-cooling would likely not

¹² Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

be feasible for a full buildout of the SEZ (80% buildout of the SEZ), and that dry-cooled or non-cooled PV and dish-engine projects are most feasible for the area. DPEIS p. 8.1-64.

Regardless of which technology is used for projects in this area, the BLM should ensure that any water use for solar development follows the design features and recommendations in Section III above.

- **Vegetation removal, site grading, and native plant salvage**

The plant communities in Brenda are relatively low in density and diversity. Arizona native plant laws specify that cactus species, palo verde, and ocotillo be salvaged and replanted. The SEZ supports a relatively low density of these species, so salvage requirements for development of large solar projects in many areas of the SEZ should be relatively low.

Brenda has relatively low relief and few drainages that would require grading and soil disturbance. The soils in Brenda are rated moderate in terms of their wind erodibility, but they are also covered with a mosaic of desert rocks and nitrogen fixing bacteria, known as Desert Pavement, that serves to protect soil integrity and prevent wind erosion when left intact. Leaving these soils and desert pavement in place is recommended, as discussed below.

- iii. Recommended boundary adjustments**

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

The northwestern and northeastern corners of Bullard Wash both contain washes that should be avoided when siting and developing projects. These areas support a greater diversity of plant and animal species, and are also important for surface hydrology and groundwater recharge. Tyson Wash on the western side of the SEZ is west of Avenue 42, which creates a clear border for development that should be used as the western boundary; development west of this road is unlikely since the area is small and has more relief and greater plant diversity, is cut off from the rest of the SEZ by the road right-of-way, and is adjacent to Plomosa SRMA. Bouse wash on the northeastern corner has a more diverse plant community dominated by cactus and palo verde; development or disturbance of this small corner of the SEZ would require intensive plant salvage and grading, and would likely disturb special status species. These areas would be easy to exclude from the SEZ as they only have limited overlap along the northern corners. We have enclosed a map detailing these recommended changes as Attachment 11.

- iv. Sensitive natural resources and recommended additional impacts analysis**

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special status species**

Impact to all special status species known to occur in the SEZ are predicted to be small since the amount of habitat affected by solar development would be small proportional to habitat that exists within the SEZ region. Avoidance of wash or riparian habitats and low groundwater use would mitigate impacts on most special status species. The text states that compensatory mitigation may be required for Sonoran Desert Tortoise, but according to AZGFD's Sonoran desert tortoise specialist, Brenda does not contain tortoise habitat, nor is it an area that they migrate through. As a result, it's unlikely that Sonoran desert tortoise would be affected by development with Brenda.

In general, species that occur within this SEZ are widespread, and mitigation for impacts is difficult due to the scattering of suitable habitat through the affected area and/or the general habitat preferences of the species concerned. Surveys for special status species and avoidance of occupied habitats should be performed, however, whenever feasible.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring water use to improve groundwater status**

The Ranegras Plain Basin has a long history of agricultural overuse of water. BLM has a great opportunity to explore creative ways to promote solar development that actually improves the water situation in this over-allocated basins; by retiring existing uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating erosion and dust issues through minimizing soil and vegetation loss**

In areas like Bullard Wash that have low relief and are covered with a durable layer of desert pavement, approaches to solar development that minimize soil and vegetation modification can be explored that minimize disturbance of the top soil layers and take advantage of existing conditions to maximize cost-effectiveness while minimizing impacts. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the vegetation and soil. In particular, the DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to sparse vegetation that his unlikely to ever carry a fire. Land disturbance through road and transmission line development should also be minimized.

vi. Corrections

According to the PEIS, the nearest existing transmission is a 161 kV line 19 miles west of the SEZ, but the closest lines are actually the two 500 kV and one 230 kV lines 12 miles south of the SEZ.

B. Bullard Wash SEZ

i. Overview

Bullard Wash SEZ is located in Yavapai County in western central Arizona 70 miles northwest of Phoenix, 45 miles northeast of Brenda SEZ, and 55 miles north of Gillespie SEZ. Situated in the Date Creek basin, the SEZ is in a valley with the Black Mountains to the north, the Harcuvar Mountains to the Southwest, and the Date Creek Mountains to the northeast. The nearest major road is State Route 71, 5 miles to the southeast, and the nearest railroad stop is 17 miles from the SEZ to the east (railroad is 9 miles to the south at its closest approach). This area supports a diverse assemblage of plants characteristic of both the Sonoran and Mojave deserts, with creosotebush-white bursage plant communities interspersed with large areas of palo verde cactus shrub and saguaro cactus communities. No perennial streams, water bodies, or springs have been identified in the area of direct or indirect effects, but Tres Alamos Spring 5 miles to the north and Yerba Mansa Spring 15 miles to the northwest could potentially be affected by groundwater withdrawals for solar development within the SEZ. Also, three NWI defined wetlands occur in the SEZ, but these are thought to be stock ponds with low habitat value other than as water sources. In the Date Creek Basin that contains the SEZ, 80% of groundwater use is agricultural, 12% is domestic, and 6% is industrial. As with most of the desert southwest, limited availability of water resources may make low water use technologies most appropriate for this area.

There are 17 solar development applications within 50 miles, 8 of these located roughly 12-22 miles to the southwest, south, and southeast of Bullard Wash; none of these are within the same basin as Bullard Wash, but cumulative groundwater impacts from multiple projects in the area are still possible. The closest existing transmission lines are a 500 kV line and a 345 kV line, both five miles east of the SEZ. **Overall, concerns about the diverse plant and wildlife community present in Bullard Wash (verified during 2010 and 2011 site visits) as well as potential effects on special status species in the area from solar development make unlikely that environmentally responsible development is possible in this area. For these reasons, we recommend that the BLM should not designate Bullard Wash as a SEZ.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

During scoping, USFWS commented that groundwater withdrawals for solar development in Bullard Wash SEZ could affect Gila topminnow habitat in Yerba Mansa spring, located outside the SEZ but inside the affected area, as well as the Tres Alamos spring system outside the affected area which supports introduced federally endangered desert pupfish. Other species for which cumulative affects through groundwater withdrawals and resulting decreased surface water availability include snowy egret and southwestern willow flycatcher.

Sustainable yield has not been assessed for Bullard Wash SEZ. The PEIS does state, however, that the water required for the highest level of projected water use for wet cooling at full buildout of the SEZ (80% buildout) would exceed current withdrawal by a factor of one to four times, equivalent to 29%-170% of the annual recharge rate. Given that the recharge rate for the Date Creek basin is relatively low (10,000 afy), sustainability in water use is a major concern, particularly in relation to the special status aquatic species mentioned below, and we concur with the BLM's conclusion that wet cooling is likely not feasible for full buildout of the SEZ, and that dry-cooled or non-cooled PV or dish-engine projects may be most feasible for this area. DPEIS p. 8.2-64.

Regardless of which technology is used for projects in this area, the BLM should ensure that any water use for solar development follows the design features and recommendations in Section III above.

- **Vegetation removal, site grading, and native plant salvage**

The high quality, diverse plant community in Bullard Wash is indicative of an ecotone that supports species characteristic of both Sonoran and Mojave deserts. Arizona native plant laws specify that Joshua tree, cactus species, palo verde, and ocotillo be salvaged and replanted. The SEZ supports a relatively high density of these species, so salvage requirements for development of large solar projects in many areas of the SEZ could be extensive. Transplant success is often low for many salvaged species; many desert plants are sensitive to patchy distribution of particular soils and other resources; the best way to preserve them is to leave them where they are established. Any development of Bullard Wash would only be viable in areas towards the southern end of the SEZ where low density plant communities dominated by creosote occur.

Related to this, Bullard Wash has higher relief and is more dissected by drainages and bajadas than most of the other SEZs. These areas support several special status habitat specialists, as discussed below. Development in these areas would require extensive grading and drainage work to prepare areas for solar projects and maintain existing offsite hydrological flow patterns. Cryptogamic soil crusts also exist within the SEZ that should be avoided. These considerations increase the potential for permanent degradation of development areas and would dramatically increase development costs, good reasons to develop Bullard Wash only if sufficient areas of low diversity creosote communities are available to support development.

Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occur. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. Shrub and dune communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZ, Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it's unclear what density of soil crusts would be sufficient to put an area off limits. Chapter 5

contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

iii. Recommended boundary adjustments

The sensitive natural resources detailed below and throughout these comments make this area inappropriate for SEZ designation. Unfortunately the level of conflicts does not allow for boundary adjustments that could accommodate an acceptable SEZ, so the BLM should remove the SEZ from consideration.

Bullard Wash supports a diverse creosotebush-white bursage plant community with large areas of palo verde cactus shrub and saguaro cactus communities. Dominant species primarily include creosotebush, white bursage, and all-scale , with big galleta, Palmer alkali heath, brittlebush, and western honey mesquite dominant in some areas. Drainages and washes support western honey mesquite, ironwood, blue palo verde, smoketree, cat-claw acacia, burrobrush, Anderson thornbush, and desert broom. Sonoran Paloverde-Mixed Cacti Desert Scrub and Mojave desert scrub communities (containing Joshua trees) also exist since the area is located in an ecotone that includes both Sonoran and Mojave desert vegetation types. The diversity of plants that exists here is exceptional, and should be excluded from development.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM’s Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special status species**

Listed ESA species with potential habitat in Bullard Wash affected area are Gila topminnow (endangered), Arizona cliff rose (endangered), desert pupfish (endangered), the Sonoran population of the bald eagle (threatened), and southwestern willow flycatcher (endangered—

observed during site surveys). The Gila topminnow and desert pupfish occurred historically in the Tres Alamos spring system five miles north. Sonoran desert tortoise have high-quality suitable habitat immediately north and south of the SEZ, and are present in the USGS 7.5' quads that contain Bullard Wash as well as adjacent quads in the affected area according to AZGFD HDMS data.

BLM sensitive species within quads that intersect Bullard Wash are Aravaipa wood fern, Arizona giant sedge, Hohokam agave, Parish's phacelia, Pima Indian mallow, lowland leopard frog, desert rosy boa, desert tortoise, American peregrine falcon, ferruginous hawk, snowy egret, Swainson's hawk, western burrowing owl, California leaf-nosed bat, Townsend's big-eared bat, western red bat, and western yellow bat. Of these, quad-level AZGFD HDMS occurrences of lowland leopard frog, desert tortoise, and California leaf-nosed bat intersect the affected area of the Bullard Wash SEZ. Avoidance of wash or riparian habitats and low groundwater use would mitigate impacts on many of the special status species listed above.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring water use to improve groundwater status**

BLM has a great opportunity here to explore creative ways to promote solar development that actually improves the water situation in over-allocated basins; by retiring existing uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating erosion and dust issues through minimizing soil and vegetation loss**

In areas like Bullard Wash that have diverse vegetation and soil crusts, approaches to solar development that minimize soil and vegetation modification can be explored that would expand the range of areas where solar can be deployed. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the vegetation and soil. In particular, the DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to dominant vegetation type. Mitigation measures outside facility footprints such as protecting areas to preserve native vegetation and soil crusts is another approach that might be used provided that soil loss, fugitive dust, and invasive weed problems could be controlled within cleared areas.

vi. Corrections

None noted.

C. Gillespie SEZ

i. Overview

The Gillespie SEZ is approximately 2,618 acres and is located in western Maricopa County, southeast of the Harquahala Basin, between the Gila Bend Mountains to the southwest and Centennial Wash to the northeast. Land within the SEZ is undeveloped and characterized by creosote bush-white bursage plant communities and contains areas of saguaro cactus and various other cacti that are characteristic of an arid desert valley.

Gillespie SEZ is within the Lower Hassayampa groundwater basin and is in the Phoenix Active Management Area, where there are some limitations on groundwater pumping. Most of the recharge in the area occurs along the Gila River, Hassayampa River and Centennial Wash. There has been some land subsidence within this area due to significant groundwater pumping, as well as water quality concerns.

There are numerous existing transmission lines north and east of the SEZ, including five 500 kV lines 0.6 to 0.9 miles away and a 345 kV line 0.5 miles away.

There are currently no right-of-way applications for solar projects within the SEZ; however, there are applications in the general vicinity, as well as several projects on private lands both east and south of the SEZ, including the Solana Generating Station, a 280-megawatt concentrating solar power plant that has been approved west of Gila Bend and north of I-8 on agricultural lands. This facility is scheduled to begin operation in 2013. There are also several other approved solar thermal projects, most of which are on private agricultural lands.

There are several sensitive wildlife species within the project area and plants that come within the purview of the Arizona Native Plant Law, including the iconic saguaro cactus.

Overall, the area does not have major conflicts on the northern portion of the SEZ. If the southern boundary is adjusted north of the Agua Caliente Road and the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

There is currently no access to treated wastewater for cooling, which is what is utilized by the Palo Verde Nuclear Generating Station. In addition, this area is in the Phoenix Active Management Area, so there are special restrictions on groundwater use. Given all this, obtaining groundwater for solar development in this SEZ would be a challenge, and we concur with the BLM's conclusion in the DPEIS that wet-cooling would likely not be feasible for a full buildout of the SEZ (80% buildout of the SEZ), and that dry-cooled or non-cooled PV and dish-engine projects are most feasible for the area. DPEIS p. 8.3-63.

Regardless of which technology is used for projects in this area, the BLM should ensure that any water use for solar development follows the design features and recommendations in Section III above.

- **Special status species**

There are several species in the SEZ region that are listed under the federal Endangered Species Act, including the southwestern willow flycatcher, Sonoran bald eagle, and Yuma clapper rail. Groundwater pumping associated with projects in this area could have indirect effects on riparian habitat that supports several of these species. The Sonoran population of the desert tortoise occurs in the site area, and petition for listing this species as threatened is currently under consideration. Changes in construction and siting might be warranted to mitigate impacts. Several more species are listed as special status species by the Arizona Game and Fish Department or Bureau of Land Management. Additionally, most bird species are afforded some protection by the Migratory Bird Treaty Act, although only some those in Table 8.3.11.2-1 –“Representative Bird Species” are listed as having such protections. Careful consideration should be given to all special status species and those protected by the Migratory Bird Treaty Act during design and construction, and changes should be made as necessary.

- **Air quality**

The prevailing southwest winds would blow any fugitive dust toward the Phoenix area, which is a nonattainment area for PM10 and is currently working to develop a new plan before sanctions kick in over the next 18 months. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below. We have enclosed a map detailing these recommended changes as Attachment 12.

- **The boundary for the SEZ should be moved north of Agua Caliente Scenic Road**

The area south of the Agua Caliente Road should be removed from the SEZ. Extensive grading would be required to develop the southern portion of Gillespie, and developing the area would present significant challenges with special status species. Any development farther south within the current SEZ boundaries would also have much more significant hydrological impacts. In addition, Agua Caliente Road is being considered for scenic road designation as part of the Sonoran Desert National Monument Resource Management Plan, yet another reason to shift the southern boundary north of Agua Caliente Road and limit development to the northern portion of the SEZ.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Woolsey Peak and Signal Mountain Wilderness Areas**

Two wilderness areas are located within close proximity to the Gillespie SEZ, including Woolsey Peak at about 2 miles and Signal Mountain at approximately 3.5 miles. The BLM should analyze potential impacts of any proposed projects to these adjacent areas.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring water use to improve groundwater status**

Riparian habitat and various endangered and sensitive species are sustained by groundwater, so any pumping should be minimized. Major groundwater pumping could negatively affect this area and those species.

- **Limiting the spread of invasive weeds**

The site is generally free of invasive weeds, so every effort should be made to limit ground disturbance and minimize opportunities for introduction of invasive plants.

- **Taking advantage of nearby transmission**

There are numerous high-voltage transmission lines within close proximity to the site, so disturbance related to new transmission could be minimized if capacity is available on the existing lines.

vi. Corrections

- Most of the bird species listed in Table 8.3.11.2-1 are afforded some protection by the Migratory Bird Treaty Act, but only some of these are listed as having such protections. This table should be updated to accurately reflect those species protected by the act.
- Table 8.3.12.1-1 does not accurately represent all special status species. For example, the spotted bat is listed as Wildlife of Special Concern by the Arizona Game and Fish Department and as an Arizona Bureau of Land Management Sensitive Species, and Le Conte's thrasher is listed as a BLM Sensitive Species. This table should be updated to accurately reflect all special status species, and possible impacts as well as appropriate mitigation efforts should be discussed.

Thank you for your thorough consideration of these comments.

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Attachments

- Attachment 1 – Desert Siting Criteria
- Attachment 2 – AWC GIS Data for CPW Units
- Attachment 3 – Map of SEDP Alternative Overlap with CPW Lands
- Attachment 4 - Map of SEDP Alternative Overlap with East Clanton Hills CPW Unit
- Attachment 5 - Map of SEDP Alternative Overlap with Red Rock Canyon CPW Unit
- Attachment 6 - Proposed North Kaibab National Monument
- Attachment 7 - Map of SEDP Overlap with Pygmy Owl Habitat
- Attachment 8 - Map of SEDP Overlap with Pinal County Open Space Plan
- Attachment 9 - Map of SEDP Overlap with Pima County Open Space Plan
- Attachment 10 - Map of SEDP Overlap with Pima County Open Space Plan – West
- Attachment 11 - Map of Recommended Boundary Adjustments for Brenda SEZ
- Attachment 12 - Map of Recommended Boundary Adjustments for Gillespie SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11716.

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Comment ID: SolarD11716

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Comment Submitted:

April 18th, 2011

Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).

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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Center for Native Ecosystems, Biodiversity Conservation Alliance, Rocky Mountain Recreation Initiative, Colorado Wild, Wild Connections, High Country Citizens' Alliance, Colorado Environmental Coalition, Audubon Colorado, Natural Resources Defense Council, Sierra Club, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

Table of Contents

I.	Introduction (p.2)	G.	Habitat connectivity, wildlife movement corridors, and fencing (p.11)
II.	Alternatives (p.3)	H.	Preservation of sagebrush ecosystems and associated species (p.13)
A.	The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative (p.3)	I.	Transmission, roads and other associated infrastructure (p.13)
B.	The BLM should not adopt the Solar Development Program (SEDP) Alternative (p.3)	IV.	Lands in SEDP Alternative that are not appropriate for development (p.14)
C.	As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate (p.4)	A.	Citizens' Wilderness Proposal Lands and Other Sensitive Lands Proposed for Protection (p.14)
III.	Overarching Issues for Solar Development on Public Lands in Colorado (p.5)	B.	Other important conservation areas (p.16)
A.	Water resources (p.6)	C.	Species-specific biological conflicts (p.16)
i.	Cumulative impacts to water resources (p.7)	V.	Solar Energy Zones in Colorado (p.17)
B.	Water quality (p.8)	A.	DeTilla Gulch SEZ (p.17)
C.	Soil erosion and associated vegetation impacts (p.8)	i.	Overview (p.17)
D.	Dust effects on air quality and snowmelt (p.10)	ii.	Overarching issues for this SEZ (p.18)
E.	Mineral aerosols and air quality (p.10)	iii.	Recommended boundary adjustments (19)
F.	Snowmelt and dust (p.11)	iv.	Sensitive natural resources and recommended additional impacts analysis (p.20)

<ul style="list-style-type: none"> v. Opportunities for environmentally responsible development (p.21) vi. Corrections (p.21) B. Antonito Southeast SEZ (p.21) <ul style="list-style-type: none"> i. Overview (p.21) ii. Overarching issues for this SEZ (p.22) iii. Recommended boundary adjustments (p.22) iv. Sensitive natural resources and recommended additional impacts analysis (p.22) v. Opportunities for environmentally responsible development (p.23) vi. Corrections (p. 24) C. Fourmile East SEZ (p. 24) <ul style="list-style-type: none"> i. Overview (p.24) ii. Overarching issues for this SEZ (p.24) 	<ul style="list-style-type: none"> iii. Recommended boundary adjustments (p.24) iv. Sensitive natural resources and recommended additional impacts analysis (p.25) v. Opportunities for environmentally responsible development (p.25) vi. Corrections (p.25) D. Los Mogotes East SEZ (p.25) <ul style="list-style-type: none"> i. Overview (p.26) ii. Overarching issues for this SEZ (p.26) iii. Recommended boundary adjustments (p.26) iv. Sensitive natural resources and recommended additional impacts analysis (p.27) v. Opportunities for environmentally responsible development (p.27) vi. Corrections (p.27)
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I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an

environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address Colorado.

II. Alternatives

A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative

The SEZ Alternative would designate four Solar Energy Zones (SEZ) in Colorado. The Draft PEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

B. The BLM should not adopt the Solar Development Program (SEDP) Alternative

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM’s oil and gas program – projects spread scattershot across the

West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to development – this is over 100 times more land than what the agency’s own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM’s solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources “fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM’s solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM’s solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

We encourage the BLM to consider the results of the EPA’s RE-Powering America’s Lands initiative, a developing, multi-state program that identifies current and formerly contaminated land and mine sites with high renewable energy potential. This analysis exemplifies the

approach to screening lands that should be pursued, and while it is premature for us to fully endorse this initiative (the project is currently in the draft comment period), we are encouraged by the following project elements. We believe these criteria should be part of any process that the BLM agrees to pursue to identify additional zones in Colorado:

- A focus on disturbed lands that may be suitable for renewable energy development (not limited to solar) at various scales (i.e., utility- and community-scale projects).
- A suitability assessment that includes federal (BLM and US Forest Service), state trust, and private lands and sets the stage for renewable energy development that extends across land ownerships and jurisdictions.
- Extensive consultations with cooperating agencies and stakeholders to produce a comprehensive set of criteria to screen lands for high resource potential and potential conflicts.
- Coordination and collaboration among Federal Agencies, working with the Federal Facilities Restoration and Reuse Office (FFRRO) and Office of Solid Waste and Emergency Response (OSWER) Center for Program Analysis (CPA) to establish a workgroup to share efforts and reduce duplication.
- The development of a reasonable (renewable energy) development forecast for the next 20 years (measured in gigawatt hours and acres) tied to the state's renewable energy standard and export potential.
- Consideration of the following key factors in the ultimate selection of lands that may be included in the final alternative:
 - proximity to existing and approved transmission corridors,
 - avoidance of areas identified as essential for wildlife connectivity
 - impacts on water quality and quantity,
 - proximity to load or demand centers, and
 - opportunities for land tenure adjustments that facilitate protection of lands with high conservation values.
- Incentives and technical assistance provided to encourage siting on contaminated land, integration of these activities with renewable portfolio standards and renewable energy credit programs.

As a result of the above factors, the RE-powering America's Lands initiative will identify lands that are more likely to be suitable for renewable energy development and therefore provide greater certainty for renewable energy developers than the SEDP alternative. We want to emphasize that these lands ultimately identified by the RE-powering America's Lands initiative do not constitute SEZs in themselves. However, this initiative sets the stage for the BLM to strategically select new SEZs from the lands identified, based on additional environmental and other constraints analyses, and we recommend that the BLM consider incorporating the results of the RE-Powering America's Lands initiative in their process for designating additional SEZs in Colorado.

III. Overarching Issues for Solar Development on Public Lands in Colorado

The issues below should be addressed for any solar development on public lands in Colorado, whether inside or outside of a SEZ.

A. Water resources

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, *A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation* (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that "water use and water availability are key considerations" when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,¹ to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. See DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and concentrating PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar

¹ We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. "The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource."

development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within three of the four Colorado SEZs (DeTilla Gulch is the exception). In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

i. Cumulative impacts to water resources

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

B. Water quality

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

C. Soil erosion and associated vegetation impacts

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occur. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZs.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many

areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states "...exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility."

The DPEIS also states that "In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts." Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeded should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeded mixtures are not polluted with non-native seed. Sahara mustard is already present in some of these areas, so every attempt should be made to limit its spread. Impacts of loss of native vegetation should be evaluated.

The FEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

“Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”²

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

D. Dust effects on air quality and snowmelt

Solar development will require extensive clearing and leveling of terrain. Such actions destroy soil structures such as biological soil crusts and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001). In many areas of the six Southwestern States covered by the PEIS, soil-borne diseases and toxins in dust generated by wind erosion can be transported considerable distances from the disturbed site. In the central Rocky Mountain states of Colorado and Utah, acceleration of snowmelt due to dust accumulation on snowpack has also been identified as a strong influence on water availability throughout the growing season.

E. Mineral aerosols and air quality

² Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure et al 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in this PEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, (Reheis et al. 2003, Morman 2010).

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

F. Snowmelt and dust

Recent research has indicated that dust generation has regional effects on snow chemistry and subsequent melting in the Central Rocky Mountain region (Rhoades et al. 2010). The accelerated snowmelt from dust deposition changes surface water flow pattern and timing, groundwater recharge, and water availability during the driest parts of the year, and is strongly influenced by destabilization of desert soils (Painter et al. 2010).

These issues are clearly tied to those mentioned previously related to soil disturbance, and the biological importance of these related issues make it imperative that BLM enforce concrete guidelines for minimizing soil disturbance and dust generation from solar development.

G. Habitat connectivity, corridors, and fencing

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. The Colorado Division of Wildlife (CDOW) maintains GIS layers of linear migration patterns for selected big game species. While the SEZ Alternative avoids overlapping these migration corridors, the SEDP alternative identifies lands that overlap significantly with these corridors. Industrial-scale solar development in these linkages could result in their permanent impairment, fragmentation and

loss of functionality for certain species. CDOW migration corridor layers for mule deer and pronghorn indicate that several areas included in the northeastern parts of the BLM SEDP Alternative contain and in fact provide the critical public lands connectivity to enable pronghorn migration through the Poncha Pass area south of Poncha Springs to Mineral Hot Springs. These migration corridors run north to south through areas identified as open for solar development in the SEDP Alternative, skirting private lands relatively fragmented by roads, fences, and other infrastructure. Similarly, the Southern Rockies Wildlands Network Vision defines a pronghorn migration corridor to the south of the towns of Saguache and Moffat. This corridor runs east to west across the San Luis Valley through a mosaic of public and private land. BLM lands in this area that are identified as open for development under the SEDP Alternative likely provide critical foraging opportunities and refugia during migration, and removal of these “stepping stone” habitats could have long-term effects on local pronghorn population viability. The enclosed map, Attachment 1, shows these corridors in relation to the SEDP Alternative.

Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the draft PEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the BLM SEDP alternative, however a different standard for fencing is set forth. Specifically, on line 36, page 128 of Volume 2 it states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project

- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it's important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

H. Preservation of sagebrush ecosystems and associated species

According to a comprehensive sagebrush assessment funded by the Colorado Division of Wildlife (Boyle and Reeder 2005), approximately 41% of sagebrush habitats in Colorado occur on BLM lands; management of this declining sagebrush habitat and the species that require it should be a top priority for BLM in the state. The primary threats to Colorado sagebrush are encroachment by pinyon-juniper and invasive herbaceous plants (e.g. cheatgrass), followed by energy development.

According to the study, sagebrush in the north and southwest areas of Colorado are predicted to be at moderate or high risk, and in this context it is important to minimize disturbance in more intact sagebrush areas elsewhere in the state. These latter areas could be put at higher risk if the BLM's SEDP alternative were adopted. At least 4000 acres of sagebrush habitat could be impacted by solar development, mostly Inter-Mountain Basins Big Sagebrush Shrubland, a high-quality sagebrush cover type characterized by dense concentrations of larger sagebrush species accompanied by an herbaceous understory. Within BLM SEDP lands, this cover type supports a wide range of wildlife species including the special status species Gunnison's prairie dog, Ferruginous Hawk, Colorado Larkspur, and Gunnison sage-grouse.

Sage species establish slowly, and success rates of restoration and maintenance vary widely. As a result, restoration of sagebrush habitats is costly and time-consuming. In particular, understories that have been invaded by invasive herbaceous plants, particularly cheatgrass, often have an altered fire regime that puts restoration at risk. The best approach to preserve sagebrush ecosystems is to avoid disturbance and associated effects entirely rather than try to rehabilitate these areas after disturbance has occurred. High quality sagebrush habitats or those that have good restoration potential should not be developed for solar energy, particularly in areas where ESA listed or candidate species and other Special Status Species or rare species occur. This applies in particular to Gunnison sage-grouse and Gunnison's prairie dog, candidate species that may have critical habitat designations with listing (see Appendix A for details).

I. Transmission, roads and other associated infrastructure

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any

associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructures will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

IV. Lands in SEDP Alternative that are inappropriate for development

A significant portion of the area identified as open for solar development in the SEDP Alternative is inappropriate for solar development and should be excluded from development. Beyond the need to exclude these areas from development under any alternative, the presence of these types of land in the SEDP Alternative further underscores the need to select the SEZ Alternative and create a process for designating new zones as appropriate. We have included here a number of examples of areas within the SEDP Alternative that are inappropriate for development. Appendix B details these conflict areas.

A. Citizens' Wilderness Proposal Lands and Other Sensitive Lands Proposed for Protection

Citizens' Wilderness Proposal (CWP) lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

The analysis below summarizes significant potential conflicts between the agencies' Solar Development Alternative and lands proposed for wilderness protection by citizens and organizations throughout Colorado.

The SEDP Alternative includes 148,000 acres of BLM lands in Colorado, representing 0.2% of all surface lands managed by the agency across the state. The BLM's Reasonably Foreseeable Development Scenario anticipates approximately 19,746 acres of solar energy development on its lands over the next 20 years (PEIS ES 2.3.4).

The Colorado Wilderness Network has conducted a comprehensive inventory of wilderness-quality BLM lands throughout the state. Citizens and volunteers have inventoried Colorado's BLM lands for wilderness characteristics, noting opportunities for solitude, the lack of substantial human development, and other characters defined by the 1964 Wilderness Act (P.L. 88-577). These citizen wilderness proposals cover approximately 1.18 million acres of BLM land in Colorado. Many of these areas have been identified by the agency as Areas with Wilderness Characteristics in various Resource Management Plans. Under Interior Secretarial Order 3310 (23 Dec 2010), lands with wilderness characteristics, regardless of whether currently adopted in Resource Management Plans, will be inventoried and included in RMP's. Citizen wilderness proposals will be considered by the BLM during this inventory process, and we request that such areas are excluded from the Solar Development Alternative to minimize

negative impacts to the wilderness environment in Colorado. We have included a CD-ROM with GIS data for the CWP lands in Colorado as Attachment 2.

The Solar Development Alternative has 2,515 acres of overlap with the Rio Grande citizen-proposed wilderness area. This represents roughly 1.7% of the SEDP in Colorado. Although the overlap is not large, the SEDP infringes upon unique attributes of solitude, primitiveness, seclusion, and other increasingly rare attributes of the wilderness environment. Below, we highlight two areas where potential conflict occurs between the SEDP and citizen proposed wilderness areas in Colorado.

The Rio Grande proposed wilderness area contains 10,150 acres of BLM lands. The Solar Development Alternative overlaps 2,537 acres, or roughly 25% of the area. The wilderness boundary is defined by the Punche Valley Road and small tracts of private land on the west side, Kiowa Hill Road on the north side, and the Rio Grande on the east side. Located on the Rio Grande river corridor, this outstanding canyon area has been studied by BLM for inclusion in the National Wild and Scenic Rivers system due to its remarkable raptor population and outstanding recreational opportunities.

Naturalness

The river cuts a canyon with steep cliffs and lush riparian vegetation. These cliffs and the adjacent food source from the river draws raptors by the hundreds including hawks, falcons, and eagles. The bald eagle, for example, is a common winter resident of the area, and as many as 300 have been sighted during a single winter.

Wildlife biologists have counted more than 40 occupied raptor nests, including at least 11 prairie falcon and four golden eagle aeries. This short stretch of canyon creates a miniature replica of the world famous Birds-of-Prey area along Idaho's Snake River.

The combination of rare plants, raptor nests, and wild river values led BLM to designate the river corridor as an Area of Critical Environmental Concern in 1991.

This designation carries some restrictions on vehicles and other uses but lacks the over-arching permanence of wilderness protection.

Opportunities for Solitude

Importance is placed on factors affecting solitude that occur inside the wilderness area and not that of outside factors, such as cities and highways. The BLM's Wilderness Inventory and Study Procedures manual H-6310-1.22 section (b)(1) gives direction on the assessment of solitude in inventory units. Below are the five features for evaluating solitude:

- Size and configuration: The proposed Rio Grande wilderness unit meets the 5,000-acre size criteria, is not long and narrow and does not have irregular extensions or cherry-stems.
- Topographic screening: The rugged topography that dominates this area provides isolation and solitude from other visitors.
- Vegetative screening: Lush vegetation in riparian areas provides vegetative screening.

- Ability of user to find a secluded spot: Visitors can easily find seclusion within the step cliffs unit due to its remoteness from significant developments.
- Presence of outside sights and sounds: Congress has clarified (e.g. H.R. 95-540), as has the BLM (e.g. Handbook H- 6310-1) that sights and sounds visible or audible outside of a potential wilderness should not affect – or may even enhance – the need to protect the area. Aside from floatboating and fishing activity within the river itself, intrusions from outside the area are minimal.

Primitive and Unconfined Recreation

The proposed Rio Grande wilderness unit allows for a variety of primitive and unconfined recreational activities as addressed in section 2(c)(2) of the Wilderness Act of 1964 and in the BLM's *Wilderness Inventory and Study Procedures* manual H-6310-1 section .22(A)1(b)2. The proposed unit offers various levels of hiking, from flat walking in the bajadas, to rock scrambling on the many peaks and ridges. Backpacking, fishing, photography, bird watching, floatboating, and sightseeing for archeological and geological features are all possible primitive and unconfined recreational opportunities within the proposed unit.

B. Other important conservation areas

The BLM SEDP alternative intersects large areas with high biodiversity and/or protected status. Areas of overlap and descriptions of each are below:

- 90,297 acres of lands included in the Nature Conservancy's 2001 Ecoregional Portfolio.
- 13,382 acres (over 10 areas) designated by the Colorado Natural Heritage Program (CNHP) as areas of high biodiversity significance.
- 13,301 acres identified by SWReGAP as riparian land.
- 28,017 acres of CNHP Potential Conservation Areas.
- 12,562 acres of the CNHP San Luis Valley Playa Lake network of conservation areas, which includes several playa lake Potential Conservation Areas.
- 33,357 acres of Southern Rockies Ecosystem Project (SREP)/Center for Native Ecosystems (CNE) Wildland Network Design high use areas and 46,965 acres of low use areas.
- 9,376 acres of SREP/CNE Wildlands Network Design Core Conservation Areas.
- 6,024 acres of the Colorado Natural Areas Program (CNAP) Medano-Zapata Natural Area.
- 561 acres of the CDOW/BLM Hot Creek State Wildlife Area.

C. Species-specific biological conflicts

The BLM SEDP alternative also intersects crucial habitat areas for a number of special status or game species, as detailed below:

- ***Gunnison’s prairie dog:*** 4,956 acres of CDOW active colonies, 626 acres overlap with inactive colonies, 30,467 acres overlap with colonies of unknown status.
- ***Gunnison sage-grouse:*** 4,140 acres of overlap with CDOW production areas, 52 acres of overlap with lek sites as defined by the Natural Diversity Information Source (NDIS) for the Colorado Oil and Gas Conservation Commission,
- ***Bald Eagle:*** 1,604 acres of overlap with CDOW roost sites, as well as 6,343 acres of overlap with CDOW winter concentration areas.
- ***Elk:*** 10,633 acres of SREP/CNE habitat linkages, 636 acres of CDOW migration corridors, 5,483 acres of CDOW production areas, 72,117 acres of CDOW severe winter range, 12,625 acres of CDOW winter concentration area, and 2530 acres of resident population area.
- ***Mule Deer:*** 1,368 acres of SREP/CNE habitat linkages, 416 acres of CDOW migration corridors, 36,274 acres of CDOW severe winter range, 4596 acres of CDOW critical winter range, 3,915 acres of CDOW winter concentration area, and 13,386 acres of CDOW resident population area.
- ***Pronghorn:*** 246 acres of CDOW migration corridors, 24,733 acres of CDOW severe winter range, 26,342 acres of winter concentration area, 5,471 acres of CDOW concentration area, and 1,703 acres of CDOW resident population area.
- ***Bighorn Sheep:*** 441 acres of CDOW winter range and 277 acres of severe winter range.
- ***Mountain Plover:*** 2743 acres of CNHP high precision element occurrence overlap.
- ***Black-footed Ferret:*** 354 acres of CNHP high precision element occurrence overlap.
- ***Colorado River Cutthroat Trout:*** 3,123 acres of watershed area, 3,307 acres of buffered stream segments designated by CDOW for the Colorado Oil and Gas Conservation Commission as critical habitat.
- ***Greenback Cutthroat Trout:*** 1,093 acres of watershed area.
- ***Rio Grande Cutthroat Trout:*** 48,407 acres of Rio Grande cutthroat watershed.
- ***Roundtail Chub:*** 118 acres of CNHP high precision element occurrence overlap.
- ***Little Penstemon:*** 336 acres of CNHP high precision element occurrence overlap.
- ***Dwarf Milkweed:*** 94 acres of CNHP high precision element occurrence overlap

V. Solar Energy Zones in Colorado

The Solar Energy Zones proposed in Colorado are largely appropriate from a wildlife habitat impact perspective. There are sensitive wildlife species considerations in all four SEZs, but the majority of these can be adequately addressed at the SEZ and project level. These considerations are detailed in Appendix C. **Provided the appropriate modifications are made, including possible boundary adjustment in limited cases, surface occupancy limitations in others, offsite mitigation if warranted, and the appropriate stipulations added to permits at subsequent stages, we support the designation of these areas as a Solar Energy Zones.**

A. DeTilla Gulch SEZ

i. Overview

The De Tilla Gulch proposed Solar Energy Zone is a 1,522-acre zone in Saguache County, Colorado, 50 miles north of Alamosa. The proposed zone lies in the northwestern San Luis Valley in south-central Colorado. It is 10-30 miles northwest of the Baca National Wildlife Refuge and Great Sand Dunes National Park. The SEZ is accessible by U.S. 285 and the SLRG Railroad. Three transmission lines intersect the site (230 kv, 115-kV, and 69 kV), which should be able to provide transmission access for development in the zone.³ There are currently no solar ROW applications within the zone.

The De Tilla Gulch proposed SEZ covers flat, undeveloped land in the San Luis Basin that is currently used for grazing. There is no standing surface water (though there are dry streambeds); however, several aquifers harbor large groundwater reserves. Located within the San Luis Shrublands and Hills Level IV ecoregion, the dominant species within the SEZ are winterfat, Greene's rabbitbrush, and rubber rabbitbrush, with bottlebrush squirreltail, green muhly, blue grama, big sagebrush, chenopodium, needle-and-thread, prairie sagewort, prickly pear, broom snakeweed, and globemallow co-dominant in some areas.

This SEZ has the highest level of natural resource conflicts of any in Colorado. Although the configuration of wildlife habitat and other constraints on development makes this area more problematic, with careful design and meaningful mitigation to offset impacts to Gunnison's prairie dog, a project could be placed within this SEZ to generate clean solar power. It is important to note that this is the only SEZ in Colorado where BLM has determined sufficient water is available to use currently developed wet-cooling technology; this provides the potential to develop projects with relatively smaller footprints that generate the same amount of power as larger dry-cooled projects. The additional siting flexibility this could provide may allow the developers to avoid the potential resource conflicts mentioned below. There is one pending solar ROW application that is almost entirely within the SEZ, overlapping 808 acres.

While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Gunnison's Prairie Dog Colonies Surround the SEZ on Three Sides**

Populations of Gunnison's prairie dog within the San Luis Valley have been determined to be warranted for listing but precluded by pending actions for species with higher listing priority. The species currently has candidate status and a fairly high Listing Priority Number of 3 (the highest possible ranking for this species is 2⁴). The potential for listing will increase if the

³ Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

⁴ <http://www.fws.gov/mountain-prairie/pressrel/08-09.htm>

species continues to decline. Accordingly, active colonies in their most recent CDOW dataset (2007) should be completely avoided. In addition, clearance surveys should be performed in and around colonies classified by CDOW as inactive or unknown, and these areas should be left undeveloped if possible. Preserving habitat linkages between occupied areas is also important; the fencing and siting Best Management Practices BLM has committed to in the solar PEIS emphasize preventing population level habitat connectivity issues for large game species, but these BMPs must extend to Gunnison's prairie dog as well. Assessments of Gunnison's prairie dog movements between colonies and avoidance of migration corridors for this species are critical prior to development. Although CDOW does not typically recommend "no surface occupancy" (NSO) buffers associated with Gunnison's prairie dog colonies, this has been recommended in the past by groups contributing to these comments.

Areas to be developed should be assessed to determine their importance for viability of local prairie dog populations. Development of important habitat only makes sense if extremely meaningful mitigation could be performed as a prerequisite. In addition to the complex immediately east of DeTilla Gulch SEZ, there is also a large complex of active and inactive colonies west of Los Mogotes East SEZ that could be a good priority area for mitigation. Any offsite mitigation should be based on a sound evaluation of population status and the implicit assumption that this is only an option when the net effect to the species is an improvement of population viability. Even if mitigation is performed, active colonies on and adjacent to DeTilla Gulch SEZ must be protected from development or surface disturbance.

According to the most recent CDOW data, there is an active Gunnison's prairie dog colony of 207 acres on the northern edge of the SEZ, and another active 161 acre colony 0.3 miles to the west. A 1518 acre inactive colony surrounds the western active colony, and a 12,797 acre inactive colony or colony complex is immediately to the east. The entire SEZ is historic habitat for Gunnison's prairie dog. The juxtaposition of active and inactive colonies, as well as the species' tendency to re-colonize previously occupied habitat, make it likely that if this area was left undeveloped the species would eventually occupy habitat within the SEZ.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that may not be appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below and shown on the enclosed map, Attachment 3.

- The active prairie dog colony that overlaps the northern edge of the SEZ should be removed.
- As mentioned below, if surveys performed within the intersection area of the SEZ and Mineral Hot Springs PCA indicate that there is significant activity by special status small mammals within the SEZ, boundary adjustments should be considered to eliminate the PCA area.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of High Conservation and Management Concern**

Gunnison Sage-Grouse

The entire DeTilla Gulch SEZ is historical habitat for the Gunnison sage-grouse. Gunnison sage-grouse is a Candidate for listing under the Endangered Species Act. The conservation context of this species and high likelihood of listing is detailed in Appendix A. It would be unprecedented for USWFS to declare critical habitat for this species so far from currently occupied habitat, but it cannot be totally ruled out under an ambitious recovery program.

Big Game Winter Habitat Use

The DeTilla Gulch SEZ contains several hundred acres of severe winter range for elk and winter concentration habitat for pronghorn. As with the Antonito Southeast site, disturbance during the winter season should be avoided or minimized in these areas.

- **Sensitive habitats**

Mineral Hot Springs Potential Conservation Area

The portion of this SEZ containing the Gunnison's prairie dog colonies has also been identified by the Colorado Natural Heritage Program as a Potential Conservation Area (PCA) for its high biodiversity value. The PCA, known as the Mineral Hot Springs PCA, "encompasses most of the expanse of shortgrass prairie in Saguache County" (CNHP PCA report, at 2), and the SEZ overlaps with 1027 acres of this. The PCA was identified primarily for the diversity of small mammals found there, including the Gunnison's prairie dog, the globally vulnerable thirteen-lined ground squirrel, and the globally vulnerable silky pocketmouse. The intersection with the SEZ occurs at the south end of the PCA, however, an area mentioned in the official summary⁵ as being dominated by greasewood and rabbitbrush. Given that all of the above species feed predominantly on grasses, forbs, sedges, and occasional insects, this habitat at the southern edge of the PCA is likely less suitable than areas further north. Small mammal and vegetation surveys should be performed prior to siting; if these surveys indicate that habitat is suitable and occupied, boundary adjustments may be needed to exclude parts of this PCA from the SEZ.

- **Riparian Areas**

The SEZ contains riparian habitat within a watershed that sustains a population of Rio Grande cutthroat trout, a BLM Sensitive Species. Avoidance of riparian habitat As with the Antonito Southeast site, direct impacts to riparian zones and aquatic habitat is likely easy to avoid, but only if the appropriate measures are taken in subsequent stages of the siting, permitting, and development process.

⁵ http://www.cnhp.colostate.edu/download/documents/pca/L4_PCA-Mineral%20Hot%20Springs_7-23-2010.pdf

- **Cultural Resources**

The SEZ is located 0.25 miles from the Old Spanish NHT, and the BLM should include analysis of potential impacts associated with development in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- v. **Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.
- As mentioned above, creative and well-considered offsite mitigation for impacts to Gunnison's prairie dog could be used to enable development in the SEZ and make a positive contribution to this species' status.

- vi. **Corrections**

The PEIS states that there is a 115 kV line that is accessible to the site, but fails to mention the 230 kV and 69 kV lines that also intersect the SEZ.

- B. Antonito Southeast SEZ**

- i. **Overview**

Antonito Southeast SEZ is located in southeastern Conejos County, on the border between Colorado and New Mexico, immediately adjacent to U.S. 285, which provides outstanding site access. The SEZ is 105 miles southwest of Pueblo, 7.4 miles southeast of Los Mogotes SEZ, and 1.5 miles southeast of the town of Antonito, which provides the closest railroad and access. Los Mogotes has a total area of 9,279 acres, and is in the Rio Grande Basin of the San Luis Valley. Groundwater use in Conejos County is primarily used for aquaculture, irrigation, and public water supplies. Groundwater is overallocated in the Rio Grande Basin; any groundwater use would require an augmentation certificate from the Colorado Division of Water Resources or purchase of existing groundwater rights. The area is characterized by shrublands and grasslands at low elevations, dominated by winterfat, big sagebrush, rubber rabbitbrush, western wheatgrass, green needlegrass, and needle and thread. There are three perennial streams in the area of indirect effects (Conejos River, the Rio de los Pinos, and the Rio San Antonio). (several special status species considerations associated with this SEZ, as well as habitat for game species where seasonal disturbance may need to be eliminated and migration movements preserved.

The closest transmission (69 kV) is located 1.4 miles to the north of the SEZ. There are no existing solar applications nearby, however there are projects on private land in the north end of the valley and interest in projects on public land.

Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- This area is an SREP/CNE Wildland Network Design high use area, and could provide habitat for a range of species besides those mentioned below. These species are not as sensitive to ground disturbing activities as some game species mentioned below, but nonetheless can be impacted by industrial facilities and associated infrastructure. It is likely that issues could be addressed by intelligent project siting and fencing that allows free movement of large game and other mammals.

iii. Recommended boundary adjustments

We have insufficient information to recommend any boundary adjustments at this time, but would like to highlight the potential for boundary adjustments, if warranted, based on Gunnison's prairie dog activity in the northwest portion of the SEZ.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of High Conservation and Management Concern**

Gunnison's Prairie Dog

General information about the conservation status of this species and the importance of maintaining habitat connectivity is given in the DeTilla Gulch SEZ account above. The same recommendations also apply; avoidance of active colonies, clearance surveys within any area defined by CDOW as having colonies of inactive or unknown status, potential offsite mitigation within areas of high species viability, if warranted, and project siting that avoids blocking migration corridors used by the species to migrate between colonies.

Based on official CDOW data, the SEZ is flanked on its northwest edge by a small active prairie dog colony as well as two larger inactive colonies. Unofficial information from CDOW also indicates that the species may have expanded into the SEZ, and a subsequent site visit by The Wilderness Society staff confirmed that there were burrows within the SEZ. However, there was

no indication of activity in the area; no prairie dogs were sighted and there was no scat visible near burrow openings, which were often blocked by debris. Given the information above, it is not possible to confirm that the species is currently present within the SEZ, and this warrants further investigation. It should be emphasized, though, that for this declining, habitat limited species, currently unoccupied habitat is especially important. Gunnison's prairie dog are known to reoccupy abandoned sites following local population declines from plague or other factors, so areas that are suitable but currently unoccupied are important, particularly if there is evidence of use by the species in the past.

Gunnison Sage-Grouse

The entire Antonito Southeast SEZ is historical habitat for the Gunnison sage-grouse. Gunnison sage-grouse is a Candidate for listing under the Endangered Species Act. The conservation context of this species and high likelihood of listing is detailed in Appendix A. It would be unprecedented for USWFS to declare critical habitat for this species so far from currently occupied habitat, but it cannot be totally ruled out under an ambitious recovery program.

Elk

Antonito Southeast SEZ has 55% overlap (5430 acres) with CDOW elk severe winter range, which extends to the west in a north-south band 13 miles wide. While the SEZ does not supply irreplaceable winter habitat for the species as a whole, it is important for local populations that wintering herds be protected from extensive disturbance during this precarious part of their life cycle. BLM should consider adding provisions to limit activity outside of project fencing during severe winters when elk are using these areas.

Pronghorn

Similarly, the entire SEZ is within pronghorn winter range, but this is fairly well distributed throughout the area, and there are no severe winter range or winter concentration areas within the SEZ. As with elk, it's not likely that the SEZ provides essential habitat, but it does provide some quality habitat as well as likely movement corridors through the SEZ that should be safeguarded in areas outside project footprints.

- **Cultural Resources**

The SEZ is located immediately west of the Old Spanish NHT, and the BLM should include analysis of potential impacts associated with development in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- As indicated above, preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.

vi. Corrections

The PEIS states that the nearest transmission line is 4 miles north of the SEZ, but current transmission data indicate that there is a 69 kV transmission line and associated substation approximately 1.5 miles north of the SEZ.

C. Fourmile East SEZ

i. Overview

The Fourmile East proposed Solar Energy Zone is a 3,882-acre zone in south-central Colorado's San Luis Valley. The SEZ is 13 miles east of Alamosa, and 9 miles south of Great Sand Dunes National Park. The area is adjacent to U.S. 160 and CO 150, and is accessible by the SLRG Railroad. There is currently a 69-kV transmission line 2.25 miles south of the SEZ. There are currently no solar ROW applications within Fourmile East.

The part of the San Luis Basin where the Fourmile East proposed SEZ is located is flat, undeveloped land that is used for grazing. There is no standing surface water, but several aquifers harbor large groundwater reserves. Fourmile East SEZ is in the Salt Flats Level IV ecoregion, and supports sparse shrublands dominated by Greene's rabbitbrush and bottlebrush squirreltail, as well as shrub-dominated communities with sparse grasses and areas where prickly pear is abundant.

The Fourmile East SEZ, like the Antonito Southeast and DeTilla Gulch sites, contains a Gunnison's prairie dog colony of unknown status. In addition, the SEZ contains winter range for pronghorn as well as overall range for elk, mule deer, black bear, and mountain lion.

Appropriate measures should be taken to avoid unnecessary and significant impacts to these valuable wildlife species. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

ii. Overarching issues for this SEZ

None noted.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas may not be appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below and shown on the enclosed map, Attachment 4.

- The eastern edge of the Fourmile East SEZ in Colorado comes within one mile of the Old Spanish NHT. Additionally, the SEZ overlays Los Caminos Antiguos Scenic Byway. The PEIS acknowledges that at least 12 miles of the NHT would be adversely affected by solar development. Furthermore, the PEIS recommends that solar development on the east side of the byway (in this area, State Highway [SH] 150) not be approved, in order to reduce adverse impacts to the byway’s eastern viewshed and to the NHT. PEIS at 10.3-28. Accordingly, we recommend that the eastern boundary of the SEZ be moved 0.25 miles west of SH 150.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM’s Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Wildlife Habitat**

Gunnison’s Prairie Dog

General information about the conservation status of this species and the importance of maintaining habitat connectivity is given in the DeTilla Gulch SEZ account above. The same recommendations also apply; avoidance of active colonies, clearance surveys within any area defined by CDOW as having colonies of inactive or unknown status, potential offsite mitigation within areas of high species viability, if warranted, and project siting that avoids blocking migration corridors used by the species to migrate between colonies.

According to official CDOW data, the southern tip of the SEZ intersects a large colony or colony complex of unknown status. This may be less of a concern for this SEZ compared to others since the SEZ is not surrounded by active colonies, but surveys for the species and avoidance of movement corridors between colonies is needed.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- As indicated above, preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.

vi. Corrections

None noted.

D. Los Mogotes East SEZ

i. Overview

The Los Mogotes East proposed Solar Energy Zone is a 5,918-acre zone in the southwestern San Luis Valley, 12 miles north of New Mexico. The SEZ is 22 miles southwest of Alamosa, and about 10 miles north of the Antonito Southeast proposed SEZ. The SEZ is accessible by U.S. 285 and the SLRG Railroad, but an additional road corridor would be required for development in the zone. An existing 69-kV transmission line runs 2.6 miles east of the SEZ, which could provide transmission access for solar development within the zone. There is one pending solar ROW application overlapping most of the SEZ (total overlap is 5,423 acres).

The Los Mogotes proposed SEZ is located on flat, undeveloped land that is used for grazing. There are no surface water features except a shallow drainage system that discharges into an agricultural irrigation ditch. Several aquifers underlying the SEZ harbor large groundwater reserves. The ground cover is mostly scrubland vegetation. **There are some potential species conflicts with the Los Mogotes proposed SEZ, and we support this zone presuming those conflicts can be remedied.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Gunnison's Prairie Dog Colonies Surround the SEZ on All Sides**

According to the most recent CDOW data, there is a 59,300 acre Gunnison's prairie dog colony complex of unknown status that intersects the northwest corner of the SEZ. This colony complex contains 8 active colonies inside it, and is flanked by additional colonies (active and unknown status) to the east that also surround the SEZ. Given this configuration, it seems likely that migrating individuals could move through the SEZ, and that areas within the SEZ could even be colonized in the future (the entire SEZ is historic habitat for the species). A candidate species that has been considered not warranted for listing for the past several years, this species has a fairly high Listing Priority Number of 3; the potential for listing will increase if the species continues to decline. Development of active colony areas would only make sense if extremely meaningful mitigation could be performed as a prerequisite. This could occur in areas immediately adjacent to this SEZ or in the complex immediately east of DeTilla Gulch SEZ. Any offsite mitigation should be based on a sound evaluation of population status and the implicit assumption that this is only an option when the net effect to the species is an improvement of population viability. Even if mitigation is performed, active colonies on and adjacent to Los Mogotes East SEZ must be protected from development or surface disturbance, as should any movement corridors associated with these colonies.

iii. Recommended boundary adjustments

Given the size and configuration of adjacent prairie dog colonies discussed above, clearance surveys for the species must be performed in this SEZ. However, given that the colony that

intersects the northwest corner of the SEZ is inactive, there is no basis for any boundary adjustments at this time.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Other Wildlife Habitat**

Rio Grande Cutthroat Trout

The SEZ is within a Rio Grande cutthroat trout watershed; any watershed or hydrological impacts from development should be avoided.

Large Game Wintering Areas

Los Mogotes East SEZ is also within winter range, severe winter range, and winter concentration areas for pronghorn, severe winter range and winter range for elk, and winter range for mule deer. The area is also a SREP/CNE Wildland Network low use area. Previously stated concerns about blocking mammal movements due to project configuration and fencing also apply here.

- **Cultural Resources**

The SEZ is located immediately west of the Old Spanish NHT, and the BLM should include analysis of potential impacts associated with development in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- As indicated above, preservation of wildlife movement corridors is key to limiting wildlife impacts to species in the area; the habitat of the SEZ is common and easily substituted, and as long as the potential for animal movement is preserved, impacts to species should be minimal.

vi. Corrections

Although the PEIS states that an existing 69-kV transmission line on the east of the SEZ ends just inside the SEZ boundary, this line is actually 2.6 miles to the east at its closest approach according to current transmission line data.

Thank you for your thorough consideration of these comments.

Sincerely,

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Attachments and appendices

- Appendix A – Additional Gunnison Sage Grouse Information
- Appendix B – Detailed Analysis of SEDP Alternative Conflicts
- Appendix C – Detailed Analysis of Natural Resources in SEZs
- Attachment 1 – Map of Wildlife Migration Corridors Overlap with SEDP Alternative
- Attachment 2 – GIS Data for Colorado CWP Units
- Attachment 3 – Map of Recommended Boundary Adjustments for DeTilla Gulch SEZ
- Attachment 4 – Map of Recommended Boundary Adjustments for Fourmile East SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11717.

Comment Date: April 18, 2011 17:37:20PM
Solar Energy Development PEIS
Comment ID: SolarD11717

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Comment Submitted:

April 18, 2011

Delivered via electronic submission to the BLM Solar PEIS website (<http://solareis.anl.gov>) and U.S. mail (with attachments).

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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Center for Biological Diversity, Defenders of Wildlife, Sierra Club – Toiyabe Chapter, National Parks Conservation Association, Natural Resources Defense Council, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

Table of Contents

I. Introduction (p.2)	I. Transmission, roads and other associated infrastructure (p.15)
II. Alternatives (p.3)	IV. Lands in SEDP Alternative that are not appropriate for development (p.15)
A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative (p.3)	A. Recommended screening criteria for utility-scale solar development (p.15)
B. The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative (p.4)	B. Specific examples of lands in the SEDP Alternative in Nevada that are not appropriate for development (p.15)
C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate (p.4)	V. Solar Energy Zones (p.17)
III. Overarching Issues for Solar Development on Public Lands in Nevada (p.5)	A. Amargosa Valley SEZ (p.18)
A. Water resources (p.5)	i. Overview (p.18)
i. Cumulative impacts to water resources (p.6)	ii. Overarching issues for this SEZ (p.19)
B. Water quality (p.7)	iii. Recommended boundary adjustments (p.20)
C. Impacts to groundwater-dependent species and their habitats (p.8)	iv. Sensitive natural resources and recommended additional impacts analysis (p.20)
D. Soil erosion and associated vegetation impacts (p.8)	v. Opportunities for environmentally responsible development (p.22)
E. Soil diseases and toxins (p.10)	vi. Corrections (p.23)
F. Habitat connectivity, wildlife movement corridors, and fencing (p.12)	B. Delamar Valley SEZ (p.23)
G. Playa wetlands (p.13)	i. Overview (p.23)
H. Desert tortoise relocation (p.14)	ii. Overarching issues for this SEZ (p.24)

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|--|---|
| <ul style="list-style-type: none"> iii. Recommended boundary adjustments (p.24) iv. Sensitive natural resources and recommended additional impacts analysis (p.24) v. Opportunities for environmentally responsible development (p.27) vi. Corrections (p.27) | <ul style="list-style-type: none"> ii. Overarching issues for this SEZ (p.35) iii. Recommended boundary adjustments (p.36) iv. Sensitive natural resources and recommended additional impacts analysis (p.36) v. Opportunities for environmentally responsible development (p.38) vi. Corrections (p.38) |
| <ul style="list-style-type: none"> C. Dry Lake SEZ (p.28) <ul style="list-style-type: none"> i. Overview (p.28) ii. Overarching issues for this SEZ (p.28) iii. Recommended boundary adjustments (p.29) iv. Sensitive natural resources and recommended additional impacts analysis (p.29) v. Opportunities for environmentally responsible development (p.31) vi. Corrections (p.31) | <ul style="list-style-type: none"> F. Gold Point SEZ (p.39) <ul style="list-style-type: none"> i. Overview (p.39) ii. Overarching issues for this SEZ (p.39) iii. Recommended boundary adjustments (p.39) iv. Sensitive natural resources and recommended additional impacts analysis (p.39) v. Opportunities for environmentally responsible development (p.40) vi. Corrections (p.41) |
| <ul style="list-style-type: none"> D. Dry Lake Valley North SEZ (p.31) <ul style="list-style-type: none"> i. Overview (p.31) ii. Overarching issues for this SEZ (p.32) iii. Recommended boundary adjustments (p.32) iv. Sensitive natural resources and recommended additional impacts analysis (p.32) v. Opportunities for environmentally responsible development (p.34) vi. Corrections (p.35) | <ul style="list-style-type: none"> G. Millers SEZ (p.41) <ul style="list-style-type: none"> i. Overview (p.41) ii. Overarching issues for this SEZ (p.41) iii. Recommended boundary adjustments (p.42) iv. Sensitive natural resources and recommended additional impacts analysis (p.42) v. Opportunities for environmentally responsible development (p.43) vi. Corrections (p.43) |
| <ul style="list-style-type: none"> E. East Mormon Mountain SEZ (p.35) <ul style="list-style-type: none"> i. Overview (p.35) | |

I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste; moderate demand through energy efficiency, conservation, and demand-side management practices; and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and

minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that the long-term, environmentally responsible success of the Bureau of Land Management's (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The DPEIS offers just such an opportunity, and we look forward to working with the BLM to ensure that the agency: 1) identifies and designates suitable Solar Energy Zones (SEZ); 2) guides solar projects to those zones; 3) develops a process for identifying and designating new zones, as appropriate; and 4) develops additional policy needed to support an environmentally responsible solar energy development program on our public lands.

These comments are focused on the elements of the DPEIS that address Nevada.

II. Alternatives

A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative

The SEZ Alternative would designate seven Solar Energy Zones in Nevada. The DPEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine the SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs in Nevada and identify and complete additional analysis that will enable efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM's solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20-year life of the PEIS. Though the acreage of the SEZs should change through refinements in

the PEIS process, a modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ Alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

B. The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM's oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to energy development – this is over 100 times more land than what the agency's own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places in Nevada that are particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM's solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources –fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

C. As part of a modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20-year life of the PEIS and, even with expected refinements, can provide a solid foundation on which to build the BLM's solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM's solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some

states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

III. Overarching Issues for Solar Development on Public Lands in Nevada

BLM should address the issues below when considering siting or permitting any solar development on public lands in Nevada, whether inside or outside of a SEZ.

A. Water resources

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. *See* EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that —water use and water availability are key considerations” when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,¹ to injury to other water rights holders, to injury to federal trust resources, or to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. *See* DPEIS A-54, A-57. That said, we recommend BLM include a similar prohibition on project water use that affects federal trust resources such

¹ We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. —The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource.”

as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry-cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within nearly every proposed SEZ. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

i. Cumulative impacts to water resources

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and

mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

For example, there is no analysis within each SEZ of the cumulative impacts of water use on fish and wildlife and their habitats. Despite having the data necessary to estimate the cumulative impacts of water use on groundwater-dependent species, BLM claims that the “[i]mpacts of groundwater depletion from solar energy development in the Amargosa Valley SEZ cannot be quantified without identification of the cumulative amount of groundwater withdrawals needed to support development on the SEZ.” DPEIS 11.1-194. BLM has estimated low and high water demands for construction and operation within the SEZ (see DPEIS Tables 11.1.9.2-1 and 11.1.9.2-2) and is capable of estimating water demands of nearby projects (see Table 11.1.22.2-2) – BLM simply needs to incorporate this information into a regional groundwater model that could project the impacts of groundwater pumping on species habitats but has failed to do so in the DPEIS. Compare BLM, Amargosa Farm Road Solar Energy Project Final EIS (2010) at Chapter 4.4, Appendix B (utilizing Death Valley Regional Flow System Model to evaluate effects of pumping 400 acre-feet per year (afy) on groundwater dependent species at Devil’s Hole and Ash Meadows). Failure to model these impacts renders BLM’s conclusion that “[t]he implementation of programmatic design features and complete avoidance or limitations of groundwater withdrawals from the regional groundwater system would reduce impacts on the groundwater-dependent species to small or negligible levels” unsupportable. DPEIS 11.1-194. *See also* DPEIS 11.2-185 (Delamar Valley SEZ); 11.3-178 (Dry Lake SEZ).

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin’s unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

B. Water quality

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or

groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

C. Impacts to groundwater-dependent species and their habitats

The impacts of groundwater withdrawals on spring, riparian and aquatic species located both near and far, within the Death Valley, White River, Virgin River Valley and Meadow Valley Wash Regional Flow Systems are of grave concern, particularly considering competing demands for the same water. Dominant hydrologic features of the White River and Death Valley flow systems are the large groundwater discharges from numerous carbonate springs scattered throughout the area; e.g., springs in Pahrnagat Valley and the Muddy Rivers Springs Area, and the Ash Meadows area, respectively. Groundwater withdrawal may lower aquifer levels and spring discharge, adversely affecting the nearby and down-gradient Pahrnagat, Moapa Valley and Ash Meadows National Wildlife Refuges, and springs and wetlands connected to the White River Carbonate Flow system, including the Hiko, Crystal, Ash, Moapa, Warm, Rogers and Blue Springs. The FPEIS should include analysis of potential impacts to these sensitive resources and include measures to avoid or minimize those impacts.

D. Soil erosion and associated vegetation impacts

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to

invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1, Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it does not define the density of soil crusts that would be sufficient to put an area off limits. In many areas soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it is not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states ~~exposed~~ soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that ~~In~~ areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeding should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeding mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al. (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

E. Soil diseases and toxins

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

Valley fever

Coccidioides species is a fungus residing in the top 8 inches of some desert soils that causes a serious and potentially fatal disease known as “valley fever.” This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

Coccidioides sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.²

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.³

Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in the DPEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, Morman 2010).

² <http://www.mayoclinic.com/health/valley-fever/DS00695>.

³ Ibid.

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

F. Habitat connectivity, wildlife movement corridors, and fencing

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to

avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it is important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

G. Playa wetlands

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al 2010).

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al. 2008; Liebowitz 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa (GBBO 2010).

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (GBBO 2010; Liebowitz, Scot 2003; Comer et al. 2005). Rare and endemic plants such as Parish's phacelia, iodinebush, black greasewood, spiny hopsage, saltgrass, Lemon's alkali grass, and *Amargosa nitrophila* are found on the playa or in the surrounding ecotone with the uplands (Randall et al 2010; Crist 2010).

Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010). Birds using playas for habitat include snowy plover, black-necked stilt, American avocet, Western sandpiper, least sandpiper, long-billed dowitcher, Wilson's phalarope, marbled godwit and cinnamon teal (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).⁴

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO₂, particularly as the amount of CO₂ in the atmosphere increases. In the case of the *playa* crusts, the net photosynthetic rate of the algae rose by *a factor of two* in going from the ambient CO₂ concentration characteristic of their normal environment (385 ppm) to the maximum value the scientists investigated (1000 ppm), while in the case of the *dune* crusts, the net photosynthetic rate *tripled* (Brostoff et al. 2002).

Unfortunately, several of the proposed SEZs, such as Delamar, Dry Lake North and Dry Lake (Apex) in Nevada, overlay and would destroy playas and their ecological functions. It is imperative that the BLM adjust the boundaries of SEZs that impact playas to exclude development on the dry lake bed as well as on the surrounding greasewood flats and other associated ecosystems.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

H. Desert tortoise relocation

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “Translocation of Desert Tortoises (Mojave population) from Project Sites: Plan Development Guidance” (U.S. Fish and Wildlife Service, August 2010).⁵

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.⁶
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.⁷

⁴ Clarke, Chris. 2010. The playa isn't lifeless. Available at: http://faultline.org/index.php/site/item/the_playa_isnt_lifeless .

⁵http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx

⁶ <http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

⁷ Testimony of Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.

- Translocation plans should be finalized before project approvals, and made public for review.

I. Transmission, roads and other associated infrastructure

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

IV. Lands in SEDP Alternative that are not appropriate for development

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both recommended screening criteria for utility-scale solar development as well as a number of examples of lands and resources within the SEDP Alternative that need to be protected from development.

In addition, our comments regarding water resources, soil erosion, playa wetlands, habitat connectivity and other overarching issues should also inform the designation of future SEZs.

A. Recommended screening criteria for utility-scale solar development

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, enclosed as Attachment 1. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

B. Specific examples of lands in the SEDP Alternative in Nevada that are not appropriate for development

Below is a table listing the results of analyses on impacts to wildlife and their habitats for the SEDP Alternative. Values are either total acres where solar development will be permitted within

a specific wildlife habitat or movement corridor or are counts of records found within the developable lands. Of particular note is the sage-grouse core breeding habitat completed by the BLM in December, 2010. This example underscores a disconnect between the potential listing of the sage-grouse and the associated impacts to future activities on public lands, including the development of renewable energy and transmission infrastructure.

Another important type of conflict with the SEDP Alternative lands is with Citizen Inventoried Lands with Wilderness Characteristics. These are lands have been inventoried by various citizens groups, conservationists, and agencies and found to have “wilderness characteristics,” including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical and solar energy development inappropriate for these lands. We have also included GIS data of these lands, enclosed as Attachment 2.

Wildlife Criteria	Amount Impacted
Bighorn Movement Corridors – acres	128,786
Bighorn Occupied habitat – acres	108,928
Citizen Inventoried Lands with Wilderness Characteristics – acres	143,936
Elk Movement Corridors – acres	92,202
Heritage Program individuals globally ranked imperiled or critically imperiled	160
Heritage Program individuals state ranked imperiled or critically imperiled	236
Heritage Program Species globally ranked imperiled or critically imperiled	30
Heritage Program Species state ranked imperiled or critically imperiled	58
Mule Deer Corridor – acres	777,183
Mule Deer Crucial Winter Habitat – acres	184,958

Wildlife Criteria	Amount Impacted
NDOW records: –species of conservation concern”	28,016
NDOW records: endangered species	16
NDOW records: threatened species	126
Number of citizen inventoried lands with wilderness characteristics	28
Number with >1000 Acres	22
Pronghorn Corridor – acres	370,733
Pronghorn Crucial Winter Habitat – acres	19,086
Raptor Nests	282
Sage-grouse Core Breeding Habitat (100%) – acres	1,099,207
Sage-grouse Core Breeding Habitat (50%) –acres	101,552

- **Cultural resources**

The SEDP Alternative also includes areas with significant cultural resources that are not appropriate for development. In particular we highlight:

- *Area West of Delamar Valley SEZ:* The BLM should exclude areas to the west and south of the Delamar Valley SEZ from solar energy development because of their significant concentrations of petroglyphs.
- *“Double Negative” Art Installation:* Located south of Interstate 15 near the town of Overton, the area surrounding this 1969 geological art installation should be excluded from solar energy development to protect it from physical and visual impacts.

V. Solar Energy Zones

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, recommended mitigation measures, and corrections. We would welcome the opportunity to meet with the BLM in person to discuss our recommendations in detail. We would be happy to bring maps detailing resource issues and provide additional information as is helpful.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, and there are in fact significant concerns about a few of the SEZs, we strongly caution against interpreting the detailed nature of these comments to imply opposition to the SEZs across the board. Rather, we underscore the importance of focusing on the SEZs rather than the additional 9,084,050 acres included in the SEDP Alternative in Nevada. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SEDP Alternative has not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on many of the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

A. Amargosa SEZ

i. Overview

The Amargosa Valley SEZ lies towards the northern end of the Amargosa Valley and is effectively located along the ephemeral Amargosa River between the Bare and Funeral Mountain Ranges. Amargosa Valley and Highway 95 are portals to Death Valley National Park. The SEZ is in the Amargosa Desert Groundwater Basin which is a part of the regional-scale Death Valley Regional Groundwater Flow System. Groundwater from the Amargosa Desert Basin terminates at the multiple springs in and around the Ash Meadows National Wildlife Refuge and Devil's Hole component of the Death Valley National Park. The area is desert tortoise habitat, nearing the current upper elevation limits for that species.

There are four other solar projects in the Valley or immediate area that have been approved or that are in various stages of NEPA analysis:

- Amargosa Farm Road – 4350 acres, parabolic trough
- Lathrop Wells – 1920 acres, photovoltaic and trough
- Amargosa North – 7500 acres, photovoltaic

- Solar Demonstration Project on the Nevada National Security Site – 300 acres, to be determined.

In addition, there are approximately 110,000 acres of other renewable energy projects with pending rights-of-way applications within 50 miles of the proposed SEZ. A 138 kV transmission line cuts through the northeast corner of the SEZ.⁸

While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Impedance to desert tortoise adaptations to a warming and drying climate.**

As noted in the DPEIS, prediction on future climate for this area consistently point to a warmer and drier regime. As Mojave Desert conditions migrate northward and upslope, it is quite likely that the desert tortoise will follow them, perhaps being at risk of extinction if they do not.

The location of the SEZ as currently located at a “pinchpoint” that effectively blocks this northward migration of tortoises in the Eastern Mojave Recovery Unit. A cleared and industrialized site between the Funeral and Bare Mountains, exacerbated by the Highway 95 and utility corridors would leave no opportunity for tortoises from south of the SEZ to get past and into the evolving desert beyond.

The Desert tortoise populations of the Amargosa Valley and Pahrump Valley have been found to be genetically isolated and may have evolutionarily important genetic uniqueness. It is suggested that parts of this population could qualify as an Evolutionarily Significant Units (ESU). These would require special management. Delineation of Desert Wildlife Management Areas was based on both ecological and genetic considerations and their locations and boundaries have not been finalized (Britten et al. 1997). The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Cumulative impacts**

The DPEIS fails to adequately analyze cumulative impacts because it merely notes the possible types of on-going and reasonably foreseeable projects and their sizes, but not their impacts on actual resources. Consider two examples:

⁸ Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

Desert tortoise and other special status species – The SEZ lies in the proposed Eastern Mojave Recovery Area for desert tortoise and contains suitable current desert tortoise habitat as modeled in the proposed recovery plan (USFWS 2008). As previously outlined, there are 14,070 acres encompassed in projects that have already been approved or that are in active NEPA analysis in the cumulative impacts analysis area for the Amargosa Valley SEZ. The SEZ estimates that it would add another 25,300 acres of development over a 20 year analysis horizon. Many if not all of these acres are within suitable desert tortoise habitat. Yet, nowhere in the DPEIS does the BLM analyze or disclose the potential impacts and effects of over 39,000 acres of habitat being destroyed with regards to the desert tortoise and other special status species associated with the habitat types in the affected area.

Groundwater withdrawals and special status species and their habitats — Despite having the data necessary to estimate the cumulative impacts of water use on groundwater-dependent species, BLM claims that “[i]mpacts of groundwater depletion from solar energy development in the Amargosa Valley SEZ cannot be quantified without identification of the cumulative amount of groundwater withdrawals needed to support development on the SEZ.” DPEIS 11.1-194. BLM has estimated low and high water demands for construction and operation within the SEZ (*see* DPEIS Tables 11.1.9.2-1 and 11.1.9.2-2) and is capable of estimating water demands of nearby projects (*see* Table 11.1.22.2-2) – BLM simply needed to incorporate this information into a regional groundwater model that could project the impacts of groundwater pumping on species habitats but failed to do so. *Compare* BLM, Amargosa Farm Road Solar Energy Project Final EIS (2010) at Chapter 4.4, Appendix B (utilizing Death Valley Regional Flow System Model to evaluate effects of pumping 400 afy on groundwater dependent species at Devil’s Hole and Ash Meadows). Failure to model these impacts renders BLM’s conclusion that “[t]he implementation of programmatic design features and complete avoidance or limitations of groundwater withdrawals from the regional groundwater system would reduce impacts on the groundwater-dependent species to small or negligible levels” unsupportable. DPEIS 11.1-194.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

The Amargosa River and its 100-year flood channel should be left undisturbed and buffered for wildlife and plant habitat, flood control and the preservation of hydrologic function. The same is true of the secondary wash that is tributary to the Amargosa River. In addition, these two exclusions would provide valuable wildlife movement corridors and a possible route for desert tortoise adaptation to climate change. An area to the north of the proposed SEZ and between the Amargosa River and Highway 95 could be considered as an addition to the SEZ.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Public Trust Resources.**

The DPEIS has not discussed the potential impacts of groundwater withdrawals on public lands and resources, particularly Ash Meadows National Wildlife Refuge, Devil's Hole, Amargosa Mesquite Trees ACEC and other protected and sensitive areas. Groundwater withdrawals may lower aquifer levels and spring discharge, adversely affecting the nearby wildlife refuges and their aquatic and riparian habitats. These refuges and surrounding lands and waters are habitat for several listed species and hundreds of migratory birds. The use of water as proposed under the alternative may interfere with water rights held by the Fish and Wildlife Service and the BLM specifically to protect these waters and water-related resources. BLM must evaluate the potential impacts to these public lands, their missions and their fish and wildlife.

- **Groundwater availability to support development.**

As correctly noted in the DPEIS, the Amargosa Desert Groundwater Basin is over appropriated, and water management is guided by a U.S. Supreme Court decision and several State Engineer Orders to protect the rare and imperiled species found at Ash Meadows and Devil's Hole. DPEIS p. 11.1-60. Under these rulings, the only groundwater option available to potential developers is to secure existing water rights and change the type of use and point of diversion. It is noteworthy that the DPEIS discloses the fact that the water level at Devil's Hole has been declining in the period of 1988-2004, presumably due to regional-scale groundwater withdrawals. DPEIS 11.1-332.

Given that the Amargosa Basin is over-appropriated (by 18,335 afy) and overdrafted (by 9,380 afy), it seems likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need 2,000 to 7,660 afy at 80% buildout of the SEZ, and non-cooled technologies requiring 144 to 1,438 afy at 80% buildout of the SEZ.

The BLM similarly glosses over the large amount of water needed during construction – up to 70% of the “available” perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project.

The BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above. Groundwater withdrawal impacts should be measured, such as requiring piezometers in test wells, and measuring phreatophyte die-off for the Amargosa Valley.

- **Amargosa River hydrology**

The Amargosa River runs through the central portion of this SEZ. The river originates in the mountains surrounding Beatty, NV, and after leaving the Oasis Valley the river flows only underground, except during floods, much of the way to its terminus at Bad Water in Death Valley National Park. A 17 mile stretch in California is again surface flow and has been designated as a Wild and Scenic River, and portions of its course have also been designated as BLM Areas of Critical Environmental Concern. This river is a major ecological and hydrological feature. Where flows are perennial, the river provides lush riparian and wetland habitats that support endemic and sensitive species such as the endangered Amargosa vole and the sensitive Amargosa toad. In the dry wash portions, the river provides habitat for endemic plants and animals, including the desert tortoise which frequently burrows into the wash's banks and caliche caves.

There is another major intermittent surface flow feature that runs inside the proposed SEZ's western and southern boundaries. This wash drains into the Amargosa River near the eastern SEZ boundary. Disruption of the above- and below-ground flows of this river system have the potential to negatively impact off-site features of concern.

- **Desert tortoise**

Project-specific surveys must be conducted, with full avoidance of tortoise habitat and travel corridors, fencing to protect tortoises from mortality, as well as on-site and off-site mitigation as needed. Translocation of individuals has proven to have limited success, and any translocation should follow the recommendations found in Section III, above.

- **Endemic dune beetles**

Special surveys should be undertaken by qualified entomologists for sand insect faunas across the SEZ, as some dune beetles are found on very small islands of sand and sand flats to the north and east of Big Dune, so potentially could be on the SEZ (Derham Giuliani, personal comm. 2010).

- **Sand transport corridor**

The Amargosa Valley SEZ has the potential to block winds that feed Big Dune sand from the Amargosa River source areas, as well as from other sources. A study should be included in the FPEIS to determine the nature and extent of sand transport corridors in Amargosa Valley, and what mitigation measures will be needed if a large fenced area will be places in such corridors.

Tall wind fences may be necessary to shield solar projects from blowing wind and sand. These should be modeled in visualizations and their visual impacts to recreationists in Death Valley National Park analyzed.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Through site specific design, there may be an opportunity to allocate a desert tortoise/wildlife movement corridor through the SEZ, at least partially eliminating the genetic and adaptation bottleneck that would exist if the entire area was made inhospitable or inaccessible to wildlife.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

vi. Corrections

The PDEIS fails to list Lathrop Wells and the Solar Demonstration Project on the Nevada National Security Site as “reasonably foreseeable future action” in Table 11.1.22.2-1, and treat them as such in its analysis.

B. Delamar Valley SEZ

i. Overview

The Delamar Valley SEZ is located southeastern Nevada in Lincoln County about 21 miles south of the proposed Dry Lake Valley North SEZ. The SEZ has a total area of 16,552 acres. Delamar Valley SEZ is isolated and undeveloped. The SEZ is located in Delamar Valley, a north trending closed basin within the Basin and Range physiographic province immediately south of Dry Lake Valley and lying between the South Pahroc Range to the west and the Delamar Mountains to the east and southeast. Land within the SEZ is undeveloped scrubland characteristic of a high-elevation, semiarid basin. The southern portion of this SEZ is a dry lakebed; it is unclear if the likelihood of blowing sands and seasonal flooding associated with the dry lakebed are compatible with some solar technologies.

The site is within the Delamar Valley groundwater basin which is geologically connected to Dry Lake Valley and other basins in the White River Carbonate Flow system. Flows from this system feed Pahrnagat National Wildlife Refuge and numerous springs along its course including Hiko, Crystal, Ash, Moapa Warm, Rogers and Blue Springs, all habitat for listed, candidate or sensitive desert fish, springsnails and other aquatic/riparian life.

The largest nearby town is Alamo, Nevada, about 11 miles to the west. The town of Caliente is 22 miles to the northeast and Panaca is located about 11 miles further north. Las Vegas lies about 90 miles to the south. The nearest major road access to the SEZ is via U.S. 93, which runs north-south, approximately 8 to 14 miles to the west of the Delamar Valley SEZ and also east-west, approximately 8 miles to the north of the SEZ. State Route 317 passes from the north to the south approximately 16 to 21 miles east of the SEZ. The nearest railroad stop is in Caliente and the Lincoln County Airport is located in Panaca. Future transmission needs can potentially be met with the Southwest Intertie/On Line/One Nevada transmission line that was approved in 2010 as a fast-track project. The SEZ has a 69 kV AC transmission line running north-south through it.

As of March 2010, there were two ROW applications for solar projects and one application for a wind project that would be located within 50 miles of the SEZ.

Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

None noted.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

We recommend that the BLM remove the southern end of the SEZ (from where Jumbo Wash enters the playa and south of there). As described in detail in Section III. G., the sensitive resources in this playa lake make it inappropriate for utility-scale solar development. The remaining more northern section of the SEZ can be retained and possibly expanded into the area immediately to the northeast, where fewer natural resource conflicts exist.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Public trust resources.**

The DPEIS has not discussed the potential impacts on public lands and resources, particularly Pahranaagat and Moapa Valley National Wildlife Refuges. Groundwater withdrawals may lower aquifer levels and spring discharge, adversely affecting the nearby wildlife refuges and their aquatic and riparian habitats. These refuges and surrounding lands and waters are habitat for several listed species and hundreds of migratory birds. The use of water as proposed under the alternative may interfere with water rights held by the Fish and Wildlife Service specifically to protect these waters and water-related resources. BLM must evaluate the potential impacts to these public lands, their missions and their fish and wildlife.

- **Species of concern.**

There are 49 special status species that could potentially be impacted by development within the SEZ, although very little habitat exists within the SEZ itself. Much of the SEZ is on a dry lakebed. It should be noted that bighorn migration corridors to the south between the Desert Refuge and the Delamar and Meadow Valley Ranges may be negatively affected by future transmission development associated with this site. We would like to work with the Nevada

Division Of Wildlife, USFWS, the BLM and other appropriate agencies to ensure landscape permeability for bighorn sheep as transmission development proceeds.

Because of the possible groundwater impacts within the White River Carbonate Flow System, several spring, riparian and aquatic species are of concern. The Hiko White River springfish, White River springfish, Pahrnagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher are all potentially impacted and currently protected under the ESA.

In addition, the Moapa pebblesnail, grated tryonia, Pahrnagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail are all species that have been petitioned for listing and awaiting a determination by the Fish and Wildlife Service.

The Pahrnagat Valley montane vole, Pahrnagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker are additional species of concern potentially impacted by groundwater withdrawals. The BLM should include in the FPEIS analysis of these potential impacts and measures to minimize or mitigate any such impacts.

- **Groundwater availability to support development.**

The Delamar groundwater basin is fully appropriated. Until the BLM performs an analysis of water use requirements using the correct figures for perennial yield and existing and permitted use, neither the BLM nor the reader can make an informed decision regarding the appropriate level of development of the feasibility of solar technologies in this SEZ.

Using, for example, the BLM's assumptions regarding water availability in Delamar Valley, the limited and almost completely allocated perennial yield for this basin (2,550 afy, 50 afy unallocated), makes it likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant advances to cooling technologies and associated water requirements occur and assuming water could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need between 1,046 to 4,009 afy at 80% buildout of the SEZ and non-cooled technologies requiring 76 to 752 afy at 80% buildout of the SEZ.

The BLM also fails to look critically at the water needs at each stage of solar development. While we agree that PV is the preferred technology in this valley the assumed perennial yield will not support the peak construction year water needs for PV for concurrent construction of multiple projects. *See* DPEIS Table 11.2.9.2-1 (requiring 2,743 afy versus 2,550 afy yield). In fact, the assumed perennial yield is not sufficient to supply *any* technology during the peak construction year, except for parabolic trough, but the DPEIS fails to recognize this. *Compare* DPEIS 11.2-63 (“The availability of groundwater and the potential impacts of groundwater withdrawal would need to be assessed during the site characterization phase.”). The FPEIS should include analysis of whether there is enough water to support construction during peak construction year, and to support construction and operations simultaneously.

Using the DPEIS's more generous assumptions regarding perennial yield (with which we disagree, see below), regardless of the technology employed a developer would have to negotiate with SNWA and NDWR; even if only PV systems are constructed in the SEZ there still is not enough water within the unallocated perennial yield for just their operation. Compare DPEIS Table 11.2.9.2-2 (requiring 76 afy versus 50 afy unallocated yield). Moreover, while BLM may conclude – despite failing to perform the analysis above – that PV is the preferred technology for this SEZ, there is nothing in the General or SEZ-specific design features committing to this preference. BLM must revise its analysis to reflect the proper baseline, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above.

- **BLM's unreasoned assumptions regarding groundwater availability in Delamar Valley.**

BLM must revise its assumptions and resultant analysis regarding water use and water rights management, *see, e.g.*, DPEIS 11.2-60—61, 11.2-65, 11.2-67, 11.2-336, to clarify that Ruling 5875 has been vacated and that the perennial yield newly established in Ruling 5875 and water rights granted to SNWA are also vacated. As a result, the DPEIS baseline analysis should reflect that the basin is already fully appropriated. *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009), slip op. at 5 (citing Ruling 5875) (“all water rights previously available in [Delamar basin] had already been fully appropriated”).⁹ BLM also assumes, without justification, that even if these water rights were valid, that developers would be able to secure a significant portion of those rights for solar energy development.

- **DPEIS fails to consider impacts to all potentially affected groundwater-dependent species and groundwater-supported habitats.**

In its scoping comments regarding the proposed Delamar Valley SEZ, FWS expressed concern that groundwater withdrawals may reduce the regional groundwater supply that supports spring-fed aquatic habitats in the SEZ region, including habitats in the White River, Pahrnagat, and Moapa Valleys. BLM relies on discussion in Section 11.2.9.2 to omit consideration of impacts to special status species in the Moapa Valley – i.e., Moapa pebblesnail, Moapa Valley springsnail, Moapa Warm Spring riffle beetle, Big Spring spinedace, Moapa dace, Moapa speckled dace, Moapa White River springfish, Pahrump poolfish, Railroad Valley springfish, and White River spinedace). DPEIS 11.2-138 (claiming section 11.2.9.2 demonstrates that groundwater in the Delamar Valley is not a major contributor to the far northern or far southern extents of the White River Valley regional groundwater system). BLM has not responded to the valid concerns of its sister agency – section 11.2.9.2 makes no such analysis.

⁹ Two separate challenges were brought to Ruling 5875, and the district court vacated and remanded the ruling back to the NSE. *See Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009); Ruling 5875 (vacated Oct. 19, 2009), available at <http://images.water.nv.gov/images/rulings/5875r.pdf>. The Nevada Supreme Court dismissed appeals as rendered moot by *GBWN v. Taylor. SNWA et al. v. Carter-Griffin*, No. 54986 (Sept. 13, 2010). In *GBWN v. Taylor*, 234 P.2d 912 (Nev. 2010), the Nevada Supreme Court reversed the order of the district court and directed the State Engineer to re-notice the applications in Cave, Dry Lake and Delamar Valleys and re-open the protest period.

In fact, in protesting the very SNWA applications again pending before the State Engineer, BLM was concerned that pumping in Dry Lake Valley would impact (via flow reduction) Delamar Valley. The loss of interbasin flow would impact special status species in Pahrnagat Valley and ultimately in the Muddy River Springs Area. —An adverse impact on the stream, lakes and contributing springs in Pahrnagat Valley, as well as the Muddy River Springs Area could result in a reduction of associated riparian vegetation which, in turn, may impact those endangered and candidate species previously discussed.” See, e.g., In the Matter of Application Number 53989, available at

http://water.nv.gov/hearings/Dry_Cave_Delamar%20hearings/SNWA/Volume_1/211/211_U.S.%20Department%20of%20the%20Interior.pdf. The BLM should analyze potential impacts to all potentially affected groundwater-dependent species and groundwater-supported habitats in the FPEIS, and include measures to avoid or minimize those impacts.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Avoidance of the southern end of Delamar Dry Lake, Jumbo Wash and other intermittent water courses would minimize impacts to wildlife and sensitive plants. The Joshua tree habitat along the north portion of the SEZ should be avoided.
- The SWIP Transmission line corridor, oriented in an approximate north-south direction, is situated in the approximate middle of the SEZ. The SWIP is currently under construction and will dramatically add transmission capacity along its route. Although the SWIP will add cumulative impacts to the area, it is likely that the construction of the SWIP will make other new transmission construction unnecessary to support this SEZ designation. The Valley Electric Association owns the existing 138-kV transmission that runs parallel to U.S. 95 adjacent to the SEZ.
- The proximity of US 95 and a wide graded dirt road for transmission Right-of-way provides access to the SEZ. The graded road is maintained regularly by Lincoln County.
- Given the very limited water resources available in this area, and pending a revised baseline analysis by BLM, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the standards set out in Section III.

vi. Corrections

Although there is an existing 69-kV transmission line passing through the SEZ, the SWIP line, now under construction will add capacity to 500 kV in its first phase of development.

The BLM will be issuing a Notice of Intent for Wilson/Table Mountain Wind project before the FPEIS is complete. This project, if completed, is within 50 miles of the Delamar Valley and should be added to the cumulative effects table of other renewable energy projects.

The DPEIS fails to list as Special Status Species in the SEZ region the following: Moapa dace, Virgin River chub, woundfin, Moapa pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail, Pahrangat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker.

C. Dry Lake SEZ

i. Overview

The proposed Dry Lake SEZ is located in Clark County in southern Nevada. The SEZ has a total area of 15,649 acres. The proposed Dry Lake SEZ is in an undeveloped rural area that has seen impacts from the nearby city of Las Vegas. The SEZ is located in Dry Lake Valley and is bounded on the west by the Arrow Canyon Range and on the southeast by the Dry Lake Range. The Las Vegas Valley is located approximately 10 miles south. The towns of Moapa and Overton are as close as 18 miles northeast and 23 miles east of the SEZ, respectively. The Nellis Air Force Base is located approximately 13 miles southwest of the SEZ. The nearest major roads accessing the proposed Dry Lake SEZ are I-15, which passes through the southeastern portion of the SEZ, and U.S. 93, which runs from northwest to southeast along part of the southwest border of the SEZ. Three designated transmission corridors that are heavily developed with numerous natural gas, petroleum products, and electric transmission lines (including a 500-kV transmission line) pass through the proposed SEZ. It is assumed that the existing 500-kV transmission line, or any of the other existing transmission lines, could potentially provide access from the SEZ to the transmission grid.

The SEZ lies within the Northeastern Recovery Unit for the desert tortoise and partially covers occupied habitat.

There are four foreseeable and sixteen pending solar development applications and one foreseeable and nine pending wind site testing applications within a 50-mile radius of the proposed Dry Lake SEZ. Five of the 16 pending solar applications are either within or adjacent to the SEZ, as is one of the wind site testing applications.

While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- Cumulative impacts**

Due to the number of cumulative effects from renewable energy projects, transmission, and the Apex Industrial area to the south, there are significant cumulative impacts in the region.

However, given the proximity of a large urban area and existing transportation and transmission infrastructure, we believe that with some boundary adjustments, this is a good location for a SEZ.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

We recommend moving the boundaries to fully exclude the ecological boundaries of the Dry Lake playa, which are readily observable through soil and vegetation changes on-the ground. Further, the series of rugged and jumbled washes flowing southwest to northeast into the playa, near the SEZ's north boundary, should be excluded for wildlife concerns such as providing animal movement corridors and for hydrological concerns such as retaining this component of the playas natural processes. We also feel that the original SEZ boundary errs in containing an area that is heavily developed with existing transmission lines and a mineral plant along the Interstate in the SEZ's southeast corner. This area is also important for animal movement and is also primarily a wash important to the playa's ecological health. Further, as currently drawn, the SEZ could impact a National Register-listed site associated with the Old Spanish NHT, and the SEZ comes close to the trail itself. In addition to the boundary adjustments recommended above, we recommend removing the portion of the SEZ that is southeast of Interstate 15 to avoid impacts to these sites. If desired, the SEZ boundary may be able to be extended in the northeastern corner towards the existing substation.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of concern**

Potentially suitable habitat for 62 special status species occurs in the affected area of the Dry Lake SEZ. For all of these special status species, less than 1% of the potentially suitable habitat in the region occurs in the area of direct effects. There are 13 groundwater dependent species that occur outside of the areas of direct and indirect effects. Potential impacts on these species could range from small to large depending on the solar energy technology deployed, the scale of development within the SEZ, and the cumulative rate of groundwater withdrawals.

More than 25 reptile species occur within the area that encompasses the proposed Dry Lake SEZ. The desert tortoise is a federal and state listed threatened species. This SEZ has desert tortoise and rosy two-tone beardtongue from the NNHP data. Several intersections occur with NDOW mapped movement corridors for desert bighorn sheep, but wildlife corridors are supposed to be excluded in SEZ designation. Adjustments should be made to exclude those corridors. The NDOW data shows the presence of the banded Gila monster, common chuckwalla, desert horned lizard, desert night lizard, LeConte's thrasher, longnosed leopard lizard, sage sparrow and western banded gecko. The proximity to Las Vegas and existing transmission development in the

area make this one of the more heavily inventoried SEZs in Nevada; it also makes this an area that has seen impacts from exurban activities that are damaging to the quality of wildlife habitats (an example of cumulative impacts). Because rocky outcrops are high-quality habitat for many of the lizard species of conservation concern and because solar energy construction may require the removal these large boulders, we recommend the BLM explicitly exclude rock outcrops from the SEZ. The area also shows high biodiversity potential, typical of much of the Mojave Desert. Our proposed boundary change addresses these species concerns in the southern portion of this SEZ and will minimize impacts to wildlife habitat.

- **Groundwater availability to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Garnet groundwater basin underlying this SEZ. The perennial yield for this basin is estimated at 400 afy; both permitted water rights (approximately 3,400 afy) and current use (797 to 1,558 afy) exceed the perennial yield. In 2002, the State Engineer issued Order 1169 stating that new applications for water in the carbonate-rock aquifer systems within Garnet Valley (and surrounding basins) would be suspended to allow further study of the system. The water needs for existing cooling technologies exceed the perennial yield – we agree that currently wet and dry-cooled technologies are not feasible in this basin. Unless and until cooling technologies and associated water use requirements change, it appears that only non-cooled technologies requiring 71 to 711 afy would likely be feasible.¹⁰

BLM’s feasibility analysis, however, glosses over the large amount of water needed during construction – up to six to eight times the perennial yield – in a peak construction year. *See* DPEIS 11.3-59 (“The availability of groundwater, groundwater rights, and the impacts of groundwater withdrawal would need to be assessed during the site characterization phase of a solar development project.”). The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. BLM must revise its analysis, scale back the peak construction year and full build out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the recommendations in Section III above.

¹⁰ The BLM and the FPEIS should consider the implications of the Nevada State Engineer’s permitting of water use for dry-cooled power plants rather than wet-cooled plants, because the plants were to use “water efficient, air-cooled technology” for “realistic power generation projects.” State Engineer Ruling No. 5008 (March 20, 2001) at p.24-25, 40, available at <http://images.water.nv.gov/images/rulings/5008r.pdf>. A year later, in a neighboring basin, the Nevada State Engineer considered water rights applications for which a potential use was a water-cooled power plant. However, as the State Engineer recognized, “Technology is available, which can produce significant amounts of electricity using air-cooled systems. This technology uses significantly less quantities of water. . . . The State Engineer . . . does not believe it is prudent to use substantial quantities of newly appropriated ground water for water-cooled power plants in one of the driest places in the nation, particularly with the uncertainty as to what quantity of water is available from the resource, if any.” State Engineer Ruling No. 5115 (April 18, 2002) at p.25, available at <http://images.water.nv.gov/images/rulings/5115r.pdf>.

In the FPEIS, the BLM should conduct a critical analysis of the water availability situation in the Garnet Valley basin and disclose it to decision makers, developers and the interested public. Groundwater withdrawal impacts should be measured, such as requiring piezometers in test wells, and measuring phreatophyte die-off for the Dry Lake Valley.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- With a boundary adjustment discussed below, avoidance of Bighorn sheep and reptiles species can be accomplished.
- Avoidance of the playa wetlands of Dry Lake will limit impacts to species there.
- Proximity to transmission, transportation and a large metropolitan area decrease disturbance and transmission costs.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations set out in Section III.

vi. Corrections

The DPEIS fails to mention or include in its effects analysis the K Road Moapa proposed solar project. This project is located on tribal lands of the Moapa Band of Paiute Indians, and is immediately north of the Dry Lake SEZ. It is envisioned to be a photovoltaic field 2,000 acres in size and would provide up to 350 MW of energy. Some of the concerns that should be addressed are cumulative impacts to desert tortoise and other species, groundwater availability and coordination of projects to minimize impacts.

D. Dry Lake Valley North SEZ

i. Overview

The Dry Lake Valley North SEZ is located in Lincoln County in southeastern Nevada. The SEZ has a total area of 76,874 acres. The SEZ is located in the Dry Lake Valley, Lincoln County and is bounded by mountain ranges on the east and west. The North Pahroc Range is situated about 6 miles west of the SEZ, and the West Range, Bristol Range, Highland Range, Ely Springs Range, Black Canyon Range, and Burnt Springs Range occur east of the SEZ. No permanent surface water sources occur in the proposed SEZ. Vegetation is generally sparse, with large areas of low grasses and low-height scrubland. The closest population centers to the SEZ are Pioche, located about 15 miles to the east, and Caliente, located about 15 miles to the southeast; both communities have populations of about 1,000. The smaller communities of Caselton and Prince are located about 13 miles to the east of the SEZ. Las Vegas is located about 110 miles to the south. The nearest major road to the Dry Lake Valley North SEZ is State Route 318, which is about 7 miles to the west of the SEZ, while U.S. 93 is about 8 miles to the south. Access to the interior of the SEZ is by dirt roads. The nearest railroad access is approximately 25 miles away, while nearby airports include Lincoln County Airport in Panaca and Alamo Landing Field in

Alamo, which are located about 13 miles south–southeast of and 35 miles southwest of the SEZ, respectively.

The site is within the Dry Lake Valley groundwater basin which is geologically connected to Delamar Valley and other basins in the White River Carbonate Flow system. Flows from this system feed Pahranaagat National Wildlife Refuge and numerous springs along its course including Hiko, Crystal, Ash, Moapa Warm, Rogers and Blue springs, all habitat for listed, candidate or sensitive desert fish, springsnails and other aquatic/riparian life.

There is an existing 69 kV transmission line that intersects the southeast corner of the sEZ. Currently there is one pending solar application and eight wind applications in various stages of approval on public lands within 50 miles of the SEZ, which represent additional potential developments. In addition, several new electric transmission projects and a groundwater transfer pipeline project represent foreseeable developments that would pass through or near the proposed SEZ.

While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

None noted.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

We recommend moving the boundaries to avoid important wildlife habitat and other sensitive natural resources, including habitat for Desert Kangaroo mouse, desert horned lizard and burrowing owl, as well as Eastwood milkweed. The enclosed map, Attachment 3 shows a consensus zone in blue that was used in legislation introduced in 2010 in the American Solar Energy Pilot Leasing Act by Senator Harry Reid and Congressman Dean Heller. We support this area as a Dry Lake Valley North Solar Energy Zone.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

The Dry Lake Valley Basin is fully appropriated. Until the BLM performs an analysis of water use requirements using the correct figures for perennial yield and existing and permitted use,

neither BLM nor the reader can make an informed decision regarding the appropriate level of development of the feasibility of solar technologies in this SEZ.

Using, for example, BLM's assumptions regarding water availability in Dry Lake Valley, the limited and almost completely allocated perennial yield for this basin (12,700 afy, 50 afy unallocated), makes it likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming the bulk of any water used could be acquired from existing water rights holders. Wet-cooling technologies are deemed infeasible in the DPEIS, but dry-cooled technologies are not, needing 4,858 to 18,616 afy for 80% buildout of the SEZ. Non-cooled or scaled back dry-cooled projects appear most realistic.

The BLM fails to look critically at the water needs at each stage of solar development. The DPEIS does not take a hard look at whether there is enough water to support construction and operation simultaneously.

Though the ratio of operational water requirements for dry-cooled technologies to assumed perennial yield is similar to that of the Delamar Valley SEZ – commanding from 33% to 150% of perennial yield – the DPEIS does not express the same preference for technologies that do not require water for cooling. BLM must revise its analysis to reflect the proper baseline, scale back the peak construction year and full build out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above.

- **BLM's unreasoned assumptions regarding groundwater availability in Dry Lake Valley**

BLM must revise its assumptions and resultant analysis regarding water use and water rights management, *see, e.g.*, DPEIS 11.4-63, 11.4-67, to clarify that Ruling 5875 has been vacated and that the perennial yield newly established in Ruling 5875 and water rights granted to SNWA are also vacated. As a result, the DPEIS baseline analysis should reflect that the basin is already fully appropriated. *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009), slip op. at 5 (citing Ruling 5875) (“all water rights previously available in [Dry Lake Valley basin] had already been fully appropriated”).¹¹

¹¹ Two separate challenges were brought to Ruling 5875, and the district court vacated and remanded the ruling back to the NSE. See *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009); Ruling 5875 (vacated Oct. 19, 2009), available at <http://images.water.nv.gov/images/rulings/5875r.pdf>. The Nevada Supreme Court dismissed appeals as rendered moot by *GBWN v. Taylor*. *SNWA et al. v. Carter-Griffin*, No. 54986 (Sept. 13, 2010). In *GBWN v. Taylor*, 234 P.2d 912 (Nev. 2010), the Nevada Supreme Court reversed the order of the district court and directed the State Engineer to re-notice the applications in Cave, Dry Lake and Delamar Valleys and re-open the protest period. Moreover, any agreement by SNWA to “commit 1,500 ac-ft/yr (1.9 million m³/yr) of those water rights to Lincoln County for use,” DPEIS 11.4-63, has been called into question by the state engineer through his finding that the place of use for SNWA's applications was restricted to Clark County. See Ruling 5875 (vacated on other grounds, Oct. 19, 2009), at 7-8.

- **Species of concern**

Because of the possible groundwater impacts within the White River Carbonate Flow System, several spring, riparian and aquatic species are of concern. The Hiko White River springfish, White River springfish, Pahrnagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher are all potentially impacted and currently protected under the ESA.

In addition, the Moapa pebblesnail, grated tryonia, Pahrnagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail are all species that have been petitioned for listing and awaiting a determination by the Fish and Wildlife Service.

The Pahrnagat Valley montane vole, Pahrnagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker are additional species of concern potentially impacted by groundwater withdrawals. The BLM should include in the FPEIS analysis of these potential impacts and measures to minimize or mitigate any such impacts.

Twenty-two special status animal species could be affected by solar energy development on the SEZ. A total of 21 BLM-designated sensitive species may occur in the affected area of the Dry Lake Valley North SEZ or may be affected by solar energy development on the SEZ. Eastwood milkweed appears in the NNHP dataset for the area and should be avoided. The Desert Valley kangaroo mouse, desert horned lizard and burrowing owl are present based on the NDOW data. Burrowing owl colonies and Desert Valley kangaroo mice areas should also be avoided.

The Desert Valley kangaroo mouse has been well-studied by mammalogist John Hafner of Occidental College. His collections and genetic analysis have shown that this is a biological species with limited distribution in only several valleys in eastern Nevada and western Utah. A manuscript is currently under scientific peer-review to provide support for this species designation. Because of their limited distribution, this species and its habitats need to be avoided. Our recommended boundary avoids these habitats to minimize impacts to the species.

We are happy to provide map data to the BLM under separate cover. Overall, this site has numerous roads and a relatively high incidence of annual grass invasion along the east based on modeling of annual grasses for Nevada by NNHP. The prevalence of several rare or important species warrants careful monitoring of impacts from development and significant adjustments to the proposed zone, as recommended above.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- With a boundary adjustment discussed above, impacts to unique wildlife species can be minimized or avoided.
- Proximity to transmission and transportation decrease disturbance and transmission costs.

- It would appear that existing roads or transmission access and maintenance roads could be utilized instead of the proposed new road shown on Figure 11.4.1.1-1 to avoid unnecessary disturbance, fragmentation and destruction of native wildlands.
- Given the very limited water resources available in this area, and pending a revised baseline analysis by BLM, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the standards set out in Section III.

vi. Corrections

Although there is an existing 69-kV transmission line passing through the SEZ, the SWIP line, now under construction will add capacity to 500 kV in its first phase of development.

The BLM will be issuing a Notice of Intent for Wilson/Table Mountain Wild project before the Final Solar EIS is complete. This project if completed is within 50 miles of the Delamar Valley and should be added to the cumulative effects table of other renewable energy projects.

The DPEIS fails to list as Special Status Species within the 50 mile SEZ region the following: Hiko White River springfish, White River springfish, Pahranaagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher, Moapa pebblesnail, grated tryonia, Pahranaagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail, Pahranaagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker.

E. East Mormon Mountain SEZ

i. Overview

The East Mormon Mountain SEZ straddles Toquop Wash just to the east of East Mormon Mountain; it is just north of the Clark and Lincoln County border. The SEZ borders the Mormon Mountain Wilderness Area. The locale is currently pristine and remote with poor access. No other renewable energy projects are in immediate proximity to this site. The area was previously identified as a site for a coal-fired power plant. The SEZ is located in the Tule Desert groundwater basin of the Lower Virgin River basin, the flows from which terminate at the Virgin River and at major regional carbonate springs in Lake Mead National Recreation Area. Soil wind erosion potential is moderate. The SEZ immediately borders both the Mormon Mesa and Beaver Dam Slope desert tortoise critical habitat areas, and itself is of high habitat suitability. There are three existing transmission lines within 0.5 miles of the southeastern corner of the SEZ, a 345 kV AC line, a 500 kV AC line, and a DC line.

Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

It is likely that the SEZ, due to its unburned status, provides better habitat for desert tortoise than adjacent burned areas that are currently designated as critical habitat. Consultation with the U.S. Fish and Wildlife Service for desert tortoise should include consideration of whether it would confer more protection to the species to shift the location of the SEZ to this nearby burned area, re-designating the current proposed SEZ site as replacement critical habitat.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Lower Virgin River Valley groundwater basin underlying this SEZ. The perennial yield for this basin is estimated at 3,600 afy; both permitted water rights (approximately 12,348 afy) and current use (7,460 afy) exceed the perennial yield. The area is also closed to new appropriations of surface water. The Tule Desert Hydrographic Basin is even more restricted, with State Engineer Order 5181 setting the perennial yield at 2,100 afy pending further study. Also with respect to groundwater availability, it must be noted that there are already applications filed for 185,000 afy by other interests.

Given that the basin is over-appropriated and overused, it seems likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, DPEIS 11.5-61, the DPEIS leaves the door open for dry-cooled technologies which would need 567 to 2,172 afy for 80% buildout and non-cooled technologies requiring 41 to 408 afy for 80% buildout would seem to be likely feasible.

BLM similarly glosses over the large amount of water needed during construction – almost half of the perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. In the FPEIS, the BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Impacts on desert tortoise**

The East Mormon Mountain SEZ lies in the Northeastern Mojave Recovery Unit and directly borders both the Mormon Mesa and Beaver Dam Slopes critical habitat units (USFWS 2008).

These units were severely impacted by wildfires in 2005 and, where burned, offer only marginal quality habitat. The location of the SEZ is unburned and considered highly suited for tortoises. If developed, the SEZ would no longer provide tortoise habitat.

Aside from the direct impacts of the SEZ on tortoise habitat, the proposed access road is also of concern. This road, leading north from I-15, bisects high quality desert tortoise habitat in the Mormon Mesa critical habitat unit, destroying and fragmenting habitat and increasing the risk of injury or death to tortoises from direct and indirect mortality. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Impacts on rare desert plants**

The gypsum-rich soils found along Toquop Wash provide specialized habitats for rare desert plants. The Las Vegas buckwheat and three-cornered milkvetch are two which are included in Table 11.5.12.1-1 that lists plants that may be found in the vicinity of the SEZ. A third that does not appear in the table is sticky ringstem. Sticky ringstem is a gypsophile that is known from populations in northeastern Clark County, including one from nearby Moapa, Nevada.

The Las Vegas buckwheat is a species found to be warranted for listing under the Endangered Species Act but precluded by higher priority species. The other two species are BLM special status species and are also “Covered Species” in the Clark County Multiple Species Habitat Conservation Plan. In 2007, Clark County commissioned a report on the status of low elevation rare plants which included the sticky ringstem and three-cornered milkvetch (TNC 2007). In that report, the sticky ringstem was given a “high” overall threat rank and the three-cornered milkvetch a “very high” ranking.

Land clearing and grading, both for the site and the roadway, would destroy any plants and habitats in the affected area, thereby increasing their local extirpation and overall risk for extinction. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Destruction of surface hydrologic function**

As noted in the DPEIS, the East Mormon Mountain SEZ is located on an extensive alluvial fan, containing many ephemeral drainages and two major incised washes. Several million cubic meters of runoff is conveyed through the system annually.

The clearing and grading associated with solar development of this site could effectively destroy the current ecological and hydrologic function of the Toquop Wash watershed – not just on the site but above and below the site as well.

Desert washes such as those found on the SEZ are well known to provide important habitat for wildlife, including desert tortoises that often burrow into the caliche caves associated with the washes. Other wildlife use washes as travel routes across their territories.

Rare plant surveys for the species mentioned below should be conducted with the intent of identifying areas with suitable soil and conditions to support these species. Proactive avoidance of these areas is the best strategy.

As suggested in the DPEIS, the BLM should not develop in Toquop or South Fork Toquop Washes. Other major ephemeral washes within the SEZ should also be excluded from disturbance. This will preserve ecologic and hydrologic function, protecting desert tortoises and other wildlife and rare plant species while minimizing development costs related to grading and hydrology.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- The BLM should require that any developer construct the proposed new access road with designed wildlife underpasses and tortoise exclusionary fencing along the right-of-way boundary. Development in East Mormon Mountain should be used as a means to develop more effective mitigation for tortoise mortality.
- There is the opportunity for the BLM to require offsite mitigation from the developer to benefit desert tortoises, rare plants and other special status species found in the SEZ.
- There is the opportunity for the BLM to coordinate the needs for transmission of the East Mormon Mountain SEZ in the analysis and design of the TransWest Express transmission line proposal.
- Given the very limited water resources available in this area and because the aquifer is in a state of overdraft, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

vi. Corrections

- Sticky ringstem (*Anulocaulis leiosolenus var leiosolenus*) should be added to the list of rare plants that may occur in the project area and that should be included in any rare plant surveys.
- The DPEIS characterizes the SEZ as being in the Lower Virgin River groundwater basin; while correct at a large, landscape-scale, it is more precise to state that the SEZ is in the Tule Desert groundwater basin.
- The DPEIS is mute with regards to the development of the nearby lands conveyed to private ownership in the Lincoln County Lands Act. This development should be considered in the cumulative impacts analysis, particularly with reference to groundwater availability and impacts to desert tortoises.

F. Gold Point SEZ

i. Overview

The Gold Point SEZ, totaling an area of 4,810 acres (19 km²), is located in upper Lida Valley, a closed intermontane basin lying between MacGruder Mountain and Slate Ridge. The Gold Point SEZ is in the Lida Valley groundwater basin. While lying on the northwestern edge of the Death Valley Regional Flow System, Lida Valley basin has little carbonate rock so its recharge is basin-fill, almost totally from the precipitation in the surrounding mountains. The perennial yield of this groundwater basin is set at 350 acre feet/year, with usage rights totaling 76 acre feet/year.

The locale is currently pristine and remote from load centers, and a new transmission line would be needed to provide access from the SEZ to the transmission grid.

No other active renewable energy projects are in the immediate proximity to this site.

Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

None noted.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support solar development**

The perennial yield of Lida Basin is 350 afy. Water requirements for dust suppression and potable water supply during construction could be as high as 1,707 afy for the peak construction year. The total water use estimates for the peak construction year are on the order of 3 to 5 times greater than the perennial yield of the Lida Valley groundwater basin. Wet cooling is not feasible, and while water usage for dry cooling systems would be as high as 1,166 afy, about 3 times the perennial yield, BLM believes it to be feasible although it is ~~d~~ doubtful that a full build-out scenario using dry-cooling technologies could be supported with the available groundwater supplies." DPEIS 11.6-58.

BLM should revise its analysis to scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Surface Hydrology**

No studies have been undertaken in the area. The BLM should include in the FPEIS a study of the flood potential of the unnamed wash that bisects the SEZ. The BLM should also include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Pronghorn antelope**

A significant pronghorn antelope herd lives permanently in Lida Basin, and antelope are frequently seen on the proposed SEZ. Disturbance during dry seasons could interfere with antelope seeking scarce green foraging resources and spring areas. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Unique Mojave-Great Basin transition zone**

Some of the northernmost Joshua trees inhabit Lida Basin, and this habitat should be preserved and not fragmented. As currently envisioned, the SEZ avoids the core Joshua Tree habitat area. This area is unstudied for rare plants and surveys should be thorough, covering more than one year and including both spring and late summer-fall surveys, as summer rains may account for species not detectable in spring.

- **Transmission corridor**

The assumed new transmission corridor would cross extremely dense Joshua tree woodland and scenic remote BLM areas used for hiking, camping, and other recreational activities, as well as potentially impact the historic mining town of Goldfield. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- There seems to be an opportunity to run the needed transmission line along highways 266 and 95, thereby sparing the bisection and fragmentation of desert habitats along the proposed route.
- The project design could take into considerations to provide antelope access to forage and water, and construction schedules outside the dry periods when antelope access is most critical.

- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

vi. Corrections

- Add Great Basin spadefoot (*Scaphiopus intermontanus*) and Pacific rattlesnake (*Crotalus viridis lutosus*) as potential species occurring in SEZ area.

G. Millers SEZ

i. Overview

Millers SEZ is located north of U.S. 95/U.S. 6, which runs east–west along its southern border. The SEZ is in the southeast end of the Big Smoky Valley, in an area known as Tonopah Flat, and is surrounded by Lone Mountain to the south, the Monte Cristo Range to the west, and the San Antonio Mountains to the east. Three intermittent streams run into Millers SEZ: Ione Wash, Peavine Creek, and an unnamed wash. Slime Wash is also close, ending 3 miles east of the SEZ. Several springs also occur in the vicinity of Millers SEZ. Wetlands in Millers SEZ exist along the southern and southwestern border. Floodplains have not been mapped for Millers SEZ and vicinity, but aerial surveys suggest that 2000 acres (12%) of the total SEZ area may be in a 100 year floodplain.

The SEZ lies in the Tonopah Flat groundwater basin, which is designated as over-appropriated by the State Engineer. This is a designated basin according to NDWR Orders 725 and 827; municipal and domestic water are the preferred beneficial uses.¹²

Two transmission lines run through the SEZ, a 120 kV and a 55 kV line. There is also a 120 kV and a 55 kV line running adjacent to the SEZ, 0.2 miles from the southeast corner. One solar project in the immediate area has been approved: the Crescent Dunes project is located 3 miles northeast. There is also a pending application (NVN 086548) 19.5 miles southeast and several closed applications north and south of the SEZ, all indicating a fairly strong interest in developing this area for solar power despite water limitations. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Cumulative effects**

¹² <http://images.water.nv.gov/images/orders/725o.pdf> ; and, <http://images.water.nv.gov/images/orders/725o.pdf>

Sand dunes exist to the southwest and northeast of the SEZ, and depending on how and where build-out of Millers SEZ occurs it could affect sand transport between these areas, if sand transport is occurring. Vegetation communities in and around Millers SEZ associated with playa washes, greasewood flats, or other intermittently flooded areas that are downgradient from solar development could also be affected by widespread ground disturbance. The Tecopa bird's-beak is an imperiled plant found in alkali meadows and is down hydrologic gradient from the proposed SEZ and could be impacted by groundwater withdrawals and/or changes to surface hydrology. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

iii. Recommended boundary adjustments

Insufficient information is available about the locations of sensitive areas within the SEZ to suggest adjustments; avoidance would likely need to occur at the project level after project-specific surveys are completed (unless additional surveys are performed by BLM prior to SEZ development).

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special status species and other species of concern**

Candelaria blazingstar could occur within Millers SEZ (it is known to occur east of the SEZ) and might be affected by project development; clearance surveys for this species would be required. USFWS coordination would be required for two federal candidate species: Crescent Dunes aegialian scarab beetle and Crescent Dunes serican scarab beetle. Although these two species do not have habitat onsite, they could experience cumulative impacts from SEZ development and associated disruption of sand transport systems between unstabilized dunes offsite (this could also affect Nevada dune beardtongue, a BLM sensitive plant). The stabilized dune habitat that does exist within the SEZ provides habitat for small mammal and invertebrate species as well, and should be avoided when siting projects. The Tecopa bird's-beak is a special status species known from only ten locations in California and Nevada. Its habitat is alkali meadows, and it is considered to be "globally imperiled". It is found down hydrologic gradient from the proposed SEZ. Wong's pyrig is a springsnail, also considered to be "globally imperiled," that occurs down hydrologic gradient from the SEZ. Nelson's bighorn sheep could use the valley to migrate between habitats, and this could also be compromised if large areas were developed. Avoidance of direct and indirect impacts to all these species must be addressed adequately at the project-specific level.

- **Millers Rest Stop**

This area is important as a spring and fall migration stopover site for a range of bird species due to the availability of water and non-native vegetation. It is likely that avoidance of this vicinity

when siting projects would be sufficient to mitigate impacts; careful consideration of the appropriate buffer distance to avoid of impacts to avian species is needed.

- **Groundwater availability to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Tonopah Flat Basin underlying this SEZ. The perennial yield for this basin is estimated at 6,000 afy; permitted water rights (approximately 19,588 afy) exceed perennial yield and the current rate of groundwater pumping is unknown. Given the limited amount of water available in the basin, it seems likely that only dry-cooled or non-cooled projects may be feasible, and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need 1,067 to 4,067 afy for 80% buildout and non-cooled technologies requiring 77 to 763 afy for 80% buildout.

BLM also glosses over the large amount of water needed during construction – almost half of the perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. In the FPEIS, the BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Road configuration and soil**

Soils within the SEZ are also prone to rutting, and roads should be configured and developed to minimize impacts related to rutting and erosion.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Avoidance of wash, playa, and stabilized dune habitats would minimize or eliminate impacts to amphibian, reptile, bird, and small mammal species, as well as to many cultural resources.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.
- Since this site is adjacent to U.S. 95/U.S. 6, access to the site would require minimal ground disturbance. The proximity of existing transmission lines also raise the possibility of using existing capacity on those lines instead of building new lines.

vi. Corrections

The Tecopa bird's-beak and Wong's pyrig are not listed as a Special Status Species in the DPEIS and should be included in Section 11.7.12.

Thank you for your thorough consideration of these comments.

Sincerely,

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Attachments

- Attachment 1 – Desert Siting Criteria
- Attachment 2 – GIS Data for Citizen Inventoried Lands with Wilderness Characteristics
- Attachment 3 – Map of Recommended Boundary for Dry Lake Valley North SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11718.

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Comment ID: SolarD11718

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Attachment: Solar DPEIS Comments - New Mexico Final (TWS and partners 4-18-11).pdf

Comment Submitted:

April 18th, 2011

Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).

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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, New Mexico Wilderness Alliance, Defenders of Wildlife, Audubon New Mexico, Gila Resources Information Project, Gila Conservation Coalition, Western Environmental Law Center, Southwest Environmental Center, Upper Gila Watershed Alliance, Sierra Club, Natural Resources Defense Council, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

Table of Contents

I.	Introduction (p.2)	F.	Habitat connectivity, wildlife movement corridors, and fencing (p.11)
II.	Alternatives (p.3)	G.	Playa wetlands (p.12)
A.	The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative (p.3)	H.	Transmission, roads and other associated infrastructure (p. 13)
B.	The BLM should not adopt the Solar Development Program (SEDP) Alternative (p.3)	IV.	Lands in SEDP Alternative that are not appropriate for development (p.13)
C.	As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate (p.4)	A.	Recommended screening criteria for utility-scale solar development (p.13)
III.	Overarching Issues for Solar Development on Public Lands in New Mexico (p.4)	B.	Specific examples of lands in the SEDP Alternative in New Mexico that are not appropriate for development (p.14)
A.	Water resources (p.4)	i.	Citizens' Wilderness Inventory Lands (p.14)
i.	Cumulative impacts to water resources (p.6)	ii.	Species-specific biological conflicts with the SEDP Alternative (p.14)
B.	Water quality (p.7)	iii.	Cultural and historic resources (p.15)
C.	Impacts to groundwater-dependent species and their habitats (p.7)	V.	Solar Energy Zones in New Mexico (p.15)
D.	Soil erosion and associated vegetation impacts (p.7)	A.	Afton SEZ (p.16)
E.	Soil diseases and toxins (p.9)	i.	Overview (p.16)
		ii.	Overarching issues for this SEZ (p.16)

<ul style="list-style-type: none"> iii. Recommended boundary adjustments (p.18) iv. Sensitive natural resources and recommended additional impacts analysis (p.18) v. Opportunities for environmentally responsible development (p.19) vi. Corrections (p.19) B. Mason Draw SEZ (p.20) <ul style="list-style-type: none"> i. Overview (p.20) ii. Overarching issues for this SEZ (p.20) iii. Recommended boundary adjustments (p.22) iv. Sensitive natural resources and recommended additional impacts analysis (p.22) 	<ul style="list-style-type: none"> v. Opportunities for environmentally responsible development (p.23) vi. Corrections (p.23) C. Red Sand SEZ (p.23) <ul style="list-style-type: none"> i. Overview (p.23) ii. Overarching issues for this SEZ (p.24) iii. Recommended boundary adjustments (p.26) iv. Sensitive natural resources and recommended additional impacts analysis (p.26) v. Opportunities for environmentally responsible development (p.27) vi. Corrections (p.27)
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I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address New Mexico.

II. Alternatives

A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative

The SEZ Alternative would designate 24 Solar Energy Zones. The Draft PEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

B. The BLM should not adopt the Solar Development Program (SEDP) Alternative

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM’s oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to development – this is over 100 times more land than what the agency’s own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM’s solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources “fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM’s solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM’s solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

III. Overarching Issues for Solar Development on Public Lands in New Mexico

The issues below should be addressed for any solar development on public lands in New Mexico, whether inside or outside of a SEZ.

A. Water resources

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that —water use and water availability are key considerations” when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,¹ to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. See DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be

¹ We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. —The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource.”

available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within nearly every proposed SEZ. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

i. Cumulative impacts to water resources

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

B. Water quality

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

Finally, we recommend that the BLM with the New Mexico Environment Department's Surface Water Quality Bureau and Groundwater Bureau as they are the experts on water quality issues and manage various water quality management programs, e.g., promulgation and enforcement of water quality standards, and related programs, e.g., the TMDL program.

C. Impacts to groundwater-dependent species and their habitats

There are a variety of groundwater dependent species that could be impacted by changes in hydrology caused by solar development, particularly groundwater withdrawal. The species impacted are site-specific, and are discussed in comments for each SEZ, below.

D. Soil erosion and associated vegetation impacts

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and

bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeded should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeded mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks

each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

E. Soil diseases and toxins

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

Valley fever

Coccidioides species is a fungus residing in the top 8” of some desert soils that causes a serious and potentially fatal disease known as “valley fever”. This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

Coccidioides sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.²

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.³

Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in the DPEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, (Reheis et al. 2003, Morman 2010).

² <http://www.mayoclinic.com/health/valley-fever/DS00695> .

³ Ibid.

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

F. Habitat connectivity, wildlife movement corridors, and fencing

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it's important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

G. Playa wetlands

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al. 2010)

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al 2008; Liebowitz, Scot 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa.

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (Liebowitz, Scot 2003; Comer et al. 2005). Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO₂, particularly as the amount of CO₂ in the atmosphere increases. In the case of the playa crusts, the net photosynthetic rate of the algae rose by a factor of two in going from the ambient CO₂ concentration characteristic of their normal environment (385 ppm) to the maximum value the scientists investigated (1000 ppm), while in the case of the dune crusts, the net photosynthetic rate tripled (Brostoff et al. 2002).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

H. Transmission, roads and other associated infrastructure

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

IV. Lands in SEDP Alternative that are not appropriate for development

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both recommended screening criteria for utility-scale solar development as well as a number of examples of lands and resources within the SEDP Alternative that need to be protected from development.

A. Recommended screening criteria for utility-scale solar development

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, attached as Attachment 1. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

B. Specific examples of lands in the SEDP Alternative that are not appropriate for development

i. Citizens' Wilderness Inventory Lands

Citizens' Wilderness Inventory (CWI) lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

The SEDP Alternative includes 498,742 acres of overlap with CWI lands in New Mexico, nearly one third of the entire CWI inventory for the state. Maps detailing these conflicts are enclosed as Attachments 2-7 (six maps).

Please see the attached Appendices A and B for additional details and maps of the sensitive resources and values of the CWI lands at risk from the SEDP Alternative in New Mexico. GIS data of these areas is also included as Attachment 8.

CWI lands are not appropriate for solar development, and the BLM should exclude CWI lands from further consideration for solar development.

ii. Species-specific biological conflicts with the SEDP Alternative

We compared the BLM SEDP alternative with a BLM field-verified habitat suitability model for Aplomado falcon, an endangered raptor that is currently being reintroduced in southern New Mexico. In addition to its special status, this species is significant since it selects intact native grasslands, and as a result could be considered an indicator of native grassland quality and integrity. Most of the high and moderate suitability lands identified in the model as being important for the species have already been excluded from the BLM SEDP alternative, but there are still areas of moderate and high suitability that remain; these areas should also be excluded as well.

Areas of overlap with high suitable habitat that are above 1 acres in size ("slivers") constitute approximately 2,150 acres of high suitable habitat. All of these areas (a total of 8 areas) are in the vicinity surrounding the Mason Draw SEZ. Areas of overlap with moderate suitable habitat constitute approximately 1,140 acres (a total of 4 areas) that are in the vicinity of Alamagordo, NM. Low suitability habitats were not excluded from the development alternative, and constitute a total of 64,917 acres. Because low suitability lands are the majority and in many instances constitute the matrix surrounding high and moderate quality lands, their inclusion within the development alternative raises concerns regarding the potential for solar development to cause habitat fragmentation, edge effects, and the loss of lands that could potentially be restored at some point in the future. We advocate that low suitability lands that serve to connect areas of moderate to high suitability and/or have moderate to high potential for successful

grassland restoration should also be considered for exclusion. Lastly, the development alternative overlaps with 1,061,915 acres of land in the historic range of the Aplomado that have yet to be field verified. Although the species' use of these habitats is uncertain, solar development in these areas could create undesirable cumulative impacts to the species, and this requires further evaluation. Maps detailing these conflicts are enclosed as Attachments 9 and 10.

iii. Cultural and historic resources

The SEDP Alternative also includes areas with significant cultural resources that are not appropriate for development. In particular we highlight:

- **Chupadera and Mesa Well Canyon:** The BLM should exclude the Chupadera and Mesa Well Canyon area north of SR380 from solar energy development, as it contains significant late prehistoric village sites, including several large pueblos numbering more than 100 rooms.
- **Aqua Fria National Monument Area:** The BLM should exclude a larger area surrounding Agua Fria National Monument from solar energy development, given that several prehistoric habitation sites are known on BLM lands east of I-17 and west of the monument, and additional significant sites are likely in the area.

V. Solar Energy Zones in New Mexico

The proposed SEZs in New Mexico include one area with limited conflicts (Afton SEZ), and two areas that have more significant issues but with modifications and special attention to sensitive resources still appear to have workable SEZs (Red Sand SEZ and Mason Draw SEZ). Please see the detailed comments below for more information, including details on our potential support for these SEZs.

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, and corrections.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, we strongly caution against that interpretation. Rather, we underscore the importance of focusing on the SEZs rather than the additional 21 million acres included in the SEDP Alternative. The SEZs have already benefited from significant screening and analysis,

and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SEDP Alternatives have not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

For all three proposed solar energy zones in New Mexico, we'd like to raise attention to the fact that the BLM Las Cruces District Office is currently revising the TriCounty Resource Management Plan (RMP) which will govern the lands in both counties which contain proposed zones. Therefore, the Las Cruces District Office is currently inventorying resources in these areas which are addressed in the PEIS, such as lands with wilderness characteristics, visual resource management classes, cultural and historic resources, and recreation and travel management. In some cases, the results of those inventories may be completed but not consulted in the development of the PEIS since the draft RMP has not been published. We recommend BLM consult closely with the Las Cruces District Office in finalizing the zones to ensure that the analysis and decisions in the PEIS conform to the analysis and preliminary and expected decisions in the TriCounty RMP.

A. Afton SEZ

i. Overview

The proposed Afton SEZ is a 77,623-acre zone in Doña Ana County, New Mexico, just north of the Mexican border. It is 2.5 miles from the City of Las Cruces. Afton is in proximity to Interstate-10, has two existing 345-kV transmission line through it, a 115 kV transmission line 2.5 miles north of the SEZ, and has one current application for a solar right-of-way.⁴ The zone is in a low-conflict area, but is in proximity to many specially designated areas, including wilderness study areas, citizen-proposed wilderness areas, special recreation management areas, areas of critical environmental concern and Prehistoric Trackways National Monument.

Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Water availability to support development**

The Afton SEZ does not have any perennial surface waters, but does have several ephemeral streams and intermittent ponds. Several areas within the SEZ are within the 100-year floodplain, and there are twenty small wetlands present totaling 38 acres. In terms of groundwater, the Afton site is within the Mesilla Basin, and it is possible that groundwater flows between that basin and the Mimbres Basin.

⁴ Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

As of 2005, 521,000 acre-feet of water per year (afy) was withdrawn in Dona Ana County, 61% from surface water and 39% from groundwater. All surface and groundwater in this basin is fully appropriated and has been involved in an ongoing adjudication since 1986. New diversions of surface waters and groundwater would need to be carried out through the transfer of existing water rights, which are mostly associated with irrigated agriculture within the Lower Rio Grande Basin (NMOSE 2006a).

According to the DPEIS, water requirements for the peak construction year (assuming three projects being built concurrently) in the SEZ could be as high as 5,372 afy and would generate up to 222 acre feet of sanitary wastewater. At full build-out capacity of the SEZ (80% buildout), the estimated total water use requirements for non-cooling technologies during operations are 353 and 3,527 afy for PV and dish engine technologies, respectively. For technologies that use water for cooling, total water needs for full buildout range from 4,907 afy to 186,469 afy. Operations would generate up to 174 afy of sanitary wastewater. In addition, for wet-cooled technologies, 1,960 to 3,528 afy of cooling system blowdown water would need to be either treated on-site or sent to an off-site facility. As stated in the DPEIS, technologies using wet- and dry-cooling would be unfeasible for the full build-out scenario of the proposed Afton SEZ, and the mitigation of impacts from water use would be best achieved by selecting technologies with low water demands. Any water used for projects would need to be acquired by transfer of existing water rights, as the basin is fully appropriated

There is still potential at Afton for contamination of the groundwater which contributes to the flow of surface waters and health of the ecosystem, especially when there is the possibility for underground flow between the Mimbres and Mesilla basins. If wells are poorly designed there is a higher likelihood of underground connections between aquifers, possibly spreading contaminants to greater areas. Wastewater discharges could seriously impact the entire area's water quality (both surface and groundwater) through pesticides, run-off and accidental spills.

Assuming development of the Afton site is pursued, we encourage the BLM to adopt as policy all of the mitigations outlined in Volume 6, section 12.2.9.3 (*SEZ-Specific Design Features and Design Feature Effectiveness*). However, we also encourage the BLM to increase the standards in these mitigation measures. Specifically, monitoring standards of water quality and groundwater levels should be held to a higher standard than the state level. The state requirements for groundwater monitoring are not sufficient to really ensure no harm is done to water resources in the area. Solar projects permitted by the BLM should at least be required to fulfill similar monitoring obligations as those listed in Section 20.6.2.3107 of the New Mexico Administrative Code.

Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Cumulative impacts**

The Afton SEZ is located near the cities of Las Cruces, NM and El Paso, TX, with populations growing at rates of 2.1% and 1.7%, respectively. There are several ongoing and planned projects in the area, including the SunZia Transmission Line, the High Plains Express, several power plants, hunting licenses and grazing allotments. In addition to these proposed activities, there are

a number of sensitive and protected areas in the region, including nine Wilderness Study Areas within a fifty mile radius of the SEZ, along with several refuges and other areas with special designations.

If developed, all of the proposed projects will impact the health of the area. Taken together the whole may be larger than the sum of its parts, causing greater harm than any one of the project's percentage if it was developed alone. Impacts specifically in the Las Cruces and El Paso areas will increase significantly should both the Mason Draw and Afton sites be developed. When solar facilities are permitted, the BLM should ensure robust analysis of cumulative impacts of other proposed or ongoing projects in the area to ensure the smallest impact possible on the larger area as a whole.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of concern**

In documenting solar development's impacts to wildlife, the DPEIS looked at direct impacts, which would be effects due to actual disturbance and construction within the SEZ, as well as indirect impacts within a five mile radius in the "area of indirect effects", and then indirect impacts to the "SEZ region," a fifty mile radius from the centroid of the SEZ. The "affected area" includes both the SEZ area as well as the area of indirect effects.

Both direct and indirect impacts to species within the Afton SEZ should be relatively small, leading us to recommend its designation as a SEZ.

While many species may pass through the Afton site and use it intermittently, it does not seem to be an especially important site for most of them. There is a lack of real water resources, and no present groundwater-dependent species. No part of the site is habitat for pronghorn or deer, and it essentially avoids Aplomado Falcon habitat. Avoiding areas close to bluffs and cliffs will minimize any potential impacts to peregrine falcons.

There are a number of sensitive plant species, including sand prickly pear cactus, sandhill goosefoot and sandburg pincushion cactus, that may occur within the SEZ in dune areas and areas with specific soil types. For the most part these species occur in dune areas that would be avoided as part of the SEZ-specific design features. Pre-development surveys should be performed for these species to define avoidance areas.

Finally, any groundwater depletions could reduce the levels of surface waters and/or wetlands outside the SEZ, causing more widespread harm than at the site itself. Run-off, spills, and increased pesticide use would most likely degrade the small amount of available riparian habitat for amphibians.

All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 and the Programmatic Design Features in Appendix A, section A.2.2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act). We support the design features outlined in Volume 6, section 12.1.12.3 (*SEZ-Specific Design Features and Design Feature Effectiveness*). In accordance with these design features and to minimize impacts to natural resources, we recommend that fences should be built around as small an area as possible to ensure minimum disturbance to migration corridors; land disturbance should be avoided near streams, washes, wetlands, or within the 100-year floodplain; development should avoid the habitat of special status species and sand dunes; in depth studies and biological surveys should be done before any project is authorized to determine the project plans that will least impact present species; both on and off-site mitigation should continually occur throughout the solar development process, including restoration of grasslands and wetlands; clearing should be avoided during spring or summer, as nests and nestlings of ground and burrow-dwelling birds can be destroyed.

- **Cultural and historic resources**

A number of National Historic Landmarks (NHL), National Natural Landmarks, National Historic Trails and Scenic byways are near the Afton SEZ. About 40 mi of the Camino Real is within the SEZ viewshed; about 48 mi of Camino Real Scenic Byway is within the SEZ viewshed; and about 15 mi of Butterfield Trail Scenic Byway is within the SEZ viewshed. The SEZ boundary is also 2.7 mi from the Mesilla Plaza and 9.3 mi from the Kilbourne Hole NHL. The BLM should ensure that measures are taken to avoid, minimize and mitigate potential visual impacts to these resources when projects are proposed within the SEZ.

There are also potential direct impacts to significant cultural resources in dune areas in the SEZ. In addition to avoiding projects on dune areas to protect habitat for special status species on dunes, the BLM should avoid these areas to protect cultural resources.

- v. **Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- We appreciate BLM analyzing and acknowledging the impacts to visual resources of nearby special management areas, such as wilderness study areas, areas of critical environmental concern, and the Prehistoric Trackways National Monument. We support BLM conducting further viewshed analysis at the project level.
- The proposed zone's proximity to Interstate-10 and an existing transmission line which the PEIS estimates could provide access from the SEZ to the transmission grid should allow for this area to be developed in an environmentally responsible way without much additional infrastructure outside the zone. We encourage BLM to ensure developers utilize this existing infrastructure to the extent possible.

- vi. **Corrections**

None noted.

B. Mason Draw SEZ

i. Overview

The proposed Mason Draw SEZ is a 12,909-acre zone in Doña Ana County, New Mexico. It is 3 miles northwest of the proposed Afton SEZ, and is in proximity to Interstate-10 and the City of Las Cruces. Mason Draw has a 115-kV transmission line through it, and currently has no applications for solar rights-of-way. **While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone. For solar development in this region, we recommend that the BLM prioritize development in the Afton SEZ over the Mason Draw SEZ, given the limited conflicts in the Afton SEZ.**

ii. Overarching issues for this SEZ.

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

The Southwest is an extremely arid environment. Many of the basins that contain excellent solar resources have water rights that are already fully or over-allocated. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

The Mason Draw SEZ does not have any perennial surface waters, but does have several ephemeral drainages, including Mason Draw and Kimble Draw, which runs north-south through the middle of the SEZ. Mason Draw is within the 100-year floodplain, and Kimble Draw has a small associated wetland. In terms of groundwater, Mason Draw is within the Mimbres Basin, and it is possible that groundwater flows between that basin and the Mesilla Basin.

It is difficult to estimate the groundwater recharge levels for the Mason Draw SEZ because the SEZ is located on the boundary between the Mimbres Basin and the Mesilla Basin. Groundwater recharge in the Mesilla basin was estimated to be less than 10,000 afy and estimates for total groundwater recharge in the Mimbres Basin range from 39,940 to 55,300 afy. Another potential measurement for recharge under the Mason Draw SEZ, estimated using the sum of modeled mountain front recharge values for the region found approximately 1,740 to 2,240 afy of recharge. As of 2005, water withdrawals from surface and groundwater in Dona Ana County were 521,000 afy, 61% from surface water and 39% from groundwater.

According to the DPEIS, water requirements for the peak construction year (assuming two projects being built concurrently) in the SEZ could be as high as 3,581 afy, and would generate

approximately 148 afy of wastewater. Because there are no significant surface water bodies on the SEZ, it is assumed that water use in the SEZ would necessarily come from groundwater withdrawals or by trucking water in from off-site. The estimated total water use requirements for non-cooling technologies at full buildout (80% of the SEZ developed) during operations are 58 and 587 afy for the PV and dish engine technologies, respectively. For technologies that use water for cooling, at full buildout, total water needs range from 816 afy to 31,011 afy. Operations would generate up to 29 afy of sanitary wastewater. In addition, for wet-cooled technologies, 326 to 587 afy of cooling system blowdown water would need to be either treated on-site or sent to an off-site facility. Given the limited water availability in this area, we agree with the conclusion in the DPEIS that wet cooling is not feasible for full buildout, and that low water use technologies should be prioritized for the area.

There is potential at Mason Draw for contamination of the groundwater which contributes to the flow of surface waters and health of the ecosystem, especially given the possibility for underground flow between the Mimbres and Mesilla basins. If wells are poorly designed there is a higher likelihood of underground connections between aquifers, possibly spreading contaminants to greater areas. Wastewater discharges could seriously impact the entire area's water quality (both surface and groundwater) through pesticides, run-off and accidental spills.

We encourage the BLM to adopt as policy all of the mitigations outlined in Volume 6, section 12.2.9.3 (SEZ-Specific Design Features and Design Feature Effectiveness) for the Mason Draw SEZ. However, we also encourage the BLM to increase the standards in these mitigation measures. Specifically, monitoring standards of water quality and groundwater levels should be held to a higher standard than the state level. The state requirements for groundwater monitoring are not sufficient to really ensure no harm is done to water resources in the area. Solar projects permitted by the BLM should at least be required to fulfill similar monitoring obligations as those listed in Section 20.6.2.3107 of the New Mexico Administrative Code.

Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Cumulative Impacts**

The Mason Draw SEZ is located near the cities of Las Cruces, NM and El Paso, TX, with populations growing at rates of 2.1% and 1.7%, respectively. There are several ongoing and planned projects in the area, including the SunZia Transmission Line, the High Plains Express, several power plants, hunting licenses and grazing allotments. In addition to these proposed activities, there are a number of sensitive and protected areas in the region, including nine Wilderness Study Areas within a fifty mile radius of the SEZ, along with several refuges and other areas with special designations.

If developed, all of the proposed projects will impact the health of the area. Taken together the whole may be larger than the sum of its parts, causing greater harm than any one of the project's percentage if it was developed alone. Impacts specifically in the Las Cruces and El Paso areas will increase significantly should both the Mason Draw and Afton SEZs be developed. When solar facilities are permitted, the BLM should ensure robust analysis of cumulative impacts of

other proposed or ongoing projects in the area to ensure the smallest impact possible on the larger area as a whole.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below. The enclosed map, Attachment 11, shows this recommended boundary adjustment.

- The northeast corner of the proposed Mason Draw SEZ overlaps with 1,811 acres of the Sleeping Lady Hills unit of New Mexico Wilderness Alliance's Citizens' Proposed Wilderness Inventory. The zone must be adjusted to exclude those areas. We have included information on the New Mexico proposed wilderness inventory with these comments.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of concern**

In documenting solar development's impacts to wildlife, the DPEIS looked at direct impacts, which would be effects due to actual disturbance and construction within the SEZ, as well as indirect impacts within a five mile radius in the "area of indirect effects", and then indirect impacts to the "SEZ region," a fifty mile radius from the centroid of the SEZ. The "affected area" includes both the SEZ area as well as the area of indirect effects.

While direct impacts to wildlife in Mason Draw might be relatively small, indirect impacts could be fairly large. Considering this area's use by many special status species and riparian dependent species, as well as its high levels of recreational use, we do not recommend designation of Mason Draw as a SEZ.

A significant number of species use the area of the proposed Mason Draw SEZ, potentially including up to twenty nine special status species. The northern half of the SEZ is home to pronghorn, and almost the entire SEZ is utilized by mule deer. To avoid impacts on these species, wildlife movement corridors within the SEZ should be avoided. There are also portions of the SEZ that are almost certainly habitat for the listed endangered Northern Aplomado Falcon. Specifically, there are areas of high suitability from the Aplomado Habitat Suitability model found within the northeastern portion of the SEZ. While this is not the Falcon's designated critical habitat, take of the species would still be prohibited, and incidental take permits would be required from the US Fish and Wildlife Service. Unlike the listed plants potentially in the area, translocation of Falcons to other sites is not realistically feasible.

Direct effects from things like collisions, accidents, and burrow infilling would be relatively small according to the analysis in the DPEIS. Indirect effects due to sediment and wastewater

runoff, dust, noise, lights, the spread of invasive species, pesticide use, and accidental chemical spills are expected to be much higher.

Finally, any groundwater depletions could reduce the levels of surface waters and/or wetlands outside the SEZ, causing more widespread harm than at the site itself. Run-off, spills, and increased pesticide use would most likely degrade the small amount of available riparian habitat for amphibians. As noted above, there is a significant riparian corridor running north-south through the SEZ (Mason Draw, the riparian corridor for which the SEZ is named). This and other riparian areas should be avoided to protect the high diversity of species that utilize these habitats.

All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act). In accordance with these SEZ-specific design features, we recommend that fences should be built around as small an area as possible to ensure minimum disturbance to migration corridors; land disturbance should be avoided on streams, washes, wetlands, or within the 100-year floodplain; development should avoid the habitat of special status species; in depth studies and biological surveys should be done before any project is authorized to determine the project plans that will least impact present species; both on and off-site mitigation should continually occur throughout the solar development process, including restoration of grasslands and wetlands; and clearing should be avoided on the SEZ during spring or summer, as nests and nestlings of ground and burrow-dwelling birds can be destroyed.

v. Opportunities for environmentally responsible development

None noted.

vi. Corrections

None noted.

C. Red Sands SEZ

i. Overview

The proposed Red Sands Zone is a 22,520-acre zone in Otero County, New Mexico. It is six miles southwest of Alamogordo, and in proximity to U.S. 70. There are currently no solar ROW applications within the zone. Three 115-kV transmission lines intersect with the zone. The Red Sands SEZ is in a very rural area in the Tularosa Basin, and is surrounded by military lands including Holloman Air Force Base, White Sands Missile Range, and Fort Bliss. It is also near White Sands National Monument (managed by the National Park Service) and the Mescalero Apache Reservation. **Though there are significant concerns about potential impacts from water use for cooling, provided the BLM addresses appropriate water use and the additional concerns below, we support the designation of this area as a Solar Energy Zone.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

The Southwest is an extremely arid environment. Many of the basins that contain excellent solar resources have water rights that are already fully or over-allocated. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

The Red Sands SEZ, in the Tularosa Valley Basin, does not have any perennial surface waters, but does have several ephemeral streams and small ponds, including an un-named ephemeral wash running north-south through the middle of the SEZ, totaling 54 acres. There are also five palustrine wetlands mapped by the National Wetland Inventory (NWI) totaling 17 acres and two riverine wetlands totaling 0.3 miles (USFWS Undated). NWI maps are produced from high altitude imagery and are subject to uncertainties inherent in image interpretation (USFWS 2009).

The characteristics of the geology of this basin and the groundwater itself make the groundwater here especially vulnerable to impacts. Most of the groundwater is fairly saline, and the city of Alamogordo has already been forced to investigate desalinization possibilities due to its groundwater extraction. The water table in Otero County is extremely shallow, with depth to groundwater in the vicinity of Red Sands SEZ at about 75 feet. In the nearby White Sands National Monument, depth to groundwater is only 1-6 feet below land surface. This shallow water table is essential for the proper function of the sand dunes in the National Monument, which make up habitat for many species of wildlife.

Estimates for groundwater recharge in the northern half of the SEZ assume groundwater recharge was 11,890 acre-feet/year (afy), and that groundwater discharge by evapotranspiration 9,905 afy and 16,491 afy by groundwater extractions in 2005 (Keyes 2005). According to these estimates, groundwater extractions in the northern half of the SEZ exceed groundwater recharge. We are not aware of any good estimates for groundwater recharge rates for the southern half of the SEZ.

According to the DPEIS, water requirements for the peak construction year (assuming two projects being built concurrently) in the SEZ would total about 3200 afy, and would generate approximately 150 afy of wastewater. Because there are no significant surface water bodies on the SEZ, it is assumed that water use in the SEZ would necessarily come from groundwater withdrawals or by trucking water in from off-site. The DPEIS finds that the high water use requirements of wet cooling make wet cooling infeasible for the maximum buildout of 80% of this SEZ assumed in the DPEIS, and even dry cooling could consume 46% of the estimated local groundwater recharge at maximum buildout.

Removal or degradation of even a small portion of the available water can have serious impacts on ecosystem health, even at a significant distance away from the actual degradation. This is especially true for a site like Red Sands, when so much of the area's ecosystem is directly dependent on the shallow groundwater table. The DPEIS acknowledges that groundwater depletions can reduce the levels of streams and wetlands outside the SEZ, and also that there is a risk to the sand dune system with any groundwater withdrawal.

There is also a very high a potential at Red Sands for contamination of the groundwater which contributes to the flow of surface waters and health of the ecosystem, especially on the dunes. If wells are poorly designed there is a higher likelihood of underground connections between aquifers, possibly spreading contaminants to greater areas. Wastewater discharges could seriously impact the entire area's water quality (both surface and groundwater) through pesticides, run-off and accidental spills.

If Red Sands is designated a SEZ, we would encourage the BLM to adopt as policy all of the mitigations outlined in Volume 6, section 12.2.9.3 (*SEZ-Specific Design Features and Design Feature Effectiveness*). We also encourage the BLM to increase the standards in these mitigation measures. Specifically, monitoring standards of water quality and groundwater levels should be held to a higher standard than the state level. The state requirements for groundwater monitoring are not sufficient to really ensure no harm is done to water resources in the area. Solar projects permitted by the BLM should at least be required to fulfill similar monitoring obligations as those listed in Section 20.6.2.3107 of the New Mexico Administrative Code.

The DPEIS acknowledges that wet cooling is infeasible, and that using dry cooling at full buildout could consume 46% of the estimated local groundwater recharge. It seems likely that only non-cooled projects such as PV or dish-engine projects are feasible in this SEZ. Regardless of which technology is used, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Cumulative Impacts**

The Red Sands SEZ is located near the city of Alamogordo, NM. There are several ongoing and planned projects in the area, including the SunZia Transmission Line, the High Plains Express, several power plants, hunting licenses and grazing allotments. There are five Wilderness Study Areas within a fifty mile radius of the SEZ, along with several refuges and other areas with special designations, including White Sands National Monument, which is adjacent to the SEZ.

All of these land uses will impact the health of the area. Taken together the whole may be larger than the sum of its parts, causing greater harm than any one of the project's percentage if it was developed alone. An ecosystem can only take so many intrusions before it reaches a critical point of no return.

While other projects in the area are a concern, we support the Red Sands SEZ designation with the stipulations we have outlined and as long as all mitigation measures are followed, and the groundwater table is protected. When solar facilities are permitted, the BLM should ensure

robust analysis of cumulative impacts of other proposed or ongoing projects in the area to ensure the smallest impact possible on the larger area as a whole.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

• **Species of concern**

In documenting solar development's impacts to wildlife, the DPEIS looked at direct impacts, which would be effects due to actual disturbance and construction within the SEZ, as well as indirect impacts within a five mile radius in the "area of indirect effects", and then indirect impacts to the "SEZ region," a fifty mile radius from the centroid of the SEZ. The "affected area" includes both the SEZ area as well as the area of indirect effects.

While direct impacts to wildlife at Red Sands might be relatively small, indirect impacts could be fairly large unless precautions are taken to avoid impacts. Extra precautions at this SEZ should be taken by both the BLM and any permitted facility to ensure indirect impacts remain minimal. A significant number of species use the area of the proposed Red Sands SEZ, potentially including up to seventeen special status species within the affected area. The SEZ avoids the habitat of sensitive species like the Aplomado Falcon, as well as large game species like mule deer and pronghorn.

By far the most concerning potential effect of development at Red Sands is on the White Sands pupfish (NM-T, FWS-SC).⁵ While this fish has no habitat actually within the SEZ, there are 300 acres of habitat within the area of indirect effects, which is 1/3 of its available habitat within the SEZ region. It exists in only four springs which are all supported by groundwater. The EIS lists the impact as "small to large", with the size of the impact entirely dependent on groundwater withdrawals. The BLM acknowledges in the document that avoiding groundwater withdrawals would entirely mitigate harm to this species, as well as plant communities which are dependent on the dune system. This reiterates our previous assertion that groundwater withdrawals should be avoided at Red Sands whenever possible, and that any water use follows the design features and recommendations in Section III above.

The DPEIS notes that there could also be moderate impacts to the White Sands woodrat (USFWS-SC), a subspecies of the southern plains woodrat that utilizes desert scrub, grasslands, and riparian. Species-specific surveys for this endemic subspecies at the project level could help avoid impacts.

⁵ NM-T = listed as threatened by the State of New Mexico; FWS-SC = USFWS species of concern

As discussed in detail in section III above, playa lakes and inter-dunal areas containing encysted macroinvertebrates during dry periods that become active and reproduce when these areas fill with water. These temporary invertebrate communities in turn provide a food source for the hundreds of migratory shore and water birds that pass through the monument. Protection of these areas, such as the palustrine wetlands included in the SEZ, should be a priority when any project is permitted.

Direct effects such as collisions, accidents, and burrow infilling would be relatively small according to the DPEIS. Indirect effects due to sediment and wastewater runoff, dust, noise, lights, the spread of invasive species, pesticide use, and accidental chemical spills are expected to be much higher, though these types of effects would be expected from solar development almost anywhere.

We support the designation of the Red Sands SEZ as long as all identified mitigation measures are followed, studies are done before every project, groundwater withdrawals are avoided, and that any water use follows the design features and recommendations in Section III above. All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act). Fences should be built around as small an area as possible to ensure minimum disturbance to migration corridors. In accordance with the SEZ-specific design features included in the DPEIS, we recommend that land disturbance be avoided on sand dunes, playas, streams, washes, wetlands, or within the 100-year floodplain; development should avoid habitat of special status species; in depth studies and biological surveys should be done before any project is authorized to determine the project plans that will least impact present species; both on and off-site mitigation should continually occur throughout the solar development process, including restoration of grasslands and wetlands; and clearing should be avoided during spring or summer, as nests and nestlings of ground and burrow-dwelling birds can be destroyed.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- We appreciate BLM analyzing and acknowledging the impacts to visual resources of nearby special management areas, most notably White Sands National Monument. We support BLM conducting further viewshed analysis at the project level.
- The proposed zone's proximity to U.S. 70, the UP railroad, and existing transmission lines which the PEIS estimates could provide access from the SEZ to the transmission grid should allow for this area to be developed in an environmentally responsible way without much additional infrastructure outside the zone. We encourage BLM to ensure developers utilize this existing infrastructure to the extent possible.

vi. Corrections

None noted.

Thank you for your thorough consideration of these comments.

Sincerely,

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Attachments and appendices

- Appendix A - Analysis of SEDP Overlap with CWI Lands
- Appendix B - Detailed Write-ups for CWI Lands
- Attachment 1 - Desert Siting Criteria Memo
- Attachment 2 - Map of SEDP Overlap with CWI Lands (Bootheel Region)
- Attachment 3 - Map of SEDP Overlap with CWI Lands (Central Region)
- Attachment 4 - Map of SEDP Overlap with CWI Lands (Northwest Region)
- Attachment 5 - Map of SEDP Overlap with CWI Lands (South Central Region)
- Attachment 6 - Map of SEDP Overlap with CWI Lands (Southeast Region)
- Attachment 7 - Map of SEDP Overlap with CWI Lands (West Central Region)
- Attachment 8 - GIS Data for CWI Lands
- Attachment 9 - Map of SEDP Overlap with Aplomado Falcon Habitat 1
- Attachment 10 - Map of SEDP Overlap with Aplomado Falcon Habitat 2
- Attachment 11 – Map of Recommended Boundary Adjustments for Mason Draw SEZ

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Thank you for your comment, Alex Daue.

The comment tracking number that has been assigned to your comment is SolarD11719.

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Attachment: Solar DPEIS Comments - Utah Final (TWS and partners 4-18-11).pdf

Comment Submitted:

April 18th, 2011

Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail (with attachments).

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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Wilderness Society, Wild Utah Project, Southern Utah Wilderness Alliance, Grand Canyon Trust, Center for Native Ecosystems, Sierra Club, Natural Resources Defense Council, Soda Mountain Wilderness Council, and Sierra Trek. We appreciate the opportunity to comment.

Table of Contents

I.	Introduction (p.2)	G.	Playa wetlands (p.12)
II.	Alternatives (p.2)	H.	Desert tortoise relocation (p.13)
A.	The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative (p.3)	I.	Transmission, roads and other associated infrastructure (p.14)
B.	The BLM should not adopt the Solar Development Program (SEDP) Alternative (p.3)	J.	Air quality modeling and dust emissions inventories (p.14)
C.	As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate (p.4)	IV.	Lands in SEDP Alternative that are not appropriate for development (p.18)
III.	Overarching Issues for Solar Development on Public Lands in Utah (p.4)	A.	Recommended screening criteria for utility-scale solar development (p.19)
A.	Water resources (p.4)	B.	Specific examples of lands in the SEDP Alternative in Utah that are not appropriate for development - Citizen's Proposed Wilderness Lands and Other Sensitive Areas Proposed for Protection (p.19)
i.	Cumulative impacts to water resources (p.6)	V.	Solar Energy Zones in Utah (p.37)
B.	Water quality (p.7)	A.	Escalante Valley SEZ (p.38)
C.	Impacts to groundwater-dependent species and their habitats (p.7)	i.	Overview (p.38)
D.	Soil erosion and associated vegetation impacts (p.7)	ii.	Overarching issues for this SEZ (p.38)
E.	Soil diseases and toxins (p.9)	iii.	Recommended boundary adjustments (p.39)
F.	Habitat connectivity, wildlife movement corridors, and fencing (p.11)	iv.	Sensitive natural resources and recommended additional impacts analysis (p.40)

<ul style="list-style-type: none"> v. Opportunities for environmentally responsible development (p.41) vi. Corrections (p.43) B. Milford Flats South SEZ (p.43) <ul style="list-style-type: none"> i. Overview (p.43) ii. Overarching issues for this SEZ (p.43) iii. Recommended boundary adjustments (p.45) iv. Sensitive natural resources and recommended additional impacts analysis (p.45) v. Opportunities for environmentally responsible development (p.46) 	<ul style="list-style-type: none"> vi. Corrections (p.47) C. Wah Wah Valley SEZ (p.48) <ul style="list-style-type: none"> i. Overview (p.48) ii. Overarching issues for this SEZ (p.48) iii. Recommended boundary adjustments (p.50) iv. Sensitive natural resources and recommended additional impacts analysis (p.50) v. Opportunities for environmentally responsible development (p.50) vi. Corrections (p.51)
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I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that long-term, environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DPEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) suitable Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the DPEIS that address Utah.

II. Alternatives

A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative

The SEZ Alternative would designate 24 Solar Energy Zones. The Draft PEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate development, and it is important that the BLM continue to refine SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM’s solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

B. The BLM should not adopt the Solar Development Program (SEDP) Alternative

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM’s oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to

development – this is over 100 times more land than what the agency’s own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated approach could impede the BLM’s solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources “fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM’s solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM’s solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

III. Overarching Issues for Solar Development on Public Lands in Utah

The issues below should be addressed for any solar development on public lands in Utah, whether inside or outside of a SEZ.

A. Water resources

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little

water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. See EPRI, A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that —water use and water availability are key considerations” when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,¹ to injury to other water rights holders, to injury to federal trust resources, and to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. See DPEIS A-54, A-57. That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

¹ We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. —The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource.”

BLM has acknowledged in the DPEIS that wet cooling is not feasible within nearly every proposed SEZ. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

i. Cumulative impacts to water resources

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin's unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

B. Water quality

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

C. Impacts to groundwater-dependent species and their habitats

There are a variety of groundwater dependent species that could be impacted by changes in hydrology caused by solar development, particularly groundwater withdrawal. The species impacted are site-specific, and are discussed in comments for each SEZ, below.

D. Soil erosion and associated vegetation impacts

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeded should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeded mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

E. Soil diseases and toxins

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

Valley fever

Coccidioides species is a fungus residing in the top 8” of some desert soils that causes a serious and potentially fatal disease known as “valley fever”. This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

Coccidioides sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.²

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.³

Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in the DPEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, Morman 2010).

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

The problem of disturbed desert dust causing regional climate change and early snowmelt is discussed in numerous recent scientific articles. Neff et al., 2008, have documented how the dust melting snow phenomenon is largely coincidental with increased settlement of the American

² <http://www.mayoclinic.com/health/valley-fever/DS00695> .

³ Ibid.

West. The deposition of this disturbed desert dust on snow leads to early snow melt (Painter et al. 2007). In the Colorado River Basin, these effects are staggering. Painter et al., 2010, estimated that disturbed desert soils traceable to settlement of the American West landing on mountain snowpack in the Upper Colorado River Basin was resulting in a net loss of approximately 5% of the annual flow of the Colorado River as measured at Lees Ferry. It is likely that most of this dust on mountain snowpack is coming from nearby lands, where soil-disturbing activity makes lands susceptible to wind erosion; activities such as energy development, off-road vehicle use, and grazing serve to destabilize soils (Belnap 2009).

Recently, the U.S. Environmental Protection Agency (EPA) raised this issue in its comment letter to the BLM regarding the Cedar City Field Office Resource Management Plan (RMP) scoping; it explained that the dust on snow issue is significant in the West (Letter from Svoboda to Rigtrup 2010, see Attachment 1). The EPA asked the BLM to consider and analyze this issue in its planning and analysis. As with the BLM's preparation of the Cedar City RMP, the agency should consider the effects of soil disturbance for solar development on potential transport to adjacent mountain ranges.

The methodology for inventorying dust generation, which the BLM already applies to numerous development projects, could be applied to ground disturbance for solar development. Any activity that will cause fugitive dust (e.g. road building, soil pad clearing, etc.) should be cataloged in order to estimate total dust emissions. Disclosing this information is a necessary step in the NEPA process and in ensuring that the public receives all the information necessary to understand these impacts. Although there may not be a method for modeling dust on snow impacts at the present time, BLM should still attempt to create an emissions inventory for fugitive dust for the various alternatives it analyzes in the Solar PEIS. This would allow BLM and the public to understand the differences between the impacts of the various alternatives, impacts that would likely significantly influence the dust on snow problem.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

Snowmelt and dust

Recent research has indicated that dust generation has regional effects on snow chemistry and subsequent melting in the Central Rocky mountains (Rhoades et al. 2010). The accelerated snowmelt from dust deposition changes surface water flow pattern and timing, groundwater recharge, and water availability during the driest parts of the year, and is strongly influenced by destabilization of desert soils (Painter et al. 2010).

These issues are clearly tied to those mentioned previously related to soil disturbance, and the biological importance of these related issues make it imperative that BLM enforce concrete guidelines for minimizing soil disturbance and dust generation from solar development.

F. Habitat connectivity, wildlife movement corridors, and fencing

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it’s important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

G. Playa wetlands

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al. 2010)

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al 2008; Liebowitz 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa (GBBO 2010).

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (GBBO 2010, Liebowitz 2003; Comer et al. 2005). Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO₂, particularly as the amount of CO₂ in the atmosphere increases. In the case of the playa crusts, the net photosynthetic rate of the algae rose by a factor of two in going from the ambient CO₂ concentration characteristic of their normal environment (385 ppm) to the maximum value the scientists investigated (1000 ppm), while in the case of the dune crusts, the net photosynthetic rate tripled (Brostoff et al. 2002).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

H. Desert tortoise relocation

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “Translocation of Desert Tortoises (Mojave population) from Project Sites: Plan of Development Guidance” (U.S. Fish and Wildlife Service, August 2010).⁴

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.⁵
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.⁶
- Translocation plans should be finalized before project approvals, and made public for review.

I. Transmission, roads and other associated infrastructure

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

J. Air quality modeling and dust emissions inventories

The PEIS should focus on two principle issues in addressing air quality resources during its planning process. First, the PEIS should address the impacts of the activities it permits and envisions on air quality by the use of modeling. Second, the PEIS must ensure that it evaluates the impacts of soil disturbance on air quality via the use of emission inventories and modeling.

The need for modeling

The PEIS should model the impacts of the activities that it permits, or plans for, on air quality in the planning area in Utah. The National Environmental Policy Act, the Federal Land Policy and Management Act, and the Clean Air Act require that BLM prepare such analysis. Without preparing near-field, far-field, and cumulative air quality analyses, BLM will not understand the effects of the pollutants generated by activities analyzed in the PEIS, as required by NEPA. In addition, BLM must model pollution concentrations in order to understand if this plan will

⁴http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx

⁵<http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

⁶ Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.

comply with federal and state air quality standards, as required by FLPMA and the Clean Air Act.

FLPMA requires that BLM manage the planning area according to federal and state air quality standards. *See* 43 C.F.R. § 2920.7(b)(3) (requiring that BLM —~~had~~ use authorizations shall contain terms and conditions which shall . . . [r]equire compliance with *air . . . quality standards* established pursuant to applicable Federal or State law”) (emphasis added); *see also* 43 U.S.C. § 1712(c)(8) (requiring BLM in land use plans—which would therefore require implementation in daily management—to ~~provide~~ for compliance with applicable pollution control laws, including State and Federal air . . . pollution standards or implementation plans”). These air quality standards include both the national ambient air quality standards (NAAQS) and the prevention of significant deterioration (PSD) increment limits.

The PEIS must include an affirmative statement by BLM that it will ~~—r]equire~~ compliance with air . . . quality standards established pursuant to applicable Federal or State law, as its own regulations require.” *See, e.g.*, 43 C.F.R. § 2920.7(b)(3). The nearby Richfield RMP demonstrates the sort of specific language that must be adopted by BLM here by stating that it is a goal and objective of that plan to ~~—m]anage~~ all BLM and BLM-authorized activities to maintain air quality within the thresholds established by the NAAQS and ensure that those activities continue to keep the area in attainment, meet PSD Class II standards, and protect the Class I airsheds” (Richfield RMP 2008) (Richfield Record of Decision (ROD) 2008). It further elaborates that BLM will ~~—m]aintain~~ concentrations of criteria pollutants associated with management actions in compliance with applicable State and Federal Ambient Air Quality Standards” and ~~—m]aintain~~ concentrations of Prevention of Significant Deterioration . . . pollutants associated with management actions in compliance with the applicable increment.” (Richfield RMP 2008) (Richfield ROD 2008). BLM must adopt such clear and unequivocal language in the PEIS to ensure that it complies with its mandate under FLPMA to manage the area according to federal and state air quality standards.

Furthermore, the Clean Air Act itself requires that BLM not license, permit, approve, engage in, or support in any way an activity that will not conform with a state implementation plan. 42 U.S.C. § 7506(c)(1). State implementation plans are developed in order to achieve NAAQS. *See id.* § 7410. They are also developed to in order to observe PSD increment limits. *See, e.g.*, Utah Admin. Code R307-110-9 (implementing PSD increment limits in Utah’s state implementation plan). Conforming with a state implementation plan includes eliminating violations of NAAQS and ensuring that activities BLM approves do not ~~—e]ause~~ or contribute to any new violation of any standard in any area.” *See* 42 U.S.C. § 7506(c)(1). BLM is therefore obligated under the Clean Air Act to ensure that any activity it approves will not violate air quality standards such as NAAQS and PSD increment limits.

The EPA scoping comments on the nearby Cedar City RMP raise the importance of modeling in order to demonstrate that BLM’s plans will comply with federal air quality standards such as NAAQS and the PSD increment limits (Letter from Svoboda to Rigtrup 2010, see Attachment 1). Furthermore, the EPA discusses how modeling can guide BLM’s resource allocations based on projected impacts.

The EPA has also submitted similar comments on other nearby RMPs, including the Vernal Field Office RMP and the Moab Field Office RMP. We incorporate those comments into its scoping comments here. The EPA has confirmed that BLM has authority to ensure operators on public lands are not permitted to undertake activities that will result in air quality violations or exceed air quality standards (Letter from Svoboda to Northrup 2008, see Attachment 2) (Letter from Svoboda to Sierra 2008, see Attachment 3). BLM may therefore impose standards and requirements on these operators and other in order to avoid running afoul of federal and state air quality standards. EPA also instructs BLM that it cannot declare that air quality in a planning area will be protected without providing the results of dispersion modeling to confirm that conclusion (Letter from Svoboda to Northrup 2008, see Attachment 2). As EPA says, BLM must perform dispersion modeling or it will not be able to determine whether its authorizations and planned activities will comply with federal and state air quality standards.

As an example of what is possible, the recently-released Vernal Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (August 2008) includes modeling analyses for near-field, far-field, and cumulative impacts for some pollutants.⁷ BLM has prepared models and more comprehensive emissions inventories in its Farmington, New Mexico; Vernal, Utah; and Roan Plateau, Colorado RMPs. This reality demonstrates that the PEIS may also perform such analysis at this time. The PEIS must also undertake such modeling analysis but for all pollutants regulated under NAAQS and the PSD increment limits.

Both the State and Federal standards are based on *ambient concentrations* of various air pollutants. BLM does not know whether it is satisfying its obligation to observe air quality standards without modeling the effect that the activities permitted in the PEIS will have on ambient *concentrations* of various pollutants, such as those related to NAAQS and PSD increment limits.

The PEIS should make use of nearby monitoring data for describing conditions in the area and for preparing its modeling analysis. Furthermore, the nearby monitoring or background concentrations show that it is critical that BLM model now because air quality is likely a serious issue in the planning area that must be addressed.

The Richfield RMP, which covers portions of the planning area, contains a background concentration for the 24-hour average maximum of fine particulates (PM_{2.5}) that appears to be near 65 µg/m³.⁸ This level is well above NAAQS.

Likewise, there may also have elevated ozone levels in the planning area. An ozone monitor in Zion National Park has recorded an average of 0.078 parts per million (ppm) for the time period between 2005-07, in excess of NAAQS.⁹ These averages show that the planning area's background may also be problematic for ozone.

⁷ Vernal PRMP at 4-14, 4-19, 4-30, available at:

http://www.blm.gov/ut/st/en/fo/vernal/planning/rmp/proposed_rmp_eis/proposed_rmp_eis_document.html.

⁸ Richfield RMP 2008

⁹ EPA, County Air Quality Map—Air Quality Data, Washington County, Utah, Ozone, 4th Highest 8-hour Average Concentration, 2007, http://www.epa.gov/cgi-bin/broker?_service=airdata&_program=progs.webprogs.msummary.scl&_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3_8&myear=2007&exc=&mapsize=zsc&reqtype=viewmap

It is critical that BLM list the correct background concentrations for ozone and PM_{2.5} and that it perform modeling for these pollutants now since it is possible that these pollutants could be at unhealthy levels. The health impacts of PM_{2.5} are severe. *See* National Ambient Air Quality Standards for Particulate Matter, 71 Fed. Reg. 61,144 (Oct. 17, 2006) (discussing deleterious health effects of PM_{2.5} pollution). Likewise, the health impacts of ozone are also considerable. National Ambient Air Quality Standards for Ozone, 73 Fed. Reg. 16,436 (Mar. 27, 2008) (discussing adverse health impacts of ground-level ozone pollution).

NEPA also requires that BLM model the impacts from the various activities—and fully inventory the pollutants generated by these activities—permitted by the PEIS. “NEPA ‘prescribes the necessary process’ by which federal agencies must ‘take a hard look’ at the environmental consequences’ of the proposed courses of action.” *Pennaco Energy, Inc. v. U.S. Dept. of the Interior*, 377 F.3d 1147, 1150 (10th Cir. 2004) (quoting *Utahns for Better Transp. v. U.S. Dept. of Transp.*, 305 F.3d 1152, 1162–63 (10th Cir. 2002)) (internal citation omitted). The fundamental objective of NEPA is to ensure that an agency will not act on incomplete information only to regret its decision after it is too late to correct.” *Marsh v. Or. Natural Resources Council*, 490 U.S. 360, 371 (1990) (citation omitted). Without preparing modeling to determine what the ambient concentrations of relevant pollutants will be, BLM cannot understand or disclose the impacts of these pollutants on humans, wildlife, vegetation, water bodies, or the climate. Since it is actual ambient concentrations that will impact these various components of the ecosystem, BLM must model concentrations to understand these impacts. This is why the EPA has demanded that the various BLM RMPs, for example, include dispersion modeling to support their statements that the activities permitted in those plans would not harm air quality (Letter from Svoboda to Northrup 2008, see Attachment 2). Likewise, BLM must prepare modeling to demonstrate that the PEIS will comply with federal air quality standards such as NAAQS and the PSD increment limits.

The PEIS must analyze the impacts from soil-disturbing activities

The optimal time for BLM to begin evaluating air quality impacts from the activities analyzed in the PEIS is at the planning stage. The optimal way for BLM to evaluate these impacts is through the use of dispersion modeling. BLM should not abdicate this obligation to perform quantitative dispersion modeling to a later date. It is vital that BLM fully model and analyze impacts from soil-disturbing activities and that it prepare those models now.

BLM must inventory the particulate matter pollution, differentiated for PM_{2.5} and for PM₁₀, which will be generated by fugitive dust from soil-disturbing activities. These activities include

(reporting a concentration of 0.071 ppm for 2007); EPA, County Air Quality Map—Air Quality Data, Washington County, Utah, Ozone, 4th Highest 8-hour Average Concentration, 2006, http://www.epa.gov/cgi-bin/broker?_service=airdata&_program=progs.webprogs.msummary.scl&_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3_8&myear=2006&exc=&mapsize=zsc&reqtype=viewmap

(reporting a concentration of 0.072 ppm for 2006); EPA, County Air Quality Map—Air Quality Data, Washington County, Utah, Ozone, 4th Highest 8-hour Average Concentration, 2005, http://www.epa.gov/cgi-bin/broker?_service=airdata&_program=progs.webprogs.msummary.scl&_debug=2&geotype=co&geocode=49053&geoname=Washington+Co%2C+Utah&mpol=o3_8&myear=2005&exc=&mapsize=zsc&reqtype=viewmap

(reporting a concentration of 0.091 ppm for 2005).

travel on unpaved roads, the creation of roads, the clearing of surface pads, and other intensive uses that generate dust. These disturbances and uses of existing routes will generate significant amounts of fugitive dust which will negatively affect air quality in the region. It is vital that the PEIS and its air quality emissions inventory consider such emissions and then use that inventory data to model impacts.

BLM field offices in Utah have been alerted regarding the importance of such quantification and modeling by members of the public with examples of air quality modeling for fugitive dust from vehicular travel on unpaved roads (Letter from Braden to Heinlein 2008, see Attachment 4). These comments showed that the BLM has conducted fugitive dust inventories and modeling for projects such as the West Tavaputs Plateau Natural Gas Full Field Development Plan, Draft Environmental Impact Statement, UT-070-05-055 (Feb. 2008), and the Enduring Resources' Saddletree Draw Leasing and Rock House Development Proposal, Final Environmental Assessment UT-080-07-671 (Dec. 2007) (Rock House EA). In both cases, BLM itself attempted to estimate fugitive dust emissions from the passage of vehicles on unpaved roads as well as activities that resulted in the disturbance of soil, such as earthmoving. Furthermore, it then modeled these emissions to arrive at predicted ambient concentrations of various pollutants. This quantification and modeling must be conducted in order to understand where BLM's plans will comply with federal and state air quality standards and to know what impact they may have on human health, wildlife, vegetation, water bodies, and the climate.

The models for these other projects demonstrate that fugitive dust can create significant levels of ambient pollution. The levels of PM_{2.5} predicted in the Rock House EA were so high that they exceeded NAAQS (Letter from Braden to Heinlein 2008, see Attachment 4). It is likely that most of the predicted PM_{2.5} was the result of fugitive dust. Furthermore, disturbance areas, such as pads and dirt roads may generate fugitive dust even when not being traveled by vehicles or directly impacted (e.g., by wind blown dust). Thus, it is vital that the PEIS quantify all of the disturbance that it is permitting, estimate the rate at which it will generate fugitive dust when not being traveled by vehicles or directly worked, estimate the number of vehicles that will use each route and the amount of earthmoving that will take place, and the likely fugitive dust generation rate, and then model those figures to understand the true impacts of fugitive dust emissions.

These examples demonstrate the importance of fugitive dust emissions inventories, differentiated for PM₁₀ and PM_{2.5}, in order to begin to understand the true impacts of the activities envisioned and authorized in the PEIS on air quality in the planning area. In addition, BLM must then perform dispersion modeling to know how individuals, plants, and wildlife will be affected by these activities.

IV. Lands in SEDP Alternative that are not appropriate for development

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both recommended screening criteria for utility-scale solar development as well as a number of

examples of lands and resources within the SEDP Alternative that need to be protected from development.

A. Recommended screening criteria for utility-scale solar development

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

We recommend that the BLM improve its screening criteria by adopting the criteria included in the Desert Siting Criteria Memo, attached as Attachment 5. Though these recommendations were developed specifically with the California Desert Conservation Area in mind, most of the provisions are appropriate across the six states included in the PEIS, and we recommend that the BLM follow these screening criteria as part of its solar program.

B. Specific examples of lands in the SEDP Alternative that are not appropriate for development – Citizen's Proposed Wilderness Lands and Other Sensitive Areas Proposed for Protection

Citizen's Proposed Wilderness (CPW) lands are lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical, and solar energy development inappropriate for these lands.

Of the more than 2 million acres in Utah of BLM managed lands identified in the SEDP Alternative as being available for leasing, nearly 25%—380,414 acres—is located in lands proposed for wilderness in America's Red Rock Wilderness Act (ARRWA). We have included the GIS data for these areas as Attachment 6. First introduced in the U.S. House of Representatives in 1989, ARRWA enjoys significant nationwide support from members of congress and Americans from all fifty states. In the 111st Congress, ARRWA had 168 co-sponsors in the House (H.R. 1925) and 23 co-sponsors in the Senate (S. 799). The bill will be reintroduced shortly in the 112th Congress.

Utah, along with Arizona and New Mexico, has significant conflicts in terms of total acreage of proposed wilderness that would be available for leasing in the SEDP Alternative. The majority of the lands in conflict in Utah have been identified by BLM itself as wilderness caliber lands (e.g. "lands with wilderness characteristics") and span a number of iconic western landscapes. These include, for example, the culturally rich Colorado Plateau, the remote Dirty Devil wilderness complex, and several impressive mountain ranges and basins in Utah's west desert

region. Below is a brief discussion of three proposed wilderness areas, a large percentage of each which the SEDP Alternative would make available for solar development.

Dirty Devil and Henry Mountains Wilderness Complexes

The Dirty Devil and Fiddler Butte citizen-proposed wilderness (CPW) areas contain an abundance of archeological resources. Studies by the National Park Service and the BLM in this area have suggested that this region contains an average density of twenty-four archeological sites per square mile.¹⁰ This means that in the Dirty Devil region alone there are likely hundreds and hundreds of rock shelters, campsites, lithic scatters, stone tool quarries, and petroglyph sites.¹¹

The Dirty Devil CPW wilderness is home to antelope, bighorn sheep, and at least nine species of plants and animals identified as “sensitive” by the BLM.¹² It is a landscape of narrow redrock canyons surrounded by vast slickrock bowls and cliffs. Plateaus above the canyons provide important habitat for plants and animals.

This area was also frequented by outlaws; Butch Cassidy and the Wild Bunch were the most famous of the lawbreakers to hang out here.¹³ The Dirty Devil has served as the setting for many Western novels, including one by Zane Grey.¹⁴

The Fiddler Butte area possesses some of the most spectacular scenery in the United States.¹⁵ This area, along with the Dirty Devil River CPW, would be totally inappropriate for solar development. The preferred alternative in the DPEIS presents 23,280.8 acres of conflict with the Dirty Devil CPW. There are 963.5 acres of conflict with the Fiddler Butte CPW.

The BLM agrees that the majority of the relevant Dirty Devil and Fiddler Butte CPWs contain wilderness characteristics.¹⁶ The relevant resource management plan even manages portions of this area to preserve those wilderness characteristics.¹⁷

The Flat Tops, located in the northern portion the Dirty Devil area, are one of the most prominent and recognizable landforms in the San Rafael Desert. Impressive views from the Flat Tops include the San Rafael Reef, Sweetwater Reef, Book Cliffs, La Sal Mountains, Henry Mountains, Factory Butte, North and South Caineville mesas, Boulder Mountain, and Thousand Lake Mountain. To the northeast of the Flat Tops is Spire Point, a volcanic dike that is extremely rare in the San Rafael Desert area.

¹⁰ Wilderness at the Edge at 218.

¹¹ *See id.*

¹² *Id.*

¹³ Utah Wilderness Inventory at 75.

¹⁴ *Id.*

¹⁵ *See supra* at 7 (photo of this area).

¹⁶ Richfield RMP at 3-86.

¹⁷ *See* Richfield RMP ROD at Map 2.

Sand dunes, native grasslands, and a series of washes lie between the Flat Tops in the north and Buck Canyon to the south. These support a wide variety of wildlife species including golden eagles, hawks, antelope, coyotes, rodents, lizards, snakes, and many different types of insects.

The BLM has recognized that all of the Flat Tops CPW contains wilderness characteristics.¹⁸ In addition, the BLM's Price Resource Management Plan designated parts of the Flat Tops as an Area of Critical Environmental Concern.¹⁹ This area also represents one of the very few relic plant communities in southern Utah.²⁰ The BLM has stated that this area presents the potential for scientific study for comparison to areas that have been grazed.²¹ Nearly 19,200 acres of land proposed for potential solar development in the DPEIS preferred alternative conflict with this remarkable CPW.

Bee diversity is higher in the world's deserts—and the Mediterranean—than anywhere else on the planet.²² The San Rafael Desert, just north of the Dirty Devil Canyon, is no different. In fact, it is home to one of the most astonishing and highly diverse array of native and endemic bees anywhere in North America.²³

Researchers have found forty-nine different genera and 333 different species in this area.²⁴ This is nearly half of all genera known in the United States.²⁵ This is also more genera and nearly as many species of bees as in all of New England.²⁶ Forty-eight of these species were new to science and sixty-eight of these species occur, as far as is known, only in the Canyonlands section of the Colorado Plateau.²⁷

Most of the bees found in the San Rafael Desert make their homes and nests in the ground.²⁸ Many of them visit, for pollination, only flowers of one or a few closely-related plants.²⁹ This makes these bees extremely vulnerable to ground disturbing activities.³⁰ It is likely that extensive solar development in this region could have a significant adverse impact on these bees.

¹⁸ Price RMP at 3-64, Map 3-15; Richfield RMP at 3-86, Map 3-9.

¹⁹ Price RMP ROD at Map R-29.

²⁰ See Price RMP at L-1.

²¹ *Id.*

²² See J.S. Wilson *et al.*, Variation Between Bee Communities on a Sand Dune Complex in the Great Basin Desert, North America: Implications for Sand Dune Conservation, *Journal of Arid Environments*, vol. 73, 666-71, at 666 (2009), available at <http://ddr.nal.usda.gov/bitstream/10113/29074/1/IND44201136.pdf>.

²³ See generally Terry Griswold *et al.*, The Bees of the San Rafael Desert Implications for the Bee Fauna of the Grand Staircase-Escalante National Monument, in *Learning from the Land*, Grand Staircase-Escalante National Monument Science Symposium Proceedings, Cedar City, Utah (1997).

²⁴ *Id.* at 181.

²⁵ *Id.* at 176.

²⁶ *Id.* at 175.

²⁷ Declaration of Dr. Vincent J. Tepedino, ¶ 6, *S. Utah Wilderness Alliance v. Bankert*, Case No. 2:07cv00292 (TC) (Oct. 9, 2007) (attached).

²⁸ *Id.*

²⁹ *Id.*

³⁰ See *id.*

The northern Dirty Devil region is home to the endangered Colorado squawfish, in the Green River, and may also contain the endangered humpback chub and the bonytail chub.³¹ It may also contain habitat for the Utah sensitive species, the roundtail chub and razorback sucker.³²

The proposed area also provides high value habitat for desert bighorn sheep. There are significant areas of critical habitat for pronghorn antelope in vast portions of this proposed MLP area, as well as high value habitat.

Based on Utah GAP Analysis data, the following sensitive species have habitat in the northern Dirty Devil region:

- Ferruginous hawk (high-value habitat).
- Short-eared owl (critical habitat).
- Burrowing owl (high-value habitat).
- Long-billed curlew (critical habitat).
- Peregrine falcon (high-value habitat).
- Blue grosbeak (critical habitat).
- Bald eagle (critical habitat).
- Common yellowthroat (critical habitat).
- Virgin River montane vole (critical habitat).
- Spotted bat (substantial and high-value habitat).
- Big free-tailed bat (substantial habitat).
- Townsend's big-eared bat (high-value habitat).
- Black-footed ferret (critical habitat).
- Utah milk snake (critical habitat).

The Flat Tops area in the San Rafael Desert supports a BLM Sensitive Species, which is also a candidate for potential listing: the Smith wild buckwheat.³³

Based on Utah GAP Analysis and Utah Natural Heritage Program data, the following sensitive species have habitat northern Dirty Devil region:

- *Dalea favesces var epica*.
- *Allium passeyi*.
- *Astragalus monumentalis*.
- Flat Top wild buckwheat.
- Rockloving milkvetch.
- Moab woodyaster.
- Low woollybase.
- Jones indigo-bush.

³¹ See BLM, Utah Wilderness Inventory 79 (1999).

³² According to data compiled with Utah Division of Wildlife Resources Utah Aquatic Species Gray Literature Records and Utah Aquatic Species Museum Records.

³³ Price Field Office, Record of Decision and Approved Resource Management Plan, at Map R-29 (2008) (Price RMP ROD).

- Jones catseye.
- Yellow blanketflower.
- Jones cycladenia.
- Psoralea globemallow.
- Entrada skeletonplant.
- Shultz stickleaf.
- Hole-in-the-rock prairie clover.

The Henry Mountains region is one of the most spectacular in Utah. It is remote, seldom visited, and gorgeous. It possesses some of the greatest scenery in the United States. It is also home to a free-roaming herd of bison.

The Henry Mountains area provides critical habitat for the threatened Mexican Spotted Owl.³⁴ The area also provides crucial habitat for desert bighorn sheep³⁵ and crucial winter habitat for mule deer.³⁶ Additionally, this area provides crucial habitat for one of the very few remaining genetically pure plains bison herds.³⁷

This area also includes critical and high-value habitat for mule deer,³⁸ critical habitat for pronghorn,³⁹ high-value and substantial value habitat for black bear,⁴⁰ and substantial habitat for elk.⁴¹

Further, the Henry Mountains may provide habitat to the Mount Ellen Pocket Gopher, which is endemic to the area. However, additional surveys are needed to clearly determine the status of the Mt. Ellen pocket gopher because it may already be extinct.⁴²

Based on Utah GAP Analysis data, the following sensitive species have habitat in the the Henry Mountains and southern Dirty Devil area:

- Ferruginous hawk (critical and high-value habitat).
- Burrowing owl (high-value and substantial habitat).
- Long-billed curlew (critical habitat).
- Williamson's sapsucker (critical habitat).
- Swainson's hawk (high-value habitat).
- Peregrine Falcon (high-value habitat).
- Yellow-billed cuckoo (critical habitat).

³⁴ Richfield RMP ROD at Map 6.

³⁵ Richfield RMP ROD at Map 8.

³⁶ Richfield RMP ROD at Map 9.

³⁷ Richfield RMP ROD at Map 8; Curtis H. Freese *et al.*, *Second Chance for the Plains Bison*, 136 BIOLOGICAL CONSERVATION, 175 (2007).

³⁸ Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

³⁹ Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

⁴⁰ Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

⁴¹ Utah Division of Wildlife Resources Mammal Habitat Coverage Data.

⁴² Michael Mac et al, Status and trends of the nation's biological resources, U.S. Department of the Interior, U.S. Geological Survey, 580 (1998), available at <http://www.nwrc.usgs.gov/sandt/Sothwest.pdf>.

- Osprey (high-value habitat).
- Sage grouse (critical habitat).
- Northern goshawk (critical habitat).
- Bald eagle (substantial habitat).
- Mexican spotted owl (critical habitat).
- Willow flycatcher (substantial habitat).
- Western red bat (critical habitat).
- Ringtail cat (critical and high-value habitat).
- Virgin River montane vole (critical and high-value habitat).
- Dwarf shrew (critical and high-value habitat).
- Fringed myotis (substantial habitat).
- Big free-tailed bat (substantial habitat).
- Townsend's big-eared bat (high-value and substantial habitat).

Based on Utah Division of Wildlife Resources' Heritage Data or Aquatic Species Gray Literature Records and Utah Aquatic Species Museum Records, the following sensitive fish species have habitat in the Henry Mountains area:

- Leatherside chub
- Roundtail chub
- Flannelmouth sucker

The Henry Mountains area contains many sensitive plants, some of which are threatened or endangered. One such species is the Wright's Fishhook cactus, which was listed as endangered in 1985.⁴³ It is possible that the Winkler Pincushion cactus may also be found in the proposed area.⁴⁴

Based on Utah GAP Analysis and Utah Natural Heritage Program data, the following sensitive species have habitat the Henry Mountains potentially at risk from the proposed program in the DPEIS:

- *Dalea flavescens var epica*.
- *Spiranthes diluvialis*.
- Wright's fishhook cactus (*Sclerocactus wrightiae*).
- Monument milkvetch (*Astragalus monumentalis*).
- Pavement phacelia (*Phacelia pulchella var sabulonum*).
- Kaiparowits milkvetch (*Astragalus malacoides*).
- Last chance townsendia *Townsendia aprica*.

⁴³ Wright Fishhook Cactus Recovery Plan (1985), available at http://www.fws.gov/ecos/ajax/docs/recovery_plan/851224.pdf; http://www.blm.gov/ut/st/en/prog/recreation/what_do_you_want_to/off_highway_vehicles/factory_butte/endangered_cactus.html (last viewed Sept. 24, 2010).

⁴⁴ BLM, Endangered Cactus Information, http://www.blm.gov/ut/st/en/prog/recreation/what_do_you_want_to/off_highway_vehicles/factory_butte/endangered_cactus.html (Apr. 30, 2008).

- Jane's globemallow (*Sphaeralcea leptophylla* var *janeae*).
- Flat top wild buckwheat.
- Dana's milkvetch.
- Barneby Milkvetch.
- Rockloving milkvetch.
- Low woolybase.
- Eastwood monkeyflower
- Westwater buckwheat
- Pinyon milkvetch
- Heil's beavertail
- Intrusive milkvetch
- Harrison milkvetch
- Woodruff milkvetch
- Cronquist wild buckwheat
- Thompson peteria
- Panther milkvetch.
- Winkler pincushion cactus (*Pediocactus winkleri*).
- Despain pincushion cactus (*Pediocactus despaini*).
- Maguire daisy (*Erigeron maguirei*).
- Ute ladies' tresses (*Spiranthes diluvialis*).
- Alcove bog-orchid.
- Psoralea globemallow.
- Hole-in-the-rock prairie clover.

The Henry Mountains region is a top recreation destination. People visit this region for many reasons. Canyoneers enjoy its many, varied canyons, which are famous for their narrow width.⁴⁵ Climbers visit its mountain crags.⁴⁶ The Dirty Devil even provides a river running adventure during high flow season.⁴⁷ It is also a prime location for hiking, camping, and family adventures.⁴⁸

The Henry Mountains also boast world class hunting. Remarkably, this area has bison hunting.⁴⁹ It is the only free-roaming and huntable herd in the lower 48 states.⁵⁰ It is also a top mule deer hunting ground.⁵¹

⁴⁵ See, e.g., Tom's Utah Canyoneering Guide, North Wash, <http://www.canyoneeringusa.com/utah/north/index.php> (last visited Sept. 24, 2010).

⁴⁶ See, e.g., summitpost.org, Henry Mountains, <http://www.summitpost.org/area/range/592740/henry-mountains.html> (Jan. 28, 2010).

⁴⁷ See, e.g., paddling.net, Dirty Devil River, <http://www.paddling.net/places/showReport.html?885> (last visited Sept. 24, 2010).

⁴⁸ See, e.g., Utah.com, Henry Mountains, http://www.utah.com/playgrounds/henry_mtns.htm (last visited Sept. 24, 2010).

⁴⁹ See, e.g., Fremont River Guides, Henry Mountain Buffalo & Deer Hunting, <http://www.flyfishingsouthernutah.com/bison> (last visited Sept. 24, 2010).

⁵⁰ Utah.com, Dirty Devil River.

⁵¹ See, e.g., Extreme Outdoors, Guided Hunting: Henry Mtn's Mule Deer, Utah, <http://www.goextremeoutdoors.com/EOGuidedHuntHenrys.html> (last visited Sept. 24, 2010).

The BLM has designated three special recreation management areas that overlap with the proposed solar areas in the DPEIS: the Dirty Devil/Robber's Roost, Factory Butte, and Henry Mountains.⁵² Furthermore, the BLM considered a much larger special recreation management zone for the Factory Butte area in the Richfield Resource Management Plan, as well as the Henry Mountains and the Dirty Devil.⁵³ The BLM also considered special recreation management zones for lands adjacent to Capitol Reef National Park, in the Little Rockies area, and around Wild Horse Mesa.⁵⁴

The Henry Mountains area contains some of the most scenic lands in the United States. The view of Happy and Hatch Canyon with the Henry Mountains as a backdrop is unparalleled.



Many areas of the areas proposed for solar development in the Henry Mountains area provide sublime, quiet reflective hiking locations where visitors may ponder undeveloped terrain and functioning ecosystems. Most recreational activities taking place in these locations would be impaired by oil and gas development.

i. Factory Butte

The Factory Butte citizen-proposed wilderness (CPW) encompasses one of the most spectacular badland features in Utah and possibly the world: Factory Butte. Photographs of this feature have appeared in countless magazines and advertisements. It is a Utah icon. These spectacular scenic values, as well as the endangered cacti living in its shadows, should be protected from oil and gas development.

⁵² See Richfield RMP ROD at Map 14.

⁵³ See Richfield RMP at Map 2-8, Map 2-11.

⁵⁴ See *id.* at Map 2-11; Price RMP at Map 2-25.

The BLM has found that nearly all of the Factory Butte CPW contains wilderness characteristics.⁵⁵

ii. Red Desert

The remarkable Red Desert CPW sits to the east of Capitol Reef National Park. It includes sandstone cliff towers guarding rugged badlands.

The Red Desert provides refuge for the endangered Wright scelerocactus.⁵⁶

The BLM has agreed that essentially all of the Red Desert CPW contains wilderness characteristics.⁵⁷

iii. Mount Ellen and Mount Pennell

Surrounding the Mount Ellen and Mount Pennell wilderness study areas, respectively, these CPWs contain many of the same values. They are excellent examples for geologists of igneous intrusion.⁵⁸ Rich in wildlife, they even includes a free-roaming bison herd.⁵⁹ They provide habitat for endangered species such as the Wright's fishhook cactus.⁶⁰

The BLM agrees that most of these CPWs contain wilderness characteristics.⁶¹ Together, these areas result in 23,747.6 acres of conflict with the DPEIS.

iv. Long Canyon

The BLM agrees that all 16,600 acres of this CPW contains wilderness characteristics.⁶² It sits immediately adjacent to Capitol Reef National Park and is remote and wild. 1,410.5 acres of land conflict with the Long Canyon CPW in the DPEIS.

v. Bullfrog Creek

The Bullfrog Creek CPW consists of a large, deep canyon system and the extensive Clay Point and Saleratus Point mesa tops.⁶³ It is a remote, spectacular area with ample opportunity for solitude. There are 3,650 acres of overlap between this CPW and the DPEIS preferred alternative.

BLM has inventoried the Bullfrog Creek CPW and agreed most of this unit contains wilderness

⁵⁵ See Richfield RMP at 3-87; Utah Wilderness Inventory at 86-86M.

⁵⁶ Utah Wilderness Inventory at 92.

⁵⁷ See Richfield RMP at 3-88.

⁵⁸ Utah Wilderness Inventory at 69.

⁵⁹ *Id.* at 69, 72.

⁶⁰ *Id.* at 72.

⁶¹ See Richfield RMP at 3-87.

⁶² Richfield RMP at 3-87.

⁶³ Utah Wilderness Inventory at 73.

character.⁶⁴

vi. Ragged Mountain and Bull Mountain

These two CPWs include rugged outcroppings and peaks on the eastern portion of the Henry Mountains. The Bull Mountain CPW is an extension of the Bull Mountain Wilderness Study Area and contains the same values. The BLM has found that nearly all of the Mull Mountain CPW contains wilderness characteristics.⁶⁵ Likewise, it has found almost all of the Ragged Mountain CPW to contain wilderness character.⁶⁶

vii. Muddy Creek

The Muddy Creek CPW encompasses a vast swath of the San Rafael Swell and the northern portion of the proposed Henry Mountains MLP. The area contains “extensive evidence of tool-making,” speaking of archeological resources.⁶⁷ The vegetation of the Muddy Creek CPW is extremely varied and fluctuates from pinyon and juniper woodlands to grassy flats to nearly barren mancos badlands. The area is also crucial bighorn sheep habitat.⁶⁸

The Muddy Creek CPW is home to a number of renowned canyons; some of which are popular recreational destinations. The Moroni Slopes, in particular, has two premier canyons for canyoneers to descend.⁶⁹

The BLM agrees that the large majority of the Muddy Creek CPW possesses wilderness character.⁷⁰

viii. Little Rockies

The Little Rockies are a jumble of canyons, mountains, and deserts. This incredible and remote area is worthy of protection from oil and gas development in all areas of this CPW.

The BLM has agreed that essentially this entire CPW possesses wilderness characteristics.⁷¹ Nearly 200 acres of land conflict with the preferred alternative in the DPEIS and this CPW.

⁶⁴ Richfield RMP at 3-86.

⁶⁵ See Utah Wilderness Inventory at 70.

⁶⁶ See *id.* at 71.

⁶⁷ See Utah Wilderness Inventory at 85.

⁶⁸ See Price RMP at Map 3-12a.

⁶⁹ See Tom’s Utah Canyoneering Guide, Lower Squeeze Canyon, <http://www.canyoneeringusa.com/utah/swell/squeeze.htm> (last visited on Sept. 9, 2010); Tom’s Canyoneering Guide, Segers Window Canyon aka South Fork Segers Hole Canyon, <http://www.canyoneeringusa.com/utah/swell/segers.htm> (last visited on Sept. 9, 2010).

⁷⁰ See Richfield RMP at 3-87, Map 3-15; Utah Wilderness Inventory at 86-86M.

⁷¹ See Richfield RMP at 3-87.

ix. Cane Spring Desert and Cane Spring Adjacents

These remarkable, arid CPWs border the Glen Canyon National Recreation area. They include both badlands and a canyon system. Both are deserving of protection from development. There are 5,620 acres of conflict between these CPWs and the preferred alternative in the DPEIS.

x. Pleasant Creek Bench and Capitol Reef Adjacents

The BLM appears to agree that the entirety of both of these areas contain wilderness character.⁷² The BLM identified these CPWs as part of its larger Red Desert non-wilderness study area with wilderness characteristics.⁷³ The values of these areas are similar to those of the Red Desert CPW and to Capitol Reef National Park, which they border.

xi. Wild Horse Mesa

The Wild Horse Mesa CPW acts as a spectacular backdrop to Goblin Valley State Park. It is an area of sensitive badlands, which are highly susceptible to erosion. This area contains geological and paleontological specimens such as agates, petrified wood, sharks teeth, and occasional dinosaur bones.⁷⁴ It is a frequent visiting place for university and commercial geological field trips because of the many exposed formations and strata.⁷⁵

The BLM agrees that nearly all of the Wild Horse Mesa CPW contains wilderness character.⁷⁶ It has even decided to manage portions of this area to protect its wilderness character.⁷⁷ There are 5,928 acres of conflict between this CPW and the preferred alternative in the DPEIS.

xii. Areas of Critical Environmental Concern (ACECs)

The Henry Mountains area includes one ACEC that was designated in the Richfield Resource Management Plan and six ACECs that were found to meet the relevance and importance criteria but were not designated or that only had portions of the full area meeting the relevance and importance criteria designated.

1. Existing ACEC (North Cainville Mesa)

The Henry Mountains area includes one designated ACEC: North Cainville Mesa.⁷⁸ This area appears to permit oil and gas leasing only with no surface occupancy stipulations.⁷⁹

2. Badlands

⁷² See Richfield RMP at Map 3-9.

⁷³ See *id.*

⁷⁴ Utah Wilderness Inventory at 91.

⁷⁵ See *id.*

⁷⁶ See Richfield RMP at Map 3-9.

⁷⁷ See Richfield RMP ROD at Map 2.

⁷⁸ Richfield RMP ROD at Map 28.

⁷⁹ Compare Richfield RMP ROD at Map 28, with *id.* at 23.

The BLM ultimately selected an ACEC designation that left out the major part of the Badlands ACEC.⁸⁰ However, the BLM still found that those portions of the potential Badlands ACEC not designated were scenic, contained special status plants, demonstrated natural processes (wind erosion, and had riparian and relict vegetation.⁸¹ The BLM identified the scenery as —Class A.⁸²

3. Lower Muddy Creek

Although the Richfield Resource Management Plan did not designate the potential Lower Muddy Creek ACEC, it did find an array of important and relevant values.⁸³ The BLM stated the following regarding this potential ACEC:

This potential ACEC contains a vibrant multi-colored visual landscape intermingled with badland topography. These scenic values area of exceptional quality, and the area is Class I scenery. Because of its proximity to Goblin [Valley] State Park, some of the rare “goblin” structures can also be found. The southeast quarter area also contains high value habitat for pronghorn. Three threatened, endangered, or sensitive plants occur within the area—Wright fishhook cactus, *Psoralea globemallow*, and Heil’s Beavertail.⁸⁴

These impressive and unique scenic and biological values should be protected from leasing and development.

4. Bull Creek Archeological District

As the name indicates, this area was found to possess relevant and important cultural resource values.⁸⁵

These values would be harmed by development in this area. Indeed, the BLM has already limited this area to no surface occupancy stipulations for oil and gas development.⁸⁶

5. Henry Mountains

The potential Henry Mountains ACEC was considered for the ~~purpose~~ of ... recognize[ing] and provid[ing] special management for relevant and important scenic, wildlife (bison and deer), SSS (i.e. Townsend’s big-eared bat, ferruginous hawk, burrowing owl, and hole-in-the-rock prairie clover), and ecological values.”⁸⁷ All of these values would be threatened by development in these areas.

⁸⁰ Compare Richfield RMP ROD at 28, with Richfield RMP at Map 2-46.

⁸¹ Richfield RMP at 3-124.

⁸² *Id.*

⁸³ See Richfield RMP at 3-126.

⁸⁴ Price RMP at 3-93.

⁸⁵ See Richfield RMP at 3-125.

⁸⁶ See Richfield RMP ROD at Map 23.

⁸⁷ Richfield RMP at 3-125.

6. Little Rockies

The BLM considered this potential ACEC in order to manage for the scenic values and wildlife values of this region.⁸⁸ The Little Rockies provide a spectacular juxtaposition of laccolith uplifts surrounded by harsh, arid desert.

7. Dirty Devil

This spectacularly scenic ACEC encompasses the Dirty Devil River and its main side canyons.⁸⁹ The BLM says the following about this area:

The potential ACEC is defined by Class A Scenery, Mexican spotted owl suitable habitat, and desert bighorn sheep crucial yearlong habitat within the nominated areas. The potential ACEC includes the existing Beaver Wash Canyon ACEC. The potential ACEC overlaps portions of the Dirty Devil, French Spring/Happy Canyon, and Fiddler Butte WSAs; thus management would be governed by the IMP for these areas. The Dirty Devil River and several of its side canyons were determined to be eligible as [Wild and Scenic Rivers].⁹⁰

Glen Canyon/San Juan River Wilderness Complex

Southeast Utah's Glen Canyon/San Juan River region encompasses a one of the nation's most remarkable and awe inspiring environments. This area is encompassed by the lands found in the Monticello Field Office. From the forested, high elevation plateaus to desert shrublands to lush riparian corridors, this area covers a wide range of ecosystems. The scenery and vistas from this area is magnificent, vintage Utah redrock country. The area also offers important recreation opportunities, including outstanding hiking, camping, and opportunities to explore and appreciate intact cultural resources. The DPEIS proposes potentially allowing development in areas not suitable for solar development. This development could place at risk other federal and local priorities, including important big game habitat, outstanding recreation opportunities, prized cultural sites and multiple Citizen Wilderness Proposal areas. The preferred alternative encompasses tens of thousands of acres of proposed wilderness in the heart of Utah's iconic red rock country in southeastern Utah.

The Glen Canyon/San Juan River area contains significant cultural resources.

The cultural resources found within the jurisdiction of the [Monticello Field Office] constitute some of the most aesthetically appealing and scientifically significant resources anywhere on the Colorado Plateau. The more than 26,000 documented archaeological sites in the area, the majority on BLM-administered lands, constitute the most significant concentration of cultural resources in the state of Utah. The extraordinary number and density of sites (cf. DEIS 1-4) makes

⁸⁸ Richfield RMP at 3-126.

⁸⁹ See Richfield RMP at Map 2-46.

⁹⁰ Richfield RMP at 3-125.

the region among the most significant concentrations of archaeological sites anywhere in the western United States.⁹¹

A more recent report prepared by the Colorado Plateau Archaeological Alliance entitled “Farming and Foraging on the Southwestern Frontier,” further details the significant cultural resources found within the proposed MLP.⁹²

The Glen Canyon/San Juan River area includes several designated “cultural management areas,” the Hole-in-the-Rock historic trail, the Alkali National Historic Landmark and National Historic Districts.⁹³

The Monticello RMP identified significant portions of this area as providing critical and high value habitat for mule deer and crucial habitat for desert bighorn sheep.⁹⁴ Also, black bear inhabits portions of the region in and around Arch Canyon and Montezuma Creek.⁹⁵

The Glen Canyon/San Juan River area contains habitat for bald eagle, ferruginous hawk, and osprey, as well as designated critical habitat for Mexican spotted owl (*Strix occidentalis lucida*).⁹⁶ Substantial portions of the area also provide habitat for Gunnison prairie dog.⁹⁷ Although seasonal restrictions and other stipulations may moderate the impacts of development on such raptors, they are still sensitive to human disturbance in nesting, and rely on functional natural habitats for prey. Impacts to waterways and prairie dog colonies can impede healthy forage patterns for various raptors. Based on ongoing concerns about these impacts to raptors of all kinds, the U.S. Fish and Wildlife Service has recently issued draft guidelines for managing activities such as oil and gas drilling in raptor habitat; such guidelines could also apply to solar development. These guidelines are being adhered to already by the BLM in other resource management decisions in several field offices in Utah and should be considered in the development of management prescriptions for the PEIS.

According to Utah GAP analysis, the Glen Canyon/San Juan River area also provides habitat for many BLM sensitive animal and plant species,⁹⁸ including: western red bat, ringtail cat, spotted ground squirrel, Townsend’s big eared bat, Utah night lizard, Many Lined Skink, Whiteflower Penstemon, Monument Milkvetch, Virgin Phacelia, Eastwood Monkeyflower, Sheathed Deathcamus, and Rydberg’s Thistle.

⁹¹ Colorado Plateau Archaeological Alliance Comments re: Monticello DEIS/DRMP at 3 (submitted Jan. 31, 2008).

⁹² A copy of “Farming and Foraging on the Southwestern Frontier” is available online at <https://research.wsulibs.wsu.edu:8443/dspace/handle/2376/2643>.

⁹³ Monticello ROD Map 20; Monticello FEIS/PRMP at 3-15 to -28.

⁹⁴ See Monticello ROD Map 14 (wildlife habitat).

⁹⁵ See Monticello FEIS/PRMP Map 72.

⁹⁶ See Monticello FEIS/PRMP Map 92 (bald eagle) and 93 (Mexican Spotted Owl Habitat).

⁹⁷ Monticello ROD Map 14.

⁹⁸ The BLM maintains a list of sensitive species that may occur on managed lands. The BLM Utah state director’s Sensitive Species List includes those that are federally listed species, those identified by the BLM, and those listed as state sensitive by the State of Utah. Monticello FEIS/PRMP at 3-159. See *id.* at 3-159 to -64 (listing sensitive species occurring within the Monticello planning area).

The Monticello Field Office contains large areas of identified wilderness values or areas proposed by the Utah Wilderness Coalition for wilderness designation.⁹⁹ Many of these areas present conflicts with the preferred alternative in the DPEIS.

i. Red Rock Plateau (Mancos Mesa)/Copper Point¹⁰⁰

The eastern edge of the Red Rock Plateau and Copper Point proposed wilderness units are most often viewed by travelers as they drive the Highway 95 Bicentennial Scenic Byway, between the Glen Canyon National Recreation Area and Natural Bridges National Monument, which recognizes the area's outstanding natural beauty as well as its historic, cultural and recreational importance. Roughly fifteen miles of the Scenic Byway provide direct views into the proposed wilderness, but the heart of this vast wilderness remains well off the beaten path, and harbors natural wonders beyond compare. 2,0832.2 acres from the preferred alternative in the DPEIS conflict with the Red Rock Plateau CPW. 214.8 acres conflict with the Copper Point CPW.

The crown jewel of this wilderness is the expansive Mancos Mesa, which is dissected east to west by the 20-mile long Moqui Canyon. Mancos Mesa's 180-square mile mesa top, bounded on every side by 1,000- to 1,500-foot-high cliffs, is the largest isolated slickrock mesa in southern Utah. Navajo Sandstone dominates the westward-sloping mesa, with elevations ranging from nearly 7,000 feet to 4,500 feet. Expanses of slickrock domes in shades of vermilion intermingle with sand dunes vegetated with ancient juniper trees, sagebrush, Mormon tea, and Indian ricegrass. Cottonwood trees and riparian vegetation can be found tucked away in canyons, fed by natural seeps and by springs. Highly eroded, and multi-hued badlands, found beneath the rim complete the diversity of this outstanding wilderness.

The Redrock Plateau and Copper Point proposed wilderness units also shelters extensive archaeological remains spanning thousands of years of prehistory and several different cultures. Remains of stone tool-making sites, fireplaces, pit houses, kivas, and storage structures can be found throughout the area.

ii. Nokai Dome¹⁰¹

The Nokai Dome CPW is one of the most out-of-the-way places in Utah. It is inappropriate for solar development. Over 5,551 acres of land conflict with this CPW and the preferred alternative in the DPEIS. Contiguous with the San Juan River arm of the Glen Canyon National Recreation Area, this rugged and lonely landscape contains numerous deep canyons, scenic expanses of slickrock and colorful Chinle badlands. The area also provides year-round habitat for desert bighorn sheep.

A vast expanse of sandstone dating from the Mesozoic and Paleozoic eras, the Nokai Dome area

⁹⁹ See Monticello ROD Map 18. See also Monticello FEIS/PRMP Map 33 (depicting areas BLM determined to have wilderness character); *id.* at 3-80 to -82 (Table 3.19 Summary of Lands Evaluated for Wilderness Characteristics).

¹⁰⁰ See Utah Wilderness Inventory at 97 (1999) (describing Mancos Mesa). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se97.pdf>.

¹⁰¹ See Utah Wilderness Inventory at 98 (1999) (describing Nokai Dome). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se98.pdf>.

slopes gradually down to the San Juan River and Lake Powell. Mikes Canyon and Castle Creek, both harboring rare spring-fed streams, continue to cut deep into the ancient layers of sandstone. Lake Canyon provides a perennial water source in the western part of the Nokai Dome area. Unforgettable vistas from Nokai Dome include Navajo Mountain to the southwest, the distinctive Waterpocket Fold to the northwest, and the distant spires of Monument Valley to the south.

Although this vast area has not been inventoried for archaeological resources, it was used by Ancestral Puebloans over the course of several thousand years; evidence of this prehistoric presence can be found in canyons, on mesa tops, and scattered throughout the area. The lower canyons have numerous storage structures and habitation sites; stone chipping and camping sites are found on the bench lands. Traces of the historic Hole-in-the-Rock trail used by Mormon settlers in the late 1800's can be found near Lake Canyon. Today, due to its exceptional remoteness, the Nokai Dome wilderness attracts only those seeking uncompromised solitude and naturalness, values that are becoming extinct on public lands across the West.

iii. White Canyon/Fort Knocker Canyon/Tuwa Canyon¹⁰²

Each year nearly 100,000 visitors explore Natural Bridges National Monument, searching for the solitude, beauty, and silence that are unique to the Colorado Plateau. Few of these visitors realize that the 7,600-acre national monument is surrounded by thousands of acres of BLM wild lands including Tuwa Canyon and the upper drainages of White Canyon.

The preferred alternative of the DPEIS presents the following acreage conflicts: 1,647.6 acres with White Canyon and 2,217.2 acres with Fort Knocker Canyon.

White Canyon has carved a maze of canyons deep into the Cedar Mesa Sandstone layer. These canyons are among the world's foremost displays of erosion sculpting, and the upper part of White Canyon was included within Natural Bridges National Monument in recognition of this distinction. The sinuous canyons on the BLM lands alternately narrow down into cool, dark, armspan-width slots and then widen again into coves littered with 40-ton house-sized rocks and pocket forests of cottonwood, ponderosa, and fir.

The canyon walls are honeycombed with alcoves, arches, windows, hanging gardens, and grottoes; the canyon floors are riddled with potholes. In places, natural spring water forms deep pools, and occasional rainstorms bring torrents of floodwater raging through the boulder gardens and thundering over pour-offs in spectacular waterfalls. Well over 100 miles of narrow, winding canyons in the White Canyon proposed wilderness complex (including White Canyon, Fort Knocker Canyon and Tuwa Canyon) form a network so labyrinthine that outstanding solitude is assured. Fort Knocker Canyon winds through sandstone bench lands surrounded by 1000-foot high mesas and buttes, and feeds into the lower reaches of White Canyon before it flows into the Colorado River arm of Lake Powell. This remote area is becoming internationally recognized for its dark night skies, offering some of the best stargazing in the world.

¹⁰² See Utah Wilderness Inventory at 94 (1999) (describing Fort Knocker Canyon). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se94.pdf>.

White Canyon's intermittently flowing water is an attraction for wildlife, and surely attracted the Ancestral Puebloans to the area, as remnants of their culture, ranging from scattered stone-working sites to impressive cliff dwellings, are located throughout the proposed wilderness.

iv. Upper Red Canyon/The Needle

Upper Red Canyon and The Needle proposed wilderness areas are located west of Natural Bridges National Monument, to the north of Highway 276 as it proceeds west towards Glen Canyon National Recreation Area. The sweeping landscape, which encompasses both the North and South forks of Red Canyon, is characterized by winding canyons, sheer Wingate Sandstone cliffs, and towering buttes and mesas. Geological and scenic contrast is provided by the colorful and undulating Chinle badlands, a consequence of erosional forces through millennia.

A remote and seldom-visited area, The Needle and Upper Red Canyon wilderness retains an exceptional degree of naturalness. Highway travelers glimpse only a small portion of the area while passing by the Red House Cliffs, completely unaware of the diverse and spectacular landscape that unfolds beyond their ramparts.

3,026.6 acres of the preferred alternative in the DPEIS conflict with the Upper Red Canyon CPW. 1,563.7 acres of the preferred alternative in the DPEIS conflict with the Needle CPW.

v. Arch Canyon/Allen Canyon/Hammond Canyon

The Arch Canyon proposed wilderness unit offers particularly rare resources in the canyon country of southeastern Utah. The canyon has a perennial water source that appears to have been the focus of intense prehistoric occupations by Ancestral Puebloan farmers, resulting in spectacular architectural remains along the canyon bottom and at various higher cliff levels. Remnants from this occupation include residential structures and shelters, possible defensive structures, storage granaries, elaborate petroglyphs and pictographs, pottery and ceremonial artifacts. Allen Canyon and Hammond Canyon proposed wilderness units are adjacent to Arch Canyon and quite similar, though neither has a perennial water source.

vi. Valley of the Gods/Lime Creek

Valley of the Gods and the immediately adjacent Lime Creek proposed wilderness units are important to regional, national and international visitors who view and photograph the scenery. Panoramic views can be seen from the highway bordering the area and from the Valley of the Gods Loop Road. The eroded, wind sculpted spires and buttes, and long rock fins resemble animals or gods.¹⁰³ The area is strikingly similar to Monument Valley located approximately forty miles south in Arizona.

¹⁰³ Monticello FEIS/PRMP at 3-146. See also Utah Wilderness Inventory at 101 (1999) (describing the southern portion of the adjacent Road Canyon proposed wilderness unit as offering "exceptionally high" scenic qualities).

vii. San Juan River

The scenery throughout the San Juan River and Tabernacle proposed wilderness units includes tilted formations as the river crosses Comb Ridge, steep vertical cliffs hundreds of feet high with walls of interbedded sandstone and limestone, and the 1,200-foot high walls of the Goosenecks. The Goosenecks are one of the best examples of entrenched meanders in the U.S. Riparian areas with various hues of green border the watercourse and contrast with red sandstone, presenting a diverse and varied scenic viewing area. Hanging gardens occur in ledges of Navajo Sandstone. The rock art along the San Juan River is unsurpassed.” Monticello FEIS/PRMP at 3-146. *See* Utah Wilderness Inventory at 102 (1999) (“The scenic quality of the [San Juan River] unit are exceptionally high. Views of Monument Valley and the San Juan River are breathtaking. . . . The beautiful, complex erosional patterns of interbedded gray limestone and red mudstone around Sugarloaf Butte and visually striking.”).¹⁰⁴

1,667.2 acres of land proposed for solar leasing and development in the DPEIS conflict with the San Juan River CPW.

viii. Comb Ridge/Fish and Owl Creek Canyons/Road Canyon

In its 1999 Utah Wilderness Inventory, BLM documented that the Comb Ridge/Fish and Owl Creek Canyons/Road Canyon complex is a wilderness caliber landscape.¹⁰⁵ BLM explained that these units contain hundreds if not thousands of archeological sites, offer “superb” scenic qualities – including “impressive vistas of ancient ruins, cottonwood-filled canyons, and spectacular cliffs.” Utah Wilderness Inventory at 100. Solar development in this area would clash with the character and setting of this unique wilderness setting.

ix. Tin Cup Mesa/Cross Canyon/Monument Canyon

In its 1999 Utah Wilderness Inventory, the BLM described the Tin Cup Mesa/Cross Canyon/Monument Canyon region as being “an important ecological islands in a surrounding sea of lands altered by agriculture.”¹⁰⁶ BLM noted that the Cross Canyon unit – adjacent to the Utah Wilderness Coalition’s Tin Cup Mesa proposed wilderness unit, contains “impressive archeological sites, consisting of standing walls of core-and-veneer construction.”¹⁰⁷

The units are just across the state line from Canyons of the Ancients National Monument and close to Hovenweep National Monument, and in fact contain hundreds of outlier Hovenweep sites. These wilderness units are particularly important to Native American tribes, including the Rio Grande Pueblo.

¹⁰⁴ Available online at <http://www.access.gpo.gov/blm/utah/pdf/se102.pdf>.

¹⁰⁵ *See* Utah Wilderness Inventory at 100, 101 and 103 (1999) (describing Fish and Owl Creeks, Road Canyon, and Comb Ridge). Available online at <http://www.access.gpo.gov/blm/utah/pdf/se100.pdf>; <http://www.access.gpo.gov/blm/utah/pdf/se101.pdf> and <http://www.access.gpo.gov/blm/utah/pdf/se103.pdf>.

¹⁰⁶ Utah Wilderness Inventory at 105. Available online at <http://www.access.gpo.gov/blm/utah/pdf/se105.pdf> (Squaw and Papoose Canyon) and <http://www.access.gpo.gov/blm/utah/pdf/se106.pdf> (Cross Canyon).

¹⁰⁷ *Id.* at 106.

The Solar DPEIS presents 2,696.2 acres of conflict with the Tin Cup Mesa CPW, 770 acres with the Monument Canyon CPW, and 14.4 acres with the Cross Canyon CPW.

x. Areas of Critical Environmental Concern

The Monticello RMP designated four ACECs that are located within the Glen Canyon/San Juan River area: Valley of the Gods, Alkali Ridge, Hovenweep, and San Juan River.¹⁰⁸ The RMP closed the Valley of the Gods ACEC to oil and gas leasing and designated the San Juan River ACEC and portions of the Hovenweep ACEC as open to leasing with no surface occupancy stipulations; it would be incongruous to now allow solar leasing and development in these areas.¹⁰⁹ Leasing and development in other portions of the Hovenweep ACEC and all of the Alkali Ridge ACEC would threaten the identified relevant and important values.¹¹⁰

V. Solar Energy Zones in Utah

The proposed SEZs in Utah include one area with good potential to be an appropriate SEZ (Milford Flats South SEZ), one area that contains a good portion of land that may be appropriate for inclusion as a SEZ (Escalante Valley SEZ), and one area that we recommend de-prioritizing for designation as a SEZ (Wah Wah Valley) at this time because the land use plan for the area should be updated first. Please see the detailed comments below for more information, including details on our potential support for these SEZs.

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, and corrections.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, we strongly caution against that interpretation. Rather, we underscore the importance of focusing on the SEZs rather than the additional 21 million acres included in the SEDP Alternative. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SEDP Alternatives have not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in

¹⁰⁸ See Monticello ROD Map 11.

¹⁰⁹ Compare *id.* with Map 18 (oil and gas leasing categories).

¹¹⁰ Monticello FEIS/PRMP at 4-488 (Alkali Ridge) and 4-497 to -498.

Section IV, we expect that volumes of additional issues and challenges would be found on the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

A. Escalante Valley SEZ

i. Overview

Escalante Valley SEZ is located in Iron County in southwestern Utah, 30 miles southeast of Cedar City, 20 miles southwest of Milford Flats South SEZ, and 33 miles south of Wah Wah Valley SEZ. Situated in the south-central part of the Escalante Desert, Escalante Valley SEZ is bounded by the Black Mountains and the Antelope Range to the south, the Shauntie Hills and Wah Wah Mountains to the northwest, and the Mineral Mountains to the northeast. The nearest major road is State Route 56, 15 miles to the south, and a rail spur off the main line at Lund passes through the northeastern edge of the SEZ. This area supports a sparse saltbush-greasewood shrub community. No perennial streams, water bodies, or springs have been identified in the area of indirect effects, but three miles of Fourmile Wash, an intermittent stream that is usually dry, fall within the area of indirect effects, as close as 3 miles NW of the SEZ. In the Beryl Enterprise basin that contains the SEZ, 97% of groundwater use is agricultural, 3% is domestic, and 1% is industrial. As with most of the desert southwest, limited availability of water resources may make low water use technologies most appropriate for this area.

There is an existing 138 kV transmission line 3 miles southeast of the SEZ, and an existing DC transmission line 4.5 miles south of the SEZ.¹¹¹ There are no solar applications within 50 miles, but large areas 40-50 miles to the northeast are being examined for wind and geothermal energy development. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

The DPEIS states that wet cooling is not feasible for Escalante Valley SEZ. There has been unsustainable groundwater use in Escalante Valley since 1950. Groundwater levels dropped as much as 150' from 1948-2009 from pumping in the SW Escalante Valley (11 mi. southwest of the SEZ), and some subsidence and fissuring has occurred. In recent years, groundwater pumping of 80,000 AFA in the basin has lowered the water table 1.2 feet over 11 years, and USGS data show the withdrawal rate has increased to 93,000 AFA, mostly due to irrigation

¹¹¹ Analysis for determining distances to existing transmission lines for all SEZs was completed using the following data source: POWERmap, powermap.platts.com ©2011 Platts, A Division of The McGraw-Hill Companies

(some industrial use as well); this rate is 2.5 times the estimated basin safe yield. A full build out using wet cooling would represent 3-17% of total current groundwater withdrawals in the Beryl Enterprise basin that contains Escalante Valley SEZ (9-47% of annual recharge). No new groundwater diversions are allowed; existing rights would need to be acquired for any development in Escalante Valley SEZ. The DPEIS states that the proposed Lake Powell pipeline could supply water to meet solar development demands or offset groundwater use, but there's no assurance that this project is viable or will be built. Although water requirements for dry cooling are comparable to small farm usage levels, wet cooling would require the water usage of a medium size farm at the minimum, three times the size of a large farm at the maximum. The document states that in conjunction with the eastern Nevada SEZs only 40 miles to the northwest, solar development in Escalante valley SEZ could result in cumulative regional groundwater effects. Given the limited water availability in the area, it seems that dry-cooled or non-cooled projects are most viable. Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Vegetation removal and soil disturbance**

Detailed information regarding vegetation removal and soil disturbance is included in Section III, above. Specific to Escalante Valley SEZ, shrub and dune communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZ, particularly given that the noxious weeds cheatgrass and halogeton already exist on site, could proliferate with land disturbance, and could become entrenched with the increased fire frequency common in cheatgrass invaded areas. All soil types in Escalante Valley SEZ have moderate to high wind erosion potential; windblown dusts were noted by BLM during visits to Escalante Valley, and the soil pedestals around the bases of shrubs noted during site visits indicate extensive wind erosion. Although the DPEIS states that no microbial crusts are reported for soils covering the three SEZs, we observed them during site visits to Escalante Valley as well as Milford Flats South. Given these conditions, it is especially important that the BLM analyze potential impacts related to vegetation removal and soil disturbance for Escalante Valley SEZ and include more detailed measures to avoid, minimize and mitigate any potential impacts in the FPEIS.

iii. Recommended Boundary Adjustments

The initial boundaries of Escalante Valley were altered in the DPEIS to remove the intersection of the SEZ with the Lund-Cedar City rail line through the northeast corner and to include an area in the southern tip that was previously excluded; the revised SEZ is 33 acres larger. The boundary adjacent to the dry lakebed in the southwest portion of the SEZ might be adjusted with a buffer to protect this area, and this requires further investigation. We have no other information at this time that could be used to recommend additional boundary revisions;

evaluation and avoidance of biologically sensitive areas would likely need to occur at the project specific level.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special Status Species**

- **Utah Prairie Dog.** USFWS consultation will be required for the federally endangered Utah prairie dog; quad level UNHP occurrences of this species intersect the SEZ, and the Utah prairie dog tracking database shows active colonies in the affected area (all areas within a five mile buffer of the SEZ boundary). Impacts to the species are predicted to be small since pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Greater Sage-grouse.** Coordination will be required for the greater sage-grouse, a candidate species. USFWS indicated in scoping comments that suitable habitat occurs throughout the Escalante Valley SEZ region (50 mile buffer around the SEZ centroid), and UDWR has identified crucial breeding habitat 10 miles east and 20 miles west of the SEZ. SWReGAP habitat models predict potential habitat in the SEZ and the affected area. However, there are no sage-grouse occurrence data in the immediate vicinity based on downloaded UDWR data and an official review by UDWR which specified no greater sage-grouse occurrences within a half mile radius of the SEZ. UNHP quad-based records indicate that there was a lek recorded in the quad to the east in 2008. BLM data digitized from the 1983 Pinyon MFP do not show any sage-grouse in the vicinity, and the sparse saltbush-greasewood shrub vegetation that dominates Escalante Valley SEZ is not high quality habitat for the species. Any impacts to the species are doubtful, but pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Pronghorn.** Escalante Valley and its affected area are completely within crucial pronghorn habitat, as are all the Utah SEZs. It should be noted, however, that a significant proportion of the state is crucial pronghorn habitat, so impacts from development within the SEZs should be considered within this context.
- **Miscellaneous special status species.** The analysis in the DPEIS indicates that impacts to most other special status species are minimal. Foraging habitat, but not nesting habitat, occurs in the affected area for bald eagle, ferruginous hawk, and long billed curlew. UDWR quad scale occurrence data also indicate that western burrowing owl and pygmy rabbit are present. Only non-breeding winter

habitat is predicted for short eared owl, but summer breeding habitat is possible for western burrowing owl. Potentially suitable year round foraging habitat is predicted for fringed myotis, kit fox, pygmy rabbit, spotted bat, and Townsend's big eared bat. No direct impacts are expected on aquatic habitats or biota since perennial water features do not exist on site, and indirect effects to ones in the SEZ region are unlikely since they are more than 13 miles away from the SEZ and more than 2 miles away from the road corridor. When wet, however, ephemeral aquatic habitat can contain endemic species, and site specific surveys should be performed to characterize aquatic biota. As mentioned above, avoidance of the dry lakebed in the southwest of Escalante Valley and dry washes is recommended to prevent impacts to Great Basin spadefoot and Great Plains toad. 18 of the special status species compiled for the SEZ region could occur in the affected area, but for many of these species the nearest known occurrence is >20 miles away. Impacts for all these species are judged to be small.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring Water Use to Improve Groundwater Status**

BLM has a great opportunity here to explore creative ways to promote solar development that actually improves the water situation in over-allocated basins; by retiring existing agricultural uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating erosion and dust issues through minimizing soil and vegetation loss**

In areas like Escalante Valley that have extremely fragile soils, and where fugitive dust during operations could be a pervasive problem across the SEZ, approaches to solar development that minimize soil and vegetation modification can be explored that would expand the range of areas where solar can be deployed. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the soil. In particular, the DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to dominant vegetation type (e.g. shadscale dominated communities like those in Escalante Valley). Mitigation measures outside facility footprints such as protecting areas to preserve native vegetation and soil crusts is another approach that might be used provided that soil loss, fugitive dust, and invasive weed problems could be controlled within cleared areas.

- **Optimizing Access to Transmission.**

The Escalante Valley transmission analysis assumes that the 138 kV line 3 miles SE of Escalante Valley SEZ would provide interconnection with the grid, but this line could only accommodate 588 of the 1058 estimated MW of new capacity. Additional transmission lines are planned or proposed that could facilitate solar development. The approved Three Peaks 138 kV was constructed by PacifiCorp primarily to service an electrochemical company and may have no capacity available for solar projects. The Sigurd Red Butte 345 kV line POD was submitted in Dec 2008; this line would run 10-15 miles east of both Milford Flats and Escalante Valley SEZs. The TransWest Express 600 kV DC line is proposed to carry wind energy from Wyoming to Las Vegas, and could pass through the vicinity of the three Utah SEZs. The path rating for this project is scheduled for completion by 2011, and the BLM/WAPA EIS is expected by 2013. A UNEV pipeline project is planned along same route as TWE line, the FEIS for this project was issued in 2010. The PacifiCorp Gateway South 500 kV AC line project is in the initial stages, with ROW and EIS work slated for 2015. Finally, there is a 2 mile wide Section 368 (of the Energy Policy Act of 2005) designated energy corridor about 4 mi southeast of the area. All these projects indicate strong interest in renewable development in the area, and are promising avenues to connect solar projects to the grid. They provide the opportunity to optimize connectivity while minimizing disturbance and fragmentation. Access to these lines for well-designed solar projects should be prioritized.

- **Optimizing Road and Railway Access**

Currently Escalante Valley SEZ is accessed using dirt roads extending from Lund Highway NE of the SEZ or by Beryl Milford Road NW of the SEZ; both roads are within 2 miles of the SEZ. Access from Beryl Milford Road is on Cow Trail or on 7200 E Road, both unimproved dirt roads, which provide access to the western and central sections of the SEZ, respectively. Access to the eastern portion from Lund Highway is on 15200 N, another unimproved dirt road. The nearest major road, State Route 56, is 15 miles south. The analysis presented in the DPEIS is based upon constructing an access road to State Route 56, but using existing access roads would disturb less acreage. Alternatively, using the existing rail line from Lund to Cedar City that passes through the NE corner of SEZ could be most efficient. Access roads are a significant component of project impacts; the ability to use rail access to minimize these impacts and transport equipment and supplies to the SEZ in the most energy efficient manner possible is an exciting opportunity to create synergy between renewable development, energy conservation, and minimizing disturbance.

- **Ecological reference area.**

There is currently limited information available regarding the impacts of utility-scale solar development on surrounding landscapes. Designating an ecological reference area of 1,000 hectares as part of the SEZ would provide a control area for researching impacts of utility-scale solar development and could inform future efforts to minimize and mitigate impacts.

vi. Corrections

None noted.

B. Milford Flats South SEZ

i. Overview

Milford Flats South SEZ is located in Beaver County in southwestern Utah, 28 miles north of Cedar City, 22 miles northeast of Escalante Valley SEZ, and 20 miles southeast of Wah Wah Valley SEZ. Situated in the northeastern part of the Escalante Desert, Escalante Valley SEZ is bounded by the Black Mountains to the south and southeast, the Wah Wah Mountains to the west, and the Mineral Mountains to the northeast. The nearest major road is State Route 21, which lies 5 miles to the east. A rail spur off the main line at Lund passes 1.25 miles northeast of the SEZ. The nearest existing transmission is a DC line 2 miles to the northwest of the SEZ. The western and southern areas of the SEZ support a sparse saltbush-greasewood shrub community dominated by shadscale, winterfat, greasewood, and bud sagebrush with a sparse grass understory, mostly under shrubs. The eastern portion of the SEZ is dominated by Wyoming big sagebrush, includes perennial bunchgrasses, and generally has higher relief. No wetlands or perennial streams, water bodies, or springs have been identified in the area of direct effects. 10 springs were identified in 1971-72 as being fed from the groundwater reservoir under the SEZ, only three of them flowing, but their current status is unknown. In the indirect effects area, Minersville Canal runs adjacent to the northern border, and the Utopia Ditch lies 2 miles east. Most water use in Beaver County is for irrigation (87%), followed by thermo electric energy production (6%), livestock (3%), domestic use (2%), and industrial (2%).

There were no solar applications within the SEZ or in the vicinity as of February 2010, but ROWs for two energy pipelines, one transmission line, two roads, and one telecommunications line exist. There are multiple existing or planned wind projects north of the SEZ, and numerous concentrated animal feeding operations (CAFOs) are present in the indirect effects area around the SEZ. The disturbed nature of this area makes this area more suitable for development than many other SEZs since the region is already fragmented and has relatively low habitat value for many species. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

Milford Flats South is located in the Cedar/Beaver River Basin planning area. From 1997-2007, an average of 47,000 AFA of groundwater was withdrawn from the basin, and this increased to 51,000 AFA in 2008. The majority of water use within the basin occurs east and northeast of the SEZ between the towns of Milford and Minersville. Groundwater levels in this heavy use area have dropped up to 65' in these areas from 1948 -2009, and this drop has been accompanied by some subsidence and ground fissuring. There has been a 40' drop in wells within 2 miles of the SEZ, and groundwater elevations are currently declining at 0.3 2.5 ft/yr in the SEZ. There is no groundwater management plan for the Milford district to protect existing uses and limit water use and degradation in water quality, but new applications for groundwater rights are not being accepted, and transfers of existing rights from adjacent basins are usually not approved. The DPEIS states that the proposed Lake Powell pipeline could supply water to meet solar development demands or offset groundwater use, but there's no assurance that this project is viable or will be built. Water shortfalls could occur by 2012. Although water requirements for dry cooling are comparable to small farm usage levels, wet cooling would require the water usage of a medium size farm at the minimum, three times the size of a large farm at the maximum. Given the limited water availability in the area, it appears likely that dry-cooled or non-cooled projects are most viable for the area. Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Vegetation Removal and Soil Disturbance**

Detailed information regarding vegetation removal and soil disturbance is included in Section III, above. Specific to Milford Flats South SEZ, shrub and dune communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the SEZ, particularly given that the noxious weeds cheatgrass and halogeton already exist on site, could proliferate with land disturbance, and could become entrenched with the increased fire frequency common in cheatgrass invaded areas. All soil types in Milford Flats South SEZ have moderate to high wind erosion potential. Although the DPEIS states that no microbiotic crusts are reported for soils covering the three SEZs, we observed them during site visits to Milford Flats South as well as Escalante Valley. Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it's unclear what density of soil crusts would be sufficient to put an area off limits; in Escalante Valley, soil crusts were sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle. It's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not, although the section for Milford Flats South does state that "Aggressive dust control measures would be used."

The PEIS states that large scale earthmoving operations are not expected for Milford Flats South given the relatively flat topography, that fugitive dust concerns are a major concern in this area, that noxious weeds could become established in disturbed areas, colonize adjacent undisturbed habitats, and reduce restoration success, potentially resulting in widespread habitat degradation.

As with the other SEZs, however, they also assume total vegetation removal within project footprints.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

• **Special Status Species.**

- **Utah Prairie Dog.** USFWS consultation will be required for the federally endangered Utah prairie dog; quad level UNHP occurrences of this species intersect the SEZ, and the Utah prairie dog tracking database shows active colonies outside the affected area ten miles south of the SEZ boundary. Impacts to the species are predicted to be small since there are no active colonies nearby (Utah prairie dogs typically have a maximum dispersal distance of 0.75 miles), but pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Greater Sage-grouse.** Coordination will be required for the greater sage-grouse, a candidate species. USFWS indicated in scoping comments that suitable habitat occurs throughout the Milford Flats South SEZ region (50 mile buffer around the SEZ centroid), and UDWR has identified crucial breeding habitat 1 mile south of the SEZ. SWReGAP habitat models predict potential habitat in the SEZ and the affected area. Pre-disturbance surveys, avoidance and minimization of disturbance, etc. will be done as needed at the project level.
- **Pronghorn.** Escalante Valley and its affected area are completely within crucial pronghorn habitat, as are all the Utah SEZs. It should be noted, however, that a significant proportion of the state is crucial pronghorn habitat, so impacts from development within the SEZs should be considered within this context. Up to 4.5% of suitable pronghorn habitat within the SEZ region lies within the indirect effects area of Milford Flats south, but this area is also fragmented by CAFOs, and the extent of actual pronghorn use of this partially disturbed area is unknown.
- **Miscellaneous special status species.** Potentially suitable habitat for 20 special status species exists within the affected area of Milford Flats South, but for all species, less than 1% of the potentially suitable habitat in the SEZ region occurs in the area of direct effects. UDWR quad level SSS that intersect affected area are ferruginous hawk, greater sage grouse, short eared owl, western burrowing owl, dark kangaroo mouse, kit fox, Townsend's big eared bat, and Utah prairie dog. There are no permanent water bodies, streams, or wetlands occur within

Milford Flats South or the proposed access and transmission corridors. Minersville canal is within the area of direct and indirect effects for the SEZ, line, and access road, but does not support any aquatic biota. Pre-disturbance surveys, avoidance of ephemeral streams and washes, woodland habitats, rocky cliffs, and outcrops as well as avoidance of Minersville Canal is recommended to reduce impacts to special status species.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Structuring Water Use to Improve Groundwater Status**

BLM has a great opportunity here to explore creative ways to promote solar development that actually improves the water situation in over-allocated basins; We suggest that ground water acquisition for solar development in this SEZ should be structured to acquire more water than is needed for solar facility operation, retiring the use of some water rights as mitigation to reduce impacts and improve the groundwater situation in this arid, over-allocated basin. By retiring existing agricultural uses and promoting solar projects that are efficient in water use, solar development can move forward with enhanced environmental benefits beyond those from reduced greenhouse gas emissions.

- **Mitigating Erosion and Dust Issues Through Minimizing Soil and Vegetation Loss**

In areas like Milford Flats South that have extremely fragile soils, and where fugitive dust during operations could be a pervasive problem across the SEZ, approaches to solar development that minimize soil and vegetation modification can be explored that would expand the range of areas where solar can be deployed. The DPEIS should address these concerns in a programmatic way that provides more detail and structure, using the best methods possible to control dust and maintain the long-term integrity of the soil. We suggest that native vegetation and soil crusts be left undisturbed whenever possible to minimize fugitive dust and resulting air quality effects, as well as to minimize water use for dust abatement and equipment cleaning. Ambient air quality in Beaver County is currently relatively good, with background air quality levels for PM2.5, PM10, and other criteria pollutants lower than standards, with the exception of ozone. Measured PM levels are currently roughly half of NAAQS cutoffs. The DPEIS should set forth stringent guidelines to retain existing native soils and vegetation, particularly where fire risk is already low due to dominant vegetation type (e.g. shadscale dominated communities like those in Escalante Valley). Mitigation measures outside facility footprints such as protecting areas to preserve native vegetation and soil crusts is another approach that might be used provided that soil loss, fugitive dust, and invasive weed problems could be controlled within cleared areas. This is not one of the BMPS in Appendix A, but the appendix also states that "Project developers

shall implement the design features for soil resources given below and develop others that address unique site conditions not anticipated here."

- **Optimizing Access to Transmission**

The Milford Flats South transmission analysis assumes that the nearest existing transmission line is a 345 kV line 19 miles SE of the SEZ. Construction of a 19 mile line to connect to existing transmission would disturb 576 acres, assuming a 250' ROW, and the existing line would only accommodate 461 of the 1,037 MW of projected generation from solar projects; upgrades or new transmission would be required to add capacity. Additional transmission lines are planned or proposed that could facilitate solar development, however. There is a designated corridor 2 miles away that runs parallel to an existing 1000 kV line according to GIS data from the state of Utah (see corrections, below). This may be the NewSub1-Three Peaks line, a PacificCorp line that was built for an electrochemical facility and may have unused capacity or the ability to increase capacity. By connecting projects to the closest proposed and existing lines, connectivity can be optimized while minimizing disturbance and fragmentation; access to these lines for well-designed solar projects should be prioritized.

- **Optimizing Road and Railway Access**

It is assumed that 18 miles of new road construction would be required to attain access to State Route 21/130. This road would be 8 miles long and disturb 36 acres of habitat, some of this private. A paved road already exists on the north side of the SEZ, however, and the PEIS states that "priority consideration should be given to utilizing upgraded existing county roads to provide construction and operational access to the SEZ." Alternatively, using the existing rail line that passes 2 miles west of the SEZ could be most efficient. Access roads are a significant component of project impacts; the ability to use existing roads and railways to minimize these impacts and transport equipment and supplies to the SEZ in the most energy efficient manner possible is an exciting opportunity to create synergy between renewable development, energy conservation, and minimizing disturbance.

- **Ecological reference area.**

There is currently limited information available regarding the impacts of utility-scale solar development on surrounding landscapes. Designating an ecological reference area of 1,000 hectares as part of the SEZ would provide a control area for researching impacts of utility-scale solar development and could inform future efforts to minimize and mitigate impacts.

vi. Corrections

- The DPEIS states that the nearest transmission is 19 miles SE, but there is an existing DC transmission line two miles northwest of the SEZ.

- UDWR quad-level occurrences for greater sage grouse intersect the SEZ itself, not just the affected area.

C. Wah Wah Valley SEZ

i. Overview

The proposed Wah Wah Valley SEZ includes approximately 6,000 acres in the middle of the Wah Wah Valley and straddles State Highway 21. This is the most remote of the three Utah SEZ with the nearest major town 50 miles away, railway 23 miles away, and an existing DC transmission line 18 miles away. Additionally, there is no natural gas or water distribution system that is near this site.

The Wah Wah Valley is one of the least developed and most representative valleys of the basin and range ecosystem. Bound on the east and west by horsts (uplifted mountains) this valley is a graben, a fault caused valley. The Basin and Range Physiographic Province and ecosystem is characterized by a number of separate and parallel mountain ranges with broad valleys interposed and extends across several states and a huge area. Unlike the other two SEZ sites in Utah, the Wah Wah Valley has minimal rural dirt roads, no industrial development, no power lines or working phone lines, and almost no developed agricultural lands.

Several candidate wilderness areas are nearby. The San Francisco Mountains proposal lies 2.2 miles to the north and East. The Central Wah Wah Mountains proposal lies 1.3 miles south and west.

The BLM lands in the area of the Wah Wah Valley SEZ are currently being managed under the Pinyon Management Framework Plan (MFP). The MFP framework was used by the BLM prior to the development of the Resource Management Plan (RMP) framework that is currently used for most BLM lands. The Pinyon MFP has not been revised for many years, and we recommend that it should be revised to meet the standards of the RMP framework before a SEZ is designated here.

Because of the remoteness of this site, the Wah Wah Valley SEZ least fits the siting criteria of the three SEZ sites in Utah. Lack of water, the need for long new transmission lines and the lack of an underlying RMP management framework make this area less suitable for development than the other two SEZ sites in Utah. **For these reasons, we recommend that the BLM prioritize the designation of the Milford Flats South and Escalante Valley SEZs and de-prioritize the designation of the Wah Wah Valley SEZ until an RMP is completed for the area.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of water to support development**

Today, shallow wells provide the dominate water source for human use in Great Basin valleys. Two pivot irrigation systems operate just north of the SEZ; each is approximately 0.1 miles in diameter. Except for this pivot irrigation no other lands are irrigated in this valley and the ranches are small, seasonal, and have little use of existing water.

Groundwater recharge for the Wah Wah Valley is estimated to be approximately 7,000 acre-feet per year (afy) (Stephens 1974). Additional recharge from subsurface inflow could add another 3,000 afy. Groundwater is not fully appropriated in the Wah Wah Valley, but there are currently two pending water right applications for 12,000 afy and 6,650 afy, which, if both approved, would exceed the estimated value for groundwater recharge in the basin.

The DPEIS estimates that water needs for construction of a solar project in the SEZ could be as high as 1,261 afy. At full build-out capacity (80% buildout of the SEZ), the DPEIS estimates total water use requirements during operations to range from 28 to 277 afy for dish engine and PV technologies (no cooling required). For parabolic trough and power tower technologies, full build-out water requirements range from 385 to 1,478 afy using dry cooling and from 2,716 to 14,647 afy using wet cooling. Given the limited water resources available in this area, we concur with the BLM's conclusion in the DPEIS that wet cooled projects would not be feasible for full buildout of this SEZ. It appears likely that only non-cooled or potentially limited dry cooled projects are feasible in this SEZ.

Development of ground water sources for this SEZ is highly likely to lead to dewatering of existing surface springs over a long period of time. These springs such as Antelope, Wah Wah, Kiln, Gun Spring Willow, Skelly, Hospital Springs are among the larger of these springs that could be influenced by long term drop in the water table

Today most streams and springs in the Great Basin are degraded and, as such, have lost their resilience to new stresses such as increased water extraction for industrial uses.¹¹²

Regardless of which technology is used for projects within the SEZ, the BLM should ensure that any water use follows the design features and recommendations in Section III above.

- **Availability of transmission access**

The Wah Wah Valley SEZ does not have access nearby existing transmission lines – the closest existing transmission line is a DC line 18 miles to the east. There may be opportunities to develop new transmission lines to access the SEZ in an environmentally responsible way. However, one potential corridor that has been identified in the Section 368 West-wide Energy Corridors process should not be utilized. An unoccupied and proposed Section 368 energy corridor runs across the SEZ from the south east to northwest. This corridor is identified as 110-114 in the record of decision for the Section 368 energy corridors. Development of this corridor is highly speculative and faces serious political opposition as it crosses the Wah Wah Mountains candidate wilderness area to the west. The Record of Decision for this energy corridor concluded, –Designation of Section 368 corridors and amendment of affected RMPs does not

¹¹² Engelhardt, Blake Meneken. 2009. Geomorphic controls on Great Basin riparian vegetation at the watershed and process zone scales. Masters of Science thesis.

authorize any projects, mandate that future projects be confined to the corridors, or preclude BLM from denying a project in a designated corridor or requesting design revisions to meet unanticipated siting issues there.”

The Wah Wah Valley lies within the area covered by the Pinyon MFP. This MFP specifically states that no rights of way or corridors will be authorized in “wilderness study areas” and other areas where rights of way should not be allowed because of a significant resource value.” The Wah Wah Mountains WSA and lands possessing wilderness characteristics would be impacted by Corridor 110-114. For this reason, development of this corridor poses a conflict with this existing land use plan requirement. The BLM has yet to apply the full land use planning requirements to this area that modern Resource Management Plans (RMP) include. Should BLM prepare a RMP for this area, there is possibility that areas might be designated for special protection areas such as ACECs or lands with wilderness characteristics. For these reasons, the BLM should analyze other opportunities to provide environmentally responsible transmission access to this SEZ.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM’s Final PEIS and in analysis for individual projects proposed within the SEZ.

• Wildlife and special status species

The wild and largely natural valley that this SEZ lies in is frequented by bald eagles, peregrine falcons, golden eagles, ferruginous hawk, Swainson’s hawk, long-billed curlew, western snowy plover, and white-faced ibis.¹¹³ The Pinyon MFP identified important raptor areas near to this SEZ.

The area is identified as much of the region is as important for antelope. This SEZ site is approximately seven miles north of a “special stipulation area (Antelope Kidding Area)” identified by BLM in the Pinyon MFP.

Twenty two special status species were found to be in the affected area (SEZ boundary and 5 mile buffer for area of indirect effects) for this SEZ by the BLM. This is more than the number listed for the other two Utah SEZs, though the DPEIS does note that overall impacts to all of the special status species found in the affected area are likely to be small. However, we recommend that the BLM analyze potential impacts to any of these species prior to approving any projects in this area.

v. Opportunities for environmentally responsible development

¹¹³ BLM 1991 Utah statewide wilderness study report, volume IIA

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- **Low water use technologies.**

Given the limited groundwater available in this area, low water use PV and dish-engine technologies could limit potential negative impacts from water use.

- **Ecological reference area.**

There is currently limited information available regarding the impacts of utility-scale solar development on surrounding landscapes. Designating an ecological reference area of 1,000 hectares as part of the SEZ would provide a control area for researching impacts of utility-scale solar development and could inform future efforts to minimize and mitigate impacts.

- **Opportunity to use existing road and rail access**

The SEZ has paved highway access directly to the site. An old rail grade also exists from Milford to this valley. Use of this existing infrastructure could limit impacts by limiting the need to build new roads and rail lines to access the SEZ.

vi. Corrections

None noted.

Thank you for your thorough consideration of these comments.

Sincerely,

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Attachments

- Attachment 1 - EPA Cedar City RMP Scoping Comments (Svoboda to Rigtrup 2010)
- Attachment 2 - EPA Comments FEIS MOAB RMP (Svoboda to Northrup 2008)
- Attachment 3 - EPA Comments on Vernal FEIS-PRMP1 (Svoboda to Sierra 2008)
- Attachment 4 - June 18 08 Letter to Monticello FO (Braden to Heinlein 2008)
- Attachment 5 - Desert Siting Criteria Memo
- Attachment 6 - GIS Data for CWP Units

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Thank you for your comment, Janet Fotos.

The comment tracking number that has been assigned to your comment is SolarD11720.

Comment Date: April 18, 2011 19:14:24PM
Solar Energy Development PEIS
Comment ID: SolarD11720

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Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, HAL ARMES.

The comment tracking number that has been assigned to your comment is SolarD11721.

Comment Date: April 18, 2011 19:26:49PM
Solar Energy Development PEIS
Comment ID: SolarD11721

First Name: HAL
Middle Initial: E
Last Name: ARMES
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Julie Fitch.

The comment tracking number that has been assigned to your comment is SolarD11722.

Comment Date: April 18, 2011 19:27:40PM
Solar Energy Development PEIS
Comment ID: SolarD11722

First Name: Julie
Middle Initial: A
Last Name: Fitch
Organization: CA. Public Utilities Commission
Address: 505 Van Ness Ave
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 94102
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SolarDraftPEISCPUCcomments4182011.pdf

Comment Submitted:

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



April 18, 2011

Ms. Linda Resseguie, Project Manager
Bureau of Land Management
Argonne National Laboratory EVS/900
9700 S. Cass Ave.
Argonne, IL. 60439

**Re: California Public Utilities Commission (CPUC) Comments on the Draft
Programmatic Environmental Impact Statement (DPEIS) for Solar Energy
Development in Six Western States prepared by the Bureau of Land Management
(BLM) and the Department of Energy (DOE)**

Dear Ms. Resseguie:

Thank you for the opportunity to comment on the BLM and DOE Draft PEIS for the solar energy development in the six western states including the consideration of 24 Solar Energy Zones (SEZs). Through the PEIS, BLM is evaluating a new Solar Energy Program for utility-scale solar development on BLM-administered lands in the six western states. DOE is evaluating new program guidance relevant to DOE supported solar projects on federal, state, tribal, or private land.

We have provided scoping comments on both the May 2008 and July 2009 notices and have been a cooperating agency on the Solar PEIS as well as a representative on the California Interagency Working Group for the Solar PEIS since 2008. In addition, the CPUC was an active member of the Renewable Energy Transmission Initiative (RETI) process for over 3 years. As evidenced by our continued involvement, the CPUC is very supportive of the Solar PEIS process. The draft PEIS correctly notes that California investor-owned utilities are already mandated to provide 20% of their electricity from renewable energy sources by 2010. Additionally, on April 12, 2011, Governor Jerry Brown signed into law Senate Bill 2 (First Extraordinary Session), extending the current 20 percent renewable energy goal by 2010 to a 33 percent goal by December 31, 2020.

We appreciate the fact that BLM has addressed a number of our scoping and interagency working group comments. However, we would like to provide the following comments on the Draft PEIS for your consideration in preparing the final document. Our attached comments focus on the California SEZ designations and the selected alternatives along with a number of technical comments.

Ms. Linda Resseguie
April 18, 2011
Page 2

We look forward to continuing to work with BLM on the finalization of the Solar PEIS document in our role as a cooperating agency and as a member of the Interagency Working Group. If you have any questions, please contact Billie Blanchard, our interagency group representative, at 415-703-2068 or email at bcbl@cpuc.ca.gov.

Sincerely,



Julie A. Fitch
Director, Energy Division

Cc: Molly Sterkel, Program Manager Energy Division
Mary Jo Borak, Supervisor Energy Division
Anne Mills, CPUC Energy Division
Paul Douglas, CPUC Energy Division
Ashley Conrad-Saydah, BLM State Office
Roger Johnson, CA. Energy Commission
Scott Flint, CA. Energy Commission
Manal Yamout, Governor's Office
Michael Picker, Governor's Office

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

April 18, 2011

GENERAL COMMENTS

THE LOCATIONS AND CONFIGURATIONS OF PROPOSED SOLAR ENERGY ZONES (SEZs)

In our previous scoping comments, we requested that BLM's PEIS consider the RETI CREZ areas by studying all the CREZ areas or, in the alternative, the rationale or criteria for eliminating certain CREZ areas from consideration. The PEIS (p. 2-10) did consider four of the RETI CREZs as proposed SEZs along with their general criteria for selection, although it is not clear how some CREZs were considered for SEZs and why others were not in the PEIS. However, per our comments below, we agree with the PEIS statement (p. 2-11) that states, "based on the potential conflicts identified, some of the proposed SEZ areas may be reduced in size or eliminated entirely when the final SEZs are identified in the ROD for this PEIS." As such, we are recommending designation of three of the four SEZs: Imperial East, Pisgah, and Riverside East, at reduced acreage or configurations, and the elimination or postponement of the Iron Mountain SEZ.

Likewise, according to another PEIS statement (p. 2-11), we also agree with BLM that, "in the future based on lessons learned from individual projects and/or new information, the BLM could decide to expand SEZs, add SEZs or remove or reduce SEZs." Given the additional environmental analysis underway for additional SEZ areas and the Desert Renewable Energy Conservation Plan (DRECP) ongoing process, we are recommending that additional SEZ modifications or additions be considered in a near-future supplemental process to this PEIS, based on the results of the DRECP and other ongoing environmental efforts.

Section 9.1 Imperial East

The CPUC would recommend the continued designation of the Imperial East SEZ in Imperial County, which could accommodate up to 916 MW of solar generation. As indicated in the PEIS, it is located near the West Wide Corridor, a 115 kV line along with the existing 500 kV Southwest Powerlink, with proximity to existing roads, a slope of less than 2%, and an area of over 2500 acres. The area does appear to have a low risk for permitting challenges based on the PEIS information. However, there are wetlands to the south and two adjacent ACECs (Lake Cahuilla and East Mesa) which could affect the size and configuration of the two solar applications, due mainly to biological and cultural resource issues. In their Record of Decision (ROD) for this PEIS, BLM could factor these issues into their final SEZ boundaries.

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

Section 9.2 Iron Mountain

The proposed Iron Mountain SEZ lies in the Ward Valley within the Mojave Desert. The PEIS indicates that the maximum development of the proposed SEZ is assumed at 80% of the total area over a period of 20 years at a maximum of 85,217 acres, with an estimated total of between 9,469 MW and 17,043 MW. With only an existing 230 kV line, we agree that full build-out of the SEZ would require substantial new transmission lines or upgrades. This will probably require utilizing not only the existing corridor, but also new corridors in the same or a new location to the north and/or south.

Further, even though the SEZ appears to meet BLM's minimum physical criteria, it is questionable that it fulfills the purpose and need related to "identifying and prioritizing specific locations best suited for utility scale solar energy development on public lands" (Chapter 1 page 1-7). The PEIS (Table 9.2.1.3-1) has identified a number of issues that could result in significant environmental impacts including:

- There are visual and recreational impacts to Turtle Mountains, Old Woman Mountains, and the Palen-McCoy Wilderness areas.
- Impacts to the night sky environment as viewed from Joshua Tree National Park.
- There would be disturbance to habitats that include many special status species.
- Desert Tortoise habitats are on the northern and western areas. On page 9.2-156 it is indicated that the USFWS estimated that full scale development in the SEZ may directly affect between several hundred to more than 1,000 Desert Tortoises as well as create indirect impacts from fragmentation by affecting linkages between the Chemehuevi and Pinto Mountain DWMAs.
- There could be direct impacts to significant cultural resources. The PEIS indicates numerous prehistoric and Native American sites and trails are potentially located in the SEZ including the Salt Song trail passing just west of the proposed SEZ.
- The SEZ includes Citizen Wilderness Inventory lands.

Given that there are no fast-track projects located here and that there are a significant number of possible environmental permitting challenges, we would recommend that this SEZ designated area not be carried forward as part of the agency's Solar Energy Program. Alternatively, the SEZ should be placed on hold until the completion of the DRECP process, which will provide a more specific assessment of renewable development and conservation areas.

Section 9.3 Pisgah

The proposed SEZ has a total area of 23,950 acres. The PEIS assumes maximum development over 20 years of 2,129 MW to 3,832 MW. Even though there are existing available transmission lines, the PEIS correctly states that full build-out capacity would require new transmission lines for upgrades to move the power to load centers.

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

The CPUC would recommend the continued designation of the Pisgah SEZ, but at a reduced configuration to reflect identified issues. The PEIS has indicated that there are a number of environmental concerns associated with this SEZ including impacts to Desert Tortoise which the USFWS estimates that full scale solar development on the SEZ may affect up to 260 tortoises in the SEZ (page 9.3-157). As BLM is aware, the Fast Track Calico Project (formerly the SES – Solar One) in this SEZ was originally proposed as a 850 MW facility on 8,230 acres, but the ROD approved on 10/20/2010 allows for a 665.5 MW facility on 4,604 acres due to cultural, biological, and hydrologic resources including avoidance high value Desert Tortoise habitat on the north side, Nelson’s Bighorn Sheep habitat, donated-acquired lands, and cultural sites. In addition to the Calico issues, the proposed Mojave Trails National Monument lies to the north of the SEZ which is addressed further in our technical comments below.

Section 9.4 Riverside East

This proposed SEZ is presently sized at 202,896 acres with a maximum development assumed at 80% over 20 years of 162,317 acres with a generation potential of 18,035 MW to 32,463 MW. The PEIS correctly notes that full build-out would require substantial new transmission lines and/or upgrades to existing lines to bring this SEZ energy to load centers.

We recommend that this SEZ be retained in the BLM ROD. However, the final configuration of the SEZ will need to consider impacts such as indicated in Table 9.4.1.3-1 along with issues that have been identified or resulted from the specific solar project approvals in this SEZ including the following:

- The CEC reconfigured the 500 kV Palen Solar Project (09AFC7) in its 12/15/2010 approval due to impacts to Mojave fringe toed lizards, sand dune habitats, and the sand transport corridor.
- There are potential impacts to seven ACECs in and near the SEZ.
- Thirty special status species are known to occur in this SEZ including the Desert Tortoise.
- There are identified affects to wilderness areas-Palen-McCoy, Rice Valley, Big Maria Mountains, Chuckwalla and Little Chuckwalla Mountains.
- Visual impacts have been identified to Joshua Tree National Park. It is the CPUC’s understanding that there is a formal agreement dated February 24, 2011 between the BLM and the National Park Service (NPS) that requires the Solar PEIS to preclude any additional renewable energy development projects on those lands excluded from the Desert Sunlight and EnXco Eagle Mountain Soliel application footprints.
- The BLM and NPS agreement requires the Solar PEIS to reconfigure SEZ boundaries to exclude land near NPS units including Joshua Tree National Park.
- The BLM and NPS agreement requires the scaling back of the Desert Sunlight Project to 4000 acres or less; and further if Desert Sunlight or EnXco Eagle Mountain Soliel do not develop that these areas will be withdrawn from further development.

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

CONSIDERATION OF ADDITIONAL FUTURE SEZS

As indicated in Section 2.5.9 page 2-29, BLM may evaluate additional SEZs in the future using a process similar to that employed in this PEIS. We recommend the consideration of additional SEZ through the DRECP process, public comments, and other identified environmental work.

Additional SEZ Evolving from DRECP Process

Through an October 2009 MOU between the State of California and the Department of Interior, BLM is involved in the DRECP process. There is the distinct possibility that additional SEZs could evolve from the DRECP to balance the loss or reduction of the proposed SEZs. We recommend that BLM use the results of the DRECP scheduled to be complete in 2012 for additional SEZs or use it to adjust the proposed SEZs. As the PEIS points out on page 1-24 Section 1.6.2.3, "The DRECP will include a strategy that identifies and maps areas for renewable energy development and areas for long term natural resource conservation. This initiative could result in amendments to BLM land use plans related to solar and other renewable energy development."

Other Areas to Consider or could be Considered for Additional SEZs through public comments and environmental assessment efforts

We recommend and encourage BLM to consider in the near term additional SEZs suggested through public scoping comments and/or Draft PEIS comments. For example, The California Energy Commission and the Department of Fish and Game in their September 14, 2009 scoping comments provided seven suggested areas.

Further, we support BLM's consideration of the West Chocolate Mountains area as a future SEZ. On page 9.4-387, the PEIS indicates that the BLM El Centro office on February 10, 2010 noticed its intent to prepare an EIS to identify 21,300 acres of BLM lands within the West Chocolate Mountains area for geothermal, solar, or wind development.

PROPOSED ALTERNATIVES

The PEIS has examined the No Action alternative and two action alternatives. (1) The No Action alternative continues authorizations on BLM land for solar development using its existing policies on a case-by-case basis. Lands available in California under existing laws would include 11,067,366 acres. (2) The Solar Development Program Alternative includes new program administration and authorization policies and design features for a subset of BLM lands that would total 1,766,543 acres in California. Within these lands, BLM would identify 339,090 acres for SEZs which would be prioritized for development. This alternative makes less BLM land available by excluding or "screening out" categories of land that are known or believed to be unsuitable for utility scale solar development but not for supporting linear infrastructure. (3) The Solar Energy Zone Program alternative would have the same new program administration

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

policies and design features for solar development but restricts applications to SEZs only, which would include a proposed 339,090 acres in California.

The Solar Development Program Alternative has been identified as the Preferred Alternative. Based on the PEIS environmental analysis, the ongoing DRECP process, and other initiated environmental assessments for renewable developments, the CPUC would like to recommend modifications to the Preferred Alternative as outlined in the below paragraphs.

No Action Alternative

We agree with the PEIS that the No Action Alternative is not the preferred alternative. As identified on Table 6.1-2, the impacts would be greater and more widespread in all the resource categories. As stated in Section 6.3.1, there would be no clear direction as to which lands would be excluded from or available for development. Developers and BLM would continue to spend time and resources considering inappropriate locations. There would be no ability to tier off of programmatic evaluations. BLM would not have comprehensive design features to implement for project impacts. The authorization process would not have the benefit of a comprehensive program to standardize and streamline the agency's review and approval of solar development.

Consideration of a Modified Preferred Alternative - Solar Energy Development Program Alternative

Both of the action alternatives offer many of the same benefits that the No Action Alternative does not include in the present process. However, the PEIS identifies the Solar Energy Development Program Alternative as the Preferred Alternative. Based on the Comparison Table 6.4-1 BLM finds that it would likely result in the highest pace of development at the lowest cost; provide more than an adequate amount of lands available for the 20 year projections; and allow for flexibility in siting development. The main drawback to the SEZ Program Alternative versus the Program Alternative appears to be that it may not make an adequate amount of lands available to support development projects unless BLM identified additional SEZs (Section 6.2.7 pages 6-44-45). Even though the Program Alternative may offer this possible benefit, the resource impacts would be dispersed over a greater area of 1.7 million-plus acres, including in the Iron Mountain area, as opposed to the SEZ Program Alternative which would limit impacts to only the SEZ areas. Some of the lands outside the SEZs could be suitable for solar development, but also some of these identified lands could have high wildlife value and are being considered for DRECP inclusion.

Given the concerns of land availability and dispersed environmental impacts, the CPUC would like to recommend the Preferred Alternative with modifications, allowing for a more phased solar development, based on ongoing resource planning and further SEZ development as outlined below. It is our opinion that this more phased process would be even more likely to "screen for success" than the presently-described Solar Energy Development Program Alternative.

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

Certain Proposed SEZ would be adopted with ROD for PEIS

We recommend that BLM:

- Approve the Pisgah, Riverside East, and Imperial East SEZ in the ROD for the Solar PEIS, but as reconfigured by previous project approvals, exclusions, and restrictions such as those resulting from design features.
- Eliminate or place the Iron Mountain SEZ on hold pending the completion of the DRECP process, and then consider it as modified or eliminated as a SEZ in a future ROD.

Consideration of applications on lands available within the SEZs and outside the adopted SEZs

We recommend that BLM:

- Prioritize the processing of viable solar applications located within the SEZs adopted with this Solar PEIS ROD.
- Using the completed DRECP process, reassess the location and acreage of lands available for applications under the Solar Development Program outside the SEZs.
- After the DRECP and reassessment of lands, consider any viable applications outside the adopted PEIS SEZs or consider them within future adopted additional SEZs.

Consideration of Future SEZs with completion of DRECP and additional supplemental environmental work

We recommend that BLM:

- Use the DRECP results for establishing additional SEZs.
- Consider SEZ recommendations from the Draft PEIS comments in the context of the DRECP results.
- Pursue SEZs in the West Chocolate Mountains area in the context of the DRECP results.

OTHER TECHNICAL COMMENTS

3.2.5 page 3-24 – transmission lines – it is indicated that, “upgrading existing lines would be advantageous to transmission operators because there would be no need to obtain new rights of way (ROWs) on federal, state, or private lands.” This statement is not entirely correct. If upgrading a line is limited to reconductoring the line or retrofitting existing structures, then it is likely that there would be no need to obtain new ROWs. However, if the voltage is increased (i.e. 115 kV to 230 kV), it is highly likely that the operator would have to obtain adjacent new ROW or new ROW in the area.

6.1.5 page 6-39 Optimize Existing Transmission Infrastructure and Corridors – It is stated in the first paragraph in relation to the Program Alternative, “By making a relatively large amount of land available for utility scale solar ROW applications, developers could identify and propose

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

projects that optimize existing transmission infrastructure and designated transmission corridors.” It is not clear that by allowing large amount of land for ROW applications that you would necessarily optimize existing lines. All of the lands may not be near a designated corridor or existing lines. In addition, there may be the need for longer gen-tie lines to access existing lines or corridors. Unless areas are planned in this alternative to consider existing lines and corridors, optimization may not occur as this section suggests to the reader.

Table 9.1.22.2-1 – Future Actions – Imperial East SEZ – The following items should be updated as follows:

- **Imperial Valley Solar Project (CACA 47740)** 750 MW 6,500 acres Disk Engine – It is indicated that it is under review. This statement should be updated to state that BLM issued a Record of Decision (ROD) on October 5, 2010.
- **New Sunrise Powerlink 500 kV Transmission line** – The status is indicated as “planned.” This should be corrected to indicate “under construction.” All approvals have been issued and SDG&E is constructing the project in both San Diego and Imperial Counties. Also, the CPUC-approved line is 123 miles long and not 150 miles as originally proposed.
- **Renewable Energy Development - Imperial Valley Solar Project (Stirling Energy Systems Solar Two Project)** – It is indicated that construction for the proposed project would begin in 2010. Since BLM only approved a ROD on October 5, 2010, the construction start date needs to be updated in this document, along with any other changes to project status, including new applicants and change in the proposed solar technology.

Renewable Energy Development pages 9.2-307- 9.2 -313 and Table 9.2.22.2-1 Reasonable Foreseeable Future Actions - The status of these projects needs to be updated as follows:

- **Solar Millennium Blythe Solar (CaCa 48811)** – A ROD was approved on 10/25/2010 for the 1000 MW solar facility on 7,025 acres.
- **NextERA Genesis Ford Dry Lake (CaCa 48880)** – A ROD was approved on 11/4/2010 for 250 MW solar facility on 1,950 acres.
- **Solar Millennium Palen (CaCa 48810)** – An AFC (09AFC7) was approved by the CEC on 12/15/2010 for a 500 MW facility.

9.2.1.1 General Information (Iron Mountain) and 9.3.1.1 General Information (Pisgah) Proposed Mojave Trails National Monument – As previously provided in our interagency comments, the General Information sections for both the Pisgah and Iron Mountain SEZs should discuss and identify on a graphic the proposed Mojave Trails National Monument, whose proposed boundaries would be north of this study area. Clearly, this proposed

CPUC COMMENTS ON THE DRAFT SOLAR PEIS

Monument could affect the SEZ locations and configurations as well as lands considered available under the Solar Energy Development Program Alternative.

Senator Feinstein reintroduced the California Desert Protection Act (CDPA 2011 S. 138) in January 2011. The CDPA 2011 creates the 941,000 acre Mojave Trails Monument and the 134,000 acre Sand to Snow Monument. The bill also adds land to Joshua Tree National Park, Mojave National Preserve, and Death Valley National Park.

9.4.1.2 – It is indicated that full build-out of the Riverside East SEZ would require substantial new transmission and/or upgrades of existing lines to bring electricity from the proposed SEZ to load centers, but at this time the location and size of such new transmission is unknown. This statement is not entirely correct. To deliver energy from the solar projects already permitted in the SEZ, it is presently known that the Devers-Palo Verde #2 500 kV line will require construction, along with two 500/230 kV interconnection substations that are known as Red Bluff and Colorado River.

Table 9.4.22.2-1 – See above comments on Table 9.2.22.2-1 for updates to Genesis, Blythe, and Palen.

Page 9.4-386 Devers to Palo Verde No. 2 – This paragraph requires some updates. The first sentence should state, “A second Devers-Palo Verde line was approved by the CPUC in January 2007 that would have run adjacent to the existing line south of I-10 and the proposed Riverside East SEZ in an existing corridor.” The last sentence should state, “SCE has satisfied the ISO conditions for interconnection agreements, but construction can not commence until the project receives approval in a BLM ROD.

Thank you for your comment, Linda Marshall.

The comment tracking number that has been assigned to your comment is SolarD11723.

Comment Date: April 18, 2011 19:33:43PM
Solar Energy Development PEIS
Comment ID: SolarD11723

First Name: Linda
Middle Initial:
Last Name: Marshall
Organization:
Address: PO Box 5743
Address 2:
Address 3:
City: Greenville
State: SC
Zip: 29606
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As David Lamford the California Desert Prog. Mgr with NPCA stated; "Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage."

Thank you for your comment, Alex Beutel.

The comment tracking number that has been assigned to your comment is SolarD11724.

Comment Date: April 18, 2011 22:50:11PM
Solar Energy Development PEIS
Comment ID: SolarD11724

First Name: Alex
Middle Initial:
Last Name: Beutel
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is encouraging to learn that companies are working to promote renewable resources in our country. However any project to capture resources should be done in a way with minimal impact to the natural environment. Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development on land that would avoid future conflicts with national park resources and delicate desert ecology.

Four areas that concern me are the Riverside East SEZ which must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors, the Iron Mountain SEZ which must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Lastly the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

By changing these sites and consulting the National Park Service when proposing anything within 15 miles of a national park boundary the SEZ plans should be allowed. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, solarpanel haq.

The comment tracking number that has been assigned to your comment is SolarD11725.

Comment Date: April 19, 2011 01:00:08AM
Solar Energy Development PEIS
Comment ID: SolarD11725

First Name: solarpanel
Middle Initial:
Last Name: haq
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

i still want to study this knowledge.

i find this ,very happy.

thanks.i like it.<http://www.haqsolar.com>

please.

Thank you for your comment, Joyce Wood.

The comment tracking number that has been assigned to your comment is SolarD11726.

Comment Date: April 19, 2011 01:44:18AM
Solar Energy Development PEIS
Comment ID: SolarD11726

First Name: Joyce
Middle Initial: G
Last Name: Wood
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please have adequate notice in advance of public comment periods and meetings, etc. published in local news media. Solar panel areas and wind farms should not impact the viewsheds of designated national or state lands such as parks, wildlife refuges or wilderness areas.

Thank you for your comment, chris ludvik.

The comment tracking number that has been assigned to your comment is SolarD11727.

Comment Date: April 19, 2011 04:47:32AM
Solar Energy Development PEIS
Comment ID: SolarD11727

First Name: chris
Middle Initial:
Last Name: ludvik
Organization:
Address: 6374 austin st apt 2A
Address 2:
Address 3: 6374 austin st apt 2A
City: rego park
State: NY
Zip: 11374
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

yo start using some solar panels on things! booyakasha!

Thank you for your comment, ALEJANDRA FRANCO.

The comment tracking number that has been assigned to your comment is SolarD11728.

Comment Date: April 19, 2011 09:04:12AM
Solar Energy Development PEIS
Comment ID: SolarD11728

First Name: ALEJANDRA
Middle Initial: M
Last Name: FRANCO
Organization:
Address: BOSQUE DE CIRUELOS
Address 2:
Address 3:
City: MEXICO
State:
Zip: 03020
Country: DF, Mexico
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hagamos algo ya!!

Thank you for your comment, Katherine O'Sullivan.

The comment tracking number that has been assigned to your comment is SolarD11729.

Comment Date: April 19, 2011 11:47:34AM
Solar Energy Development PEIS
Comment ID: SolarD11729

First Name: Katherine
Middle Initial:
Last Name: O'Sullivan
Organization:
Address: 1825 Riverside Drive
Address 2:
Address 3:
City: New York
State: NY
Zip: 10034
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need clean air and water.
Solar energy does not compromise either.
It is clean, renewable and will provide jobs.
We need to invest in solar energy

Thank you for your comment, katherine O'Sullivan.

The comment tracking number that has been assigned to your comment is SolarD11730.

Comment Date: April 19, 2011 11:51:44AM
Solar Energy Development PEIS
Comment ID: SolarD11730

First Name: katherine
Middle Initial:
Last Name: O'Sullivan
Organization:
Address: 1825 Riverside Drive
Address 2:
Address 3:
City: New York
State: NY
Zip: 10034
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar development should take local environmental conditions(wildlife habitat and essential wilderness) into account in planning.

Thank you for your comment, Jim Boone.

The comment tracking number that has been assigned to your comment is SolarD11731.

Comment Date: April 19, 2011 13:52:15PM
Solar Energy Development PEIS
Comment ID: SolarD11731

First Name: Jim
Middle Initial:
Last Name: Boone
Organization:
Address: 3112 Ivory Coast Dr
Address 2:
Address 3:
City: Las Vegas
State: NV
Zip: 89117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to be Smart From The Start!

Solar is important, but solar energy should be developed only in solar energy zones that don't compromise wildlife corridors, special wildlife habitat, scenery, archaeological sites, water resources, night sky viewing, National Park areas, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Vince Lopez.

The comment tracking number that has been assigned to your comment is SolarD11732.

Comment Date: April 19, 2011 15:24:54PM
Solar Energy Development PEIS
Comment ID: SolarD11732

First Name: Vince
Middle Initial:
Last Name: Lopez
Organization:
Address: 129
Address 2:
Address 3:
City:
State: FL
Zip: 32765
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

solar energy!

Thank you for your comment, Cameron Miller.

The comment tracking number that has been assigned to your comment is SolarD11733.

Comment Date: April 19, 2011 17:15:41PM
Solar Energy Development PEIS
Comment ID: SolarD11733

First Name: Cameron
Middle Initial:
Last Name: Miller
Organization: Adams State College EARTH
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: BLM-PEIS-Alamosa-20110307.txt

Comment Submitted:

See attached.

Comment for 11,000 page PEIS document feedback meeting, Colorado

Monday March 7th, 2011

As a resident of the San Luis Valley (SLV), I have some concerns about industrial scale solar development in the valley. As an information technology professional I'm data driven. Here is some data illustrating why the SLV is not necessarily a good location for large scale solar siting in Colorado.

A) Better insolation (sunshine) in the SLV is significantly offset by transmission line losses. Better insolation is a red herring for guiding the location of solar development in Colorado and the US.

B) There is no cost benefit to the residents of the SLV or residents of Colorado.

###Insolation vs transmission losses

1) Electricity Transmission Line Loss

* According to the US DOE average transmission [line losses in the US are 6.5%][1].

* According to the DOE Energy Information Administration [line losses in Colorado are ~7.5%][2].

* A recent article in National Geographic puts this line loss in perspective. A year of US [line losses can power 14 cities the size of New York][3].

2) Insolation

According to 30 year average insolation data gathered by the NREL:

* [Alamosa gets 8.8 KWh/m² of sunshine][4].

* [Pueblo gathers 8% less sun than Alamosa][4].

* [Colorado Springs 12.5% less][4].

* [Denver/Boulder area 16% less][4].

* Those differences get pretty small when factoring in at least 7.5% of transmission line losses. But wait, Colorado has 7.5% line loss before adding an additional 100+ miles of transmission distance out of the SLV.

* Germany's insolation is just [1KWh/m²][5], less than almost anywhere in the US.

* Germany at 88% less sun than Alamosa, has the largest photovoltaic installed base in the world on a per country basis at [17GW][6]. They produce their power at 69% of solar panel ability.

* Germany has about a dozen central solar plants but their size ranges from

20 - 80MW each, [most are under 50MW][6]. The rest of their production is via

rooftop solar.

3) Solutions for transmission line loss are unproven and expensive

* According to a recent National Geographic article, the cost for superconducting high power transmission lines is around \$10 million per mile, in line with a normal new line. However, the superconducting line requires a liquid nitrogen filled tube needing power to keep the fluid at [-350 F][3]. Line losses may be replaced by cooling power requirements.

###Cost benefit for whom?

1) Costs for new transmission and line losses are passed on to Colorado rate payers. Xcel and the large scale solar developers are out of state for profit companies.

2) Some money may go to local counties in more tax revenues. How much is unclear. Even if county governments receive more revenue there has been no mention of reducing local resident tax burdens.

3) In short Colorado residents will get fleeced on their electric bills and lose some pristine public lands. SLV residents face a direct assault on our lands and our chosen way of life via the SEZ option for solar development on BLM lands.

That is my perspective.

Thanks,

Cameron Miller
ASC EARTH
Alamosa

E.A.R.T.H., Environmental Action for Resources, Transportation, and Health is Adams State's organization focused on sustainability efforts.

[1]: <http://www.eia.doe.gov/tools/faqs/faq.cfm?id=105&t=3>

[2]:

http://www.eia.doe.gov/cneaf/electricity/st_profiles/e_profiles_sum.html

[3]: <http://news.nationalgeographic.com/news/2010/03/100319/lost-power-super-solution/>

[4]: http://rredc.nrel.gov/solar/old_data/nsrdb/1961-1990/

[5]: http://www.forbes.com/2008/07/08/opeo-oil-congress-oped-cx_mc_0709energy.html

[6]:

https://secure.wikimedia.org/wikipedia/en/wiki/Solar_power_in_Germany

Thank you for your comment, Edward LeBlanc.

The comment tracking number that has been assigned to your comment is SolarD11734.

Comment Date: April 19, 2011 17:37:14PM
Solar Energy Development PEIS
Comment ID: SolarD11734

First Name: Edward
Middle Initial:
Last Name: LeBlanc
Organization:
Address: 531-A Dolores St.
Address 2:
Address 3:
City: Santa Fe
State: NM
Zip: 87501
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The right place for solar energy development is on the billions of rooftops in this country. After that, responsible solar development needs to avoid conflict with national parks, wild areas, sensitive populations, sensitive ecosystems, and scenic areas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11735.

Comment Date: April 19, 2011 22:24:09PM
Solar Energy Development PEIS
Comment ID: SolarD11735

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I wish to withhold my name and street address from public view or from disclosure under the Freedom of Information Act.

I strongly support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Terrance Hutchinson.

The comment tracking number that has been assigned to your comment is SolarD11736.

Comment Date: April 19, 2011 22:55:01PM
Solar Energy Development PEIS
Comment ID: SolarD11736

First Name: Terrance
Middle Initial: A
Last Name: Hutchinson
Organization:
Address: 21305 Conklin Court
Address 2:
Address 3:
City: California City
State: CA
Zip: 93505
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Christopher Bardin.

The comment tracking number that has been assigned to your comment is SolarD11737.

Comment Date: April 20, 2011 11:20:21AM
Solar Energy Development PEIS
Comment ID: SolarD11737

First Name: Christopher
Middle Initial:
Last Name: Bardin
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Rooftops, parking lots and hundreds of miles of canals within the cities of the desert Southwest could be covered with solar panels without needing Environmental Impact Statements. The total area within the cities of LA, Phoenix, Tucson and San Diego that would benefit from being shaded by solar arrays must amount to hundreds of square miles. Putting the solar arrays in the cities where the electricity is used would obviate the need for transmission lines to be built through sensitive desert areas. Why does everyone seem to assume that the best place to put solar panels is far out in the pristine desert?

ANL's very informative pdf all about powerlines states that a high-voltage powerline needs approximately 40 acres of right of way per mile. I haven't been able to find the equivalent figure for canals but from what I've seen, the major canals which crisscross the desert Southwest require about the same amount of right of way. There are hundreds of miles of such canals within the city limits of Los Angeles and Phoenix which could be covered with solar panels without needing EIS to be written or powerlines to be constructed through the desert.

I've not been able to find anyone who can tell me why no one is proposing to cover those in-city canals with solar arrays rather than build solar arrays far out in the pristine desert, then build power lines through the desert to get the electricity to the cities where it is needed. Why not shade parking lots and canals within the cities first? If more power is needed, then shade the canals that traverse the desert? The right-of-way is already owned, the environmental damage already done.

Thank you for your time.

Thank you for your comment, Donald Burnette.

The comment tracking number that has been assigned to your comment is SolarD11738.

Comment Date: April 20, 2011 13:29:17PM
Solar Energy Development PEIS
Comment ID: SolarD11738

First Name: Donald
Middle Initial: G
Last Name: Burnette
Organization: Clark County
Address: Manager's Office
Address 2: 500 S. Grand Central Parkway, 6th Flr
Address 3:
City: Las Vegas
State: NV
Zip: 89155
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: BLM-PEIS comments.pdf

Comment Submitted:

Clark County would like to take this opportunity to provide comments on the draft Programmatic Environmental Impact Statement (PEIS).

Clark County supports the goals of the PEIS to facilitate utility scale solar development on federal lands while minimizing environmental, social, and economic impacts. Being located in Southern Nevada, the County has one of the premier solar resources in the world and solar development has the potential to provide clean renewable electricity to the region and much needed economic benefit to the County.

Although we appreciate the efforts of the Bureau of Land Management and the Department of Energy in preparing this document, the County is concerned that the PEIS, as currently drafted, might have an adverse impact on current and future solar development in the County, as well Nevada as a whole. The PEIS appears to exclude future solar development from a significant portion of the federal land in the County while focusing on areas that might not be as well suited. Reasonable levels of responsibly planned and designed solar development, with appropriate stakeholder input, can be compatible in sensitive resource areas but the concern is that the PEIS appears to prohibit all solar development over a vast area, which encompasses some of the most technically and economically suitable lands for solar development.

Consistent with the goals of the PEIS, the document should facilitate responsible development of solar energy. However, Clark County believes that the document, as currently proposed, would not meet this goal.



Thank you for your comment, Nicole Korbe.

The comment tracking number that has been assigned to your comment is SolarD11739.

Comment Date: April 20, 2011 15:05:10PM
Solar Energy Development PEIS
Comment ID: SolarD11739

First Name: Nicole
Middle Initial: C
Last Name: Korbe
Organization: Tri-State Generation and Transmission Association,
Address: 1100 W 116th Ave
Address 2:
Address 3:
City: Westminster
State: CO
Zip: 80215
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Tri-State has long supported renewable resources as part of a diverse energy portfolio. As a number of states move toward instituting Renewable Portfolio Standards, Tri-State will continue to add renewable power to its portfolio to further diversify its energy resources and to meet government requirements on behalf of its member co-ops. The San Luis Valley in Colorado is recognized as an area with high quality solar resources and Tri-State is supportive of responsible siting of solar facilities within this area. Therefore, we are supportive of the action alternatives to allow streamlined solar generation facility development on appropriate BLM lands.

Thank you for your comment, Ginger Ritter.

The comment tracking number that has been assigned to your comment is SolarD11740.

Comment Date: April 20, 2011 18:39:46PM
Solar Energy Development PEIS
Comment ID: SolarD11740

First Name: Ginger
Middle Initial:
Last Name: Ritter
Organization: Arizona Game and Fish Department
Address: 5000 W. Carefree Hwy
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 85086
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: M10-12133526 Draft Solar PEIS.pdf

Comment Submitted:



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT

5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

GOVERNOR
JANICE K. BREWER
COMMISSIONERS
CHAIRMAN, ROBERT R. WOODHOUSE, ROLL
NORMAN W. FREEMAN, CHINO VALLEY
JACK F. HUSTED, SPRINGERVILLE
J.W. HARRIS, TUCSON
ROBERT E. MANSELL, WINSLOW
DIRECTOR
LARRY D. VOYLES
DEPUTY DIRECTORS
GARY R. HOVATTER
BOB BRODSCHIED



April 20, 2011

Solar Energy PEIS Scoping
Argonne National Laboratory
9700 S. Cass Ave. – EVS/240
Argonne, IL 60439

Re: **Draft PEIS for Solar Energy Development in 6 Southwestern States**

Dear Sir/Madam:

The Arizona Game and Fish Department (Department) reviewed the Draft Programmatic Environment Impact Statement (PEIS) to evaluate Solar Energy Development on Bureau of Land Management (BLM) administered lands in six southwestern states. The Department supports BLM's efforts in developing the PEIS, and provides the following comments for your consideration (see attachment for page specific comments).

The Department supports the development of alternative energies, such as solar, provided detrimental effects to wildlife and wildlife habitat are avoided. The PEIS has proposed 3 alternatives:

1. A no action alternative, which would continue the BLM's existing policies,
2. A solar energy development program alternative that applies new program administration and authorization policies and design features for utility-scale solar energy development on BLM-administered lands to a subset of BLM administered lands that would be available for solar energy ROW applications (approximately 22 million acres in the six-state study area); and
3. A solar energy zone (SEZ) program alternative that applies the same new program administration and authorization policies and design features to utility-scale solar energy development but restricts applications to SEZs only (up to approximately 677,400 acres in the six-state study area).

The Department supports the third alternative, the SEZ alternative, and believes it minimizes impacts to wildlife and wildlife habitat in Arizona. The SEZ's have been fully analyzed and address potential impacts to wildlife and their habitats, as well as impacts associated with the loss of public use in those areas.

Although Arizona has the fewest acres identified in the SEZ alternative (13,375 acres), the state BLM office is currently developing an EIS, the Restoration Design Energy Project (RDEP), which identifies areas/sites in the state appropriate for renewable energy development. It focuses development to previously disturbed sites and areas with low resource conflicts. Currently, up to

1,037,200 acres have been identified in the RDEP process and would greatly increase the number of acres identified for renewable energy development in Arizona. The Department believes the SEZ alternative coupled with the RDEP:

1. Supports the President's New Energy for America Plan;
2. Provides site recommendations for the development of renewable energy consistent with the Secretarial Order 3285;
3. Aids the state in attaining their Renewable Energy Portfolio Standards of 15% by 2025; and
4. Helps meet community energy needs, creates economic opportunities, and provides good value to the taxpayer for the use of public lands.

It also meets the need of the Department by ensuring that projects are sited in appropriate areas with low resource conflict thereby minimizing impacts to wildlife and their habitats.

Alternative 2, the Expanded alternative, has not had the thorough analysis the SEZ alternative has and identifies areas in Arizona which may not be appropriate for solar development due to wildlife issues. The Department does not support this alternative; and if chosen, would strongly recommend that a thorough NEPA analysis be conducted for any proposed project occurring outside the SEZ's. Conversely, if the SEZ alternative were chosen, the Department believes BLM would be able to rely on some of the environmental analysis already conducted for those areas, thereby reducing the time and effort needed to evaluate the project.

The Department appreciates the opportunity to provide comments on the draft PEIS. Please contact me at 623-236-7606 if you have any questions, or would like to further discuss our comments.

Sincerely,



Ginger Ritter

Project Evaluation Program Specialist, Habitat Branch

cc: Dave Dorum, Habitat Program Manager, Region I
Sarah Reif, Habitat Program Manager, Region II
Trevor Buhr, Habitat Program Manager, Region III
Troy Smith, Habitat Program Manager, Region IV
John Windes, Habitat Program Manager, Region V
Kelly Wolff-Krauter, Habitat Program Manager, Region VI

AGFD # M10-12133526

Page Specific Comments

5.10.5.1 Siting and Design

General – Evaluating cumulative impacts on biotic communities and species assemblages should include examining the impacts that multiple large scale developments would have within a region, which include other development pressures, such as population growth in the Sonoran Desert. Currently many species that inhabit areas proposed for solar are considered common but if development continues to proceed without these considerations, they will become rare and endangered.

Also, site and design facilities to minimize habitat fragmentation and/or impacts to identified wildlife linkages; access routes, wash crossings, facility lighting, etc.

Pg. 127, Third Bullet – Predisturbance surveys should also follow species specific protocols and be designed with seasonal and other life history constraints that could ensure survey during periods of optimum detection.

Pg. 127 Last Bullet, continues onto Page 128 – The Department recommends incorporating monitoring to ensure mitigations for T&E species are effective.

Pg. 128 Second to Last Bullet – In addition to making sure to prevent soil erosion/deposition there should be preserving existing drainage patterns as well.

Thank you for your comment, MONICA FRANCO.

The comment tracking number that has been assigned to your comment is SolarD11741.

Comment Date: April 20, 2011 20:40:32PM
Solar Energy Development PEIS
Comment ID: SolarD11741

First Name: MONICA
Middle Initial: A
Last Name: FRANCO
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip: 11700
Country: DF, Mexico
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

NOW!!!!!!!

Thank you for your comment, Harriet Hirsch.

The comment tracking number that has been assigned to your comment is SolarD11742.

Comment Date: April 20, 2011 22:39:16PM
Solar Energy Development PEIS
Comment ID: SolarD11742

First Name: Harriet
Middle Initial: J
Last Name: Hirsch
Organization:
Address: 1903 Memory CT.
Address 2:
Address 3:
City: Vienna
State: VA
Zip: 221823327
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should only be gathered in places where it doesn't compromise national park views, water , etc.

Thank you for your comment, Jesse Gore.

The comment tracking number that has been assigned to your comment is SolarD11743.

Comment Date: April 20, 2011 23:57:18PM
Solar Energy Development PEIS
Comment ID: SolarD11743

First Name: Jesse
Middle Initial:
Last Name: Gore
Organization:
Address: 2411 Chapel Avenue
Address 2:
Address 3:
City: Nashville
State: TN
Zip: 37206
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

SOLAR ENERGY IS CLEAN AND SAFE

Thank you for your comment, Jonathan Disbro.

The comment tracking number that has been assigned to your comment is SolarD11744.

Comment Date: April 21, 2011 10:29:14AM
Solar Energy Development PEIS
Comment ID: SolarD11744

First Name: Jonathan
Middle Initial: D
Last Name: Disbro
Organization:
Address: 3499 Leighton Rd
Address 2:
Address 3:
City: Columbus
State: OH
Zip: 43221
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm strongly supportive of the move to develop alternative energy production including solar energy especially the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Steve Belinda.

The comment tracking number that has been assigned to your comment is SolarD11745.

Comment Date: April 21, 2011 11:25:33AM
Solar Energy Development PEIS
Comment ID: SolarD11745

First Name: Steve
Middle Initial:
Last Name: Belinda
Organization: Theodore Roosevelt Conservation Partnership
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: TRCP PEIS Solar Comments.docx

Comment Submitted:

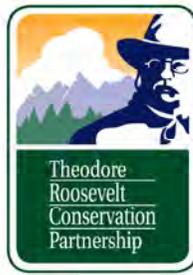
Please accept the attached file as official comments on the Draft PEIS for Solar Development in Six Western States.

The Theodore Roosevelt Conservation Partnership support Solar Energy Zone Program Alternative establishing 24 Solar Energy Zones and not the preferred alternative proposed by BLM in the PEIS.

We believe this alternative is the best alternative at this time to meet the demand for solar production and to allow for proper multiple use of public lands. We fear the selection of the preferred alternative would re-create the land rush actions associated with other development like oil and gas leasing and hard rock mining has on public lands. We also recommend that a system of competitive leasing be established, a process for return on the public investment (royalties) be establish and a portion of those royalties be dedicated to conservation actions, and that a process for modifying, creating, or deleting existing zones or future zones be established.

We have other concerns with how the PEIS and any decision would impact wildlife, recreation, and economics - and are explained in the attached letter. We recommend these be addressed in the final EIS before decisions are made. Also we believe sportsmen and hunting/fishing groups and interests are under or not represented in any existing stakeholder involvement and recommend that there be a process for formal consultation with these groups.

Thank you for allowing opportunity to provide comment on this important issue.



April 21, 2011

The Office of Energy Efficiency and Renewable Energy (EERE)
Department of Energy (DOE)
Bureau of Land Management (BLM)

Comments on the Programmatic Solar EIS for Six Western States

The Theodore Roosevelt Conservation Partnership is a coalition of hunting, fishing and conservation organizations, and individuals who represent the wide spectrum of America's outdoor community. We are dedicated to the foresighted stewardship of America's landscape, helping expand fish and wildlife habitat and increase public access to quality hunting and fishing. We appreciate the opportunity to provide comments and suggestion to the Draft Solar Programmatic Environmental Impact Statement. Our primary concern with any proposal to develop projects on federal lands is based on the needs of fish and wildlife, and those who pursue fish and game for recreation and subsistence.

Based on our review and analysis of the alternatives in the PEIS, we are concerned with about some key issues that either not addressed or we felt were inadequately address by the draft. We understand changes will be made and our detailed recommendations should be incorporated into the final EIS and any decisions that come from that final analysis. Our understanding is that there will not be any additional opportunity to comment on the EIS process and only on the Record of Decision when it is released, therefore, we cannot support the preferred alternative but support Alternative B which would create 24 Solar Energy Zones (SEZ) without making any additional acres available for solar development at this time.

We do support the creation of SEZ and believe that the 24 SEZ analyzed in the PEIS are sufficient to meet the state needs for solar energy production. We believe these zones, with few minor exceptions, can allow for production of solar energy and have transmission capacity or will have capacity built in the near future to transport energy created to market. We also believe that a local process be set up to deal with any issues that arise after these zones are created and before development is permitted. We encourage you to include sportsmen and conservation organizations as part of any stakeholder effort because these groups are typically under or not represented on advisory groups or committees.

Based on the current status of the existing Right of Way (ROW) applications for solar development and the continued stream of ROW applications, our recommendation is that all ROW applications for solar development on BLM Lands be halted. Although it is recognized on pg 2-4 and 2-5 that a Federal Register Notice was submitted to any applicant after June 30, 2009 that their application would have to abide by decisions made in the PEIS ROD, the application process should stop. This will help expedite the process and assure that applications do not fall into conflict with decisions made in ROD. Continuing to leave the application process open will open up conflict with industry and the BLM, further slowing

the process and potentially having adverse affect not only on natural resources but the resources of the BLM, who otherwise would be managing lands for other uses. We recommend you undertake a process that would allow for competitive leasing once zones are establish and develop a process for getting some sort of fair return on investment from the use of public land (royalty system) and that a portion of the returns be dedicated to conservation activities. Finally we recommend a clear and transparent process for modifying existing zones, creating new zones, or deleting unnecessary zones as part of any decisions based on this NEPA analysis.

Recreation

The Draft Solar PEIS makes an attempt to address the potential affects to recreation on federal lands by industrial scale solar based on the three alternatives put forth. The following is an overview of concerns with the initial analysis of these affects in the Draft Solar PEIS, and some suggestion how they may be better addressed in each alternative.

Beginning on pg 2-11 line 37, the BLM recognizes that the agency will, "Place a priority in utility-scale solar energy development over other land uses", when managing "actions in areas selected as Solar Energy Zones (SEZ)." This is a potential loss of 677,384 acres of accessible public land and wildlife habitat. It is recognized in the Reasonable Foreseeable Development Scenario that the perceived development will total 214,199 acres (p. 2-20). It is also recognized on pg 4-13 that "more than 57 million visitors" participated in numerous outdoor activities including hunting and fishing on BLM administered lands in the 6 southwestern states. It should be recognized that the loss of access to 214,199 acres and the fragmentation of 677,384 acres of public lands will further consolidate those regions that the more than 57 million visitors use. The impact of the consolidation of available public lands to humans, horses and burrows, wildlife, livestock grazing, mineral exploration, and other sources of energy development, should be considered throughout this document. Because solar energy will take priority in these areas it can be assumed that this land will become a single use area.

Other loses that need to be recognized outside of the SEZ's are the roads and transmission required for access. Upon review of chapters 8-13, a minimum of 159.5 miles of transmission lines and access roads are needed to provide adequate access to the SEZ's. It is also recognized that the nearby transmission, that is available, may have insufficient capacity to provide adequate transfer of power to the grid. Chapter 5 recognizes that transmission and access roads will increase access to otherwise inaccessible regions, further fragmenting habitat and reducing the amount of lands available for wildlife and increasing potential for invasive weeds. With a minimum of 159.5 miles of transmission and access roads needed, this must be considered in the overall impacts to sportsmen and fish and wildlife. While the PEIS recognizes that when "screening for success" that areas excluded from solar energy development because of incompatible resource values:

"The exclusions would apply only to the siting of utility-scale solar energy generation facilities and not to any required supporting linear infrastructure, such as roads, transmission lines, and natural gas or water pipelines." (p. 2-7)

The PEIS goes on to say that the required supporting linear infrastructure would be reviewed on a project by project basis, based on information in land use plans. It would be the argument that if the "linear infrastructure" is "required" for the project then it is part of the project and overall impacts should be considered in this document. The PEIS mentions the need to amend land use

plans to implement solar development, therefore when amending for solar development the BLM should amend land use plans for that infrastructure required for projects (p. 2-17).

Also regarding recreational impacts, nowhere within the PEIS is it addressed how this may impact recreation shooting on public lands. It is required to use a firearm or bow for hunting and recreational shooting is a valid, important use of public lands for sportsmen. We can assume that any project area would be closed to shooting or have some other restrictions on shooting and hunting activities. If a no shooting buffer is placed around solar projects, this will adversely affect the region of public land used by sportsmen to an even greater degree. We are not advocating allowing shooting near these projects, but would like the cumulative impacts to hunting to be considered in the PEIS as well as how this loss of access will be mitigated.

Lastly on page 5-17 it is stated under heading 5.5.3 that “Solar facilities should not be placed in areas of unique or important recreation resources.” How will this be determined and quantified? This is considered to be mitigation in the PEIS, by means of avoidance. We recommend that local sportsmen’s groups are formally consulted along with the state wildlife agency to determine if a region has “unique recreational resources” to the local hunting public, and those resources be addressed during the final PEIS and land use plan amendment process.

Wildlife

The PEIS recognized the need for protections to big game winter ranges and migratory corridors. A few recommendations regarding these protections are as follows. The PEIS identifies those regions that will be excluded from solar development as, “big game migratory corridors identified in applicable land use plans” and “big game winter ranges identified in applicable land use plans”. When identifying big game migratory corridors and winter ranges, the most up to date information and data should be used as provided by the state wildlife agency or other credible sources. The PEIS recognizes that big game animals are managed by state wildlife agencies on page 4-81 line 16. Land use plans can vary in age by 20 years often creating conflicting or inaccurate data. An example of this is when comparing the big game winter range GIS layer from state wildlife agencies to the preferred Solar Development Alternative, over 4 million acres of mule deer winter range was identified within the 21 million acres offered. The GIS dataset that we used for this analysis was used was from the Western Association of Fish and Wildlife Agencies Mule Deer Working Group’s species-wide habitat mapping effort (<http://.muledeerworkinggroup.com>).

Discrepancies in data between antiquated land use plans can have adverse impacts to big game. This difference between 4 million acres may stem from crucial winter range and winter range identification. When protecting crucial winter range, it is important to consider the winter range surrounding that region and how animals transition from one range to the next. The PEIS recognizes this:

Maintaining genetic interchange through landscape linkages among subpopulations is also essential for long-term survival of species. Maintaining migration corridors and landscape linkages, especially when seasonal ranges or subpopulations are far removed from each other, can be difficult because of the various land ownership mixes that often need to be traversed (Sawyer et al. 2005). (p. 4-87)

But, when using information in land use plans versus the most up to date information from state wildlife agencies, big game can suffer affecting those wildlife species we as sportsmen pursue and work to protect. Mapping discrepancies and errors have real, on-the-ground consequences for wildlife and must be minimized.

Considering the recognition of the up to date science, and big horn sheep movements, some questions need to be considered in the PEIS analysis. The analysis states that big horn sheep are non-migratory (p. 4-90). This is true that bighorn sheep have a high fidelity to one range, but corridors are needed to move from one range to another for genetic diversity. The California Department of Fish and Game calls these Essential Connectivity Areas and provides up-to-date GIS maps and data from their website. This is again an example of why it is important to work directly with state agencies and not use out of date information in land use plans.

Regarding transmission lines and access roads, we encourage you to consider their impacts in the PEIS to big game and upland game bird resources. As was mentioned above regarding recreation and fragmentation, this is a cumulative impact affecting all other multiple-use on public lands. Without considering the impacts (direct, indirect, and cumulative) of over 159.5 miles of roads and transmission needed to reach the SEZ, the PEIS is inadequate in its review on the affects to all wildlife.

Economics

The Socioeconomic Impacts or Environmental Justice within the PEIS do not address the loss of local hunting revenue and the economic off-set that hunting for subsistence provides. Albeit, determination of amount and loss from subsistence hunting is difficult to quantify, it should be considered a loss in local revenue if popular hunting areas become inaccessible and quality hunting is diminished. Many sportsmen rely on meat harvested during hunting on public lands for their survival and essentials. The need for quality local hunting areas is often essential in rural regions, where people off-set their needs by harvesting game birds and big game. Hunting and fishing account for \$950 million in retail sales each year in California, the six southwestern states account for \$2.3 billion in retail sales in 2006 (Southwick 2007 AFWA report). Some analysis of how affects from solar development on public lands should be considered in the PEIS.

In conclusion the effort to begin developing an entire new natural resource based economy on the public estate is difficult. The effort to analyze how this affects all other multiple-uses including the needs of fish, wildlife, hunting, and fishing, needs to be adequately considered. Industrial solar energy development will create areas of single land use; similar to that of public lands surface mining. Some assurances of successful reclamation, through bonding need to be considered as does the need to “off-set” these industrial use designations with setting aside other areas that will not experience energy development activities and can provide quality hunting, fishing, and habitat. Solar energy cannot alone solve our energy crisis, and is an important part of any domestic energy policy. It needs to be coordinated with activities on private and state lands and not done in places that are irreplaceable or too valuable for other resources like fish and wildlife. Other federally owned lands not accessible to the public, such as Department of Defense lands, that would have less conflict while still providing needed energy should also be considered. In your effort to quantify loss and gain to the public by industrial solar development on BLM lands, please be arduous in your efforts to protect wildlife and sportsmen’s resources for generations to come.

Sincerely,

A handwritten signature in black ink that reads "Steven R. Belinda". The signature is written in a cursive style with a large initial 'S' and 'B'.

Steven R. Belinda
Director of Energy Programs
Theodore Roosevelt Conservation Partnership
PO Box 1945
Red Lodge, MT 59068
sbelinda@trcp.org

Thank you for your comment, Mark Carroll.

The comment tracking number that has been assigned to your comment is SolarD11746.

Comment Date: April 21, 2011 14:48:02PM
Solar Energy Development PEIS
Comment ID: SolarD11746

First Name: Mark
Middle Initial: T
Last Name: Carroll
Organization:
Address: 532 S. Jackson
Address 2:
Address 3:
City: Little Chute
State: WI
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Lets get solar energy going, save the planet

Thank you for your comment, Kelly Manning.

The comment tracking number that has been assigned to your comment is SolarD11000.

Comment Date: April 12, 2011 20:27:18PM
Solar Energy Development PEIS
Comment ID: SolarD11000

First Name: Kelly
Middle Initial: E
Last Name: Manning
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

In our efforts to expand Renewable energy, we must consider the impact on the Earth that is the reason for using it in the first place. We must protect our Wildlife and National Parks like Joshua Tree and White Sands and not damage their precious Eco systems or beautiful vistas which make them important parts of our National heritage. Please discuss future development and land use with the National Parks Service so we can make this work for all.

Thank you for your comment, Kenneth Mundy.

The comment tracking number that has been assigned to your comment is SolarD11001.

Comment Date: April 12, 2011 20:29:40PM
Solar Energy Development PEIS
Comment ID: SolarD11001

First Name: Kenneth
Middle Initial:
Last Name: Mundy
Organization:
Address: 3650 Regal Place
Address 2: # 37
Address 3:
City: Los Angeles
State: CA
Zip: 90068
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Vivian Valtri Burgess.

The comment tracking number that has been assigned to your comment is SolarD11002.

Comment Date: April 12, 2011 20:30:54PM
Solar Energy Development PEIS
Comment ID: SolarD11002

First Name: Vivian
Middle Initial:
Last Name: Valtri Burgess
Organization:
Address: 4184 VT Route 100
Address 2:
Address 3:
City: Granville
State: VT
Zip: 05747
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, angela fazzari.

The comment tracking number that has been assigned to your comment is SolarD11003.

Comment Date: April 12, 2011 20:31:13PM
Solar Energy Development PEIS
Comment ID: SolarD11003

First Name: angela
Middle Initial:
Last Name: fazzari
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11004.

Comment Date: April 12, 2011 20:31:52PM
Solar Energy Development PEIS
Comment ID: SolarD11004

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.
--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sharon Pate.

The comment tracking number that has been assigned to your comment is SolarD11005.

Comment Date: April 12, 2011 20:34:26PM
Solar Energy Development PEIS
Comment ID: SolarD11005

First Name: Sharon
Middle Initial:
Last Name: Pate
Organization:
Address: 8 Mouse Creek Court
Address 2:
Address 3:
City: Howell
State: NJ
Zip: 07731
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Sharon Pate

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11006.

Comment Date: April 12, 2011 20:35:19PM

Solar Energy Development PEIS

Comment ID: SolarD11006

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State: [Withheld by requestor]

Zip:

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Let us be smart about this. Only use solar in the most viable areas and with the least impact to the delicate environment. That is the purpose after all, conserving our environment and resources.

Thank you for your comment, Deborah Ebersold.

The comment tracking number that has been assigned to your comment is SolarD11007.

Comment Date: April 12, 2011 20:35:42PM
Solar Energy Development PEIS
Comment ID: SolarD11007

First Name: Deborah
Middle Initial:
Last Name: Ebersold
Organization:
Address: 1041 N. Gardner St.
Address 2:
Address 3:
City: West Hollywood
State: CA
Zip: 90046
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I urge finding other sites for implementing solar facility sites that ecology friendly.
I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Christine Walturz.

The comment tracking number that has been assigned to your comment is SolarD11008.

Comment Date: April 12, 2011 20:36:49PM
Solar Energy Development PEIS
Comment ID: SolarD11008

First Name: Christine
Middle Initial:
Last Name: Walturz
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Mark Lewis.

The comment tracking number that has been assigned to your comment is SolarD11009.

Comment Date: April 12, 2011 20:37:09PM
Solar Energy Development PEIS
Comment ID: SolarD11009

First Name: Mark
Middle Initial:
Last Name: Lewis
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jon Levin.

The comment tracking number that has been assigned to your comment is SolarD11010.

Comment Date: April 12, 2011 20:38:26PM
Solar Energy Development PEIS
Comment ID: SolarD11010

First Name: Jon
Middle Initial:
Last Name: Levin
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Constance Garcia-Barrio.

The comment tracking number that has been assigned to your comment is SolarD11011.

Comment Date: April 12, 2011 20:40:19PM
Solar Energy Development PEIS
Comment ID: SolarD11011

First Name: Constance
Middle Initial:
Last Name: Garcia-Barrio
Organization:
Address: 6454 Germantown Avenue
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 19119
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy can help diminish a ruinous dependence on fossil fuels.

Thank you for your comment, Jennifer Griffith.

The comment tracking number that has been assigned to your comment is SolarD11012.

Comment Date: April 12, 2011 20:40:47PM
Solar Energy Development PEIS
Comment ID: SolarD11012

First Name: Jennifer
Middle Initial: B
Last Name: Griffith
Organization:
Address: 902 Park Ridge Rd. #A4
Address 2:
Address 3:
City: Durham
State: NC
Zip: 27713
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment on this important issue.

Thank you for your comment, Mike VanLandingham.

The comment tracking number that has been assigned to your comment is SolarD11013.

Comment Date: April 12, 2011 20:43:14PM
Solar Energy Development PEIS
Comment ID: SolarD11013

First Name: Mike
Middle Initial:
Last Name: VanLandingham
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kristin Womack.

The comment tracking number that has been assigned to your comment is SolarD11014.

Comment Date: April 12, 2011 20:43:54PM
Solar Energy Development PEIS
Comment ID: SolarD11014

First Name: Kristin
Middle Initial:
Last Name: Womack
Organization:
Address: 396 San Francisco Boulevard
Address 2:
Address 3:
City: San Anselmo
State: CA
Zip: 94960
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Kristin Womack

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11015.

Comment Date: April 12, 2011 20:45:20PM
Solar Energy Development PEIS
Comment ID: SolarD11015

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11016.

Comment Date: April 12, 2011 20:47:55PM
Solar Energy Development PEIS
Comment ID: SolarD11016

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joyce Stowe-Longchamp.

The comment tracking number that has been assigned to your comment is SolarD11017.

Comment Date: April 12, 2011 20:48:10PM
Solar Energy Development PEIS
Comment ID: SolarD11017

First Name: Joyce
Middle Initial: L
Last Name: Stowe-Longchamp
Organization:
Address: 70 woodhaven Dr
Address 2:
Address 3:
City: Avon
State: CT
Zip: 06001
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is the way to go There is no fall-out into the environment from this method of energy.

Thank you for your comment, Jetta Hurst.

The comment tracking number that has been assigned to your comment is SolarD11018.

Comment Date: April 12, 2011 20:48:22PM
Solar Energy Development PEIS
Comment ID: SolarD11018

First Name: Jetta
Middle Initial:
Last Name: Hurst
Organization:
Address:
Address 2:
Address 3:
City: Auburn
State: WA
Zip: 98001
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is the best form of power we have available at this time and should be used when ever possible.

Thank you for your comment, Karen Kissling.

The comment tracking number that has been assigned to your comment is SolarD11019.

Comment Date: April 12, 2011 20:53:33PM
Solar Energy Development PEIS
Comment ID: SolarD11019

First Name: Karen
Middle Initial: M
Last Name: Kissling
Organization:
Address: 613 Nod Hill Rd.
Address 2:
Address 3:
City: Wilton
State: CT
Zip: 06897
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I would support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

But there are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

With that in mind, I strongly feel that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time and consideration.

Thank you for your comment, Carolyn Riddle.

The comment tracking number that has been assigned to your comment is SolarD11020.

Comment Date: April 12, 2011 20:55:26PM
Solar Energy Development PEIS
Comment ID: SolarD11020

First Name: Carolyn
Middle Initial: M
Last Name: Riddle
Organization:
Address: 502 S. 5th Ave.
Address 2:
Address 3:
City: Othello
State: WA
Zip: 993441702
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The development of solar and other alternative energy sources is the best long-term solution to gas and oil importation and drilling and the dangers of nuclear energy. We must take care, however, to protect our wild places and the animals that live there by careful placement of installations. Thank you for your commitment to our parks and wildlife.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11021.

Comment Date: April 12, 2011 20:56:15PM
Solar Energy Development PEIS
Comment ID: SolarD11021

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for considering my comments.

Thank you for your comment, Lawrence Todryk.

The comment tracking number that has been assigned to your comment is SolarD11022.

Comment Date: April 12, 2011 20:58:14PM
Solar Energy Development PEIS
Comment ID: SolarD11022

First Name: Lawrence
Middle Initial: W
Last Name: Todryk
Organization:
Address: 355 BVelle Ct
Address 2:
Address 3:
City: Grayslake
State: IL
Zip: 60030
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the development of applicatoins of solar energy in our parks.

Thank you for your comment, Jetta Hurst.

The comment tracking number that has been assigned to your comment is SolarD11023.

Comment Date: April 12, 2011 20:59:12PM
Solar Energy Development PEIS
Comment ID: SolarD11023

First Name: Jetta
Middle Initial:
Last Name: Hurst
Organization:
Address:
Address 2:
Address 3:
City: auburn
State: WA
Zip: 98001
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar should only be used in National parks if it does not harm wildlife or take away from the beauty of the park.

Thank you for your comment, Ellen Ross.

The comment tracking number that has been assigned to your comment is SolarD11024.

Comment Date: April 12, 2011 20:59:54PM
Solar Energy Development PEIS
Comment ID: SolarD11024

First Name: Ellen
Middle Initial: J
Last Name: Ross
Organization:
Address: 214 E Shelbourne Ave
Address 2:
Address 3:
City: Las Vegas
State: NV
Zip: 89123
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Comments on the Draft Solar Energy Development PEIS.doc

Comment Submitted:

Comments on the Draft Solar Energy Development PEIS

1. National Economics:

Given the current state of the national debt and the economy, embarking on projects that will require substantial government subsidies and on-going tax breaks/credits is the height of folly. A better plan is to use distributive solar projects, installed on existing residential and commercial rooftops and parking garages. This would allow the impacted communities to receive direct benefit from the projects, rather than seeing the electricity generated in our home states shipped off to California.

2. Negative Impact on Local Economies (Part 1):

Not all of the public lands being considered for use by industrial-sized energy projects are in remote areas. Some of the projects will be within sight-and-sound of residential communities. This situation has a negative effect on private property values. Given the already dramatically depressed real estate market in most Southwestern states, driving land prices even further down would be catastrophic for the individual landowners.

3. Negative Impact on Local Economies (Part 2):

The construction of industrial solar projects will have a negative visual impact on the surrounding area. The Southwestern United States is heavily dependent upon tourism for its economic well-being. Our deserts are popular with hikers, campers, off-roaders, and others who come here to enjoy the pristine desert landscape. Destroying a major source of local revenue would tremendously increase the damage already done to our local economies by the national economic crisis.

4. Negative Visual Impact:

Our pristine deserts are unlike those found anywhere else in the world, and draw hikers, photographers, and other nature-lovers to visit every year. Construction of industrial-sized solar projects will destroy the very landscape these people travel to the Southwest to visit.

5. Environmentally-Sensitive Areas:

Many of the areas being considered by the BLM for these large-scale solar projects are Areas of Environmental Concern. Contrary to popular belief, the deserts of the Southwestern United States are NOT wastelands. A large variety of plants and animals (including endangered species) live in these areas. The negative impact of large-scale construction, as well as industrial solar panels, on these sensitive habitats

Thank you for your comment, Mark Waltzer.

The comment tracking number that has been assigned to your comment is SolarD11025.

Comment Date: April 12, 2011 21:00:01PM
Solar Energy Development PEIS
Comment ID: SolarD11025

First Name: Mark
Middle Initial: L
Last Name: Waltzer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Carole Bard.

The comment tracking number that has been assigned to your comment is SolarD11026.

Comment Date: April 12, 2011 21:00:13PM
Solar Energy Development PEIS
Comment ID: SolarD11026

First Name: Carole
Middle Initial: J
Last Name: Bard
Organization:
Address: 1709 Mildred
Address 2:
Address 3:
City: Marquette
State: MI
Zip: 49855
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jerry Button.

The comment tracking number that has been assigned to your comment is SolarD11027.

Comment Date: April 12, 2011 21:00:13PM
Solar Energy Development PEIS
Comment ID: SolarD11027

First Name: Jerry
Middle Initial:
Last Name: Button
Organization:
Address: 5910 Morningstar Cir.
Address 2:
Address 3:
City: Delray Beach
State: FL
Zip: 33484
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Erica McMahon.

The comment tracking number that has been assigned to your comment is SolarD11028.

Comment Date: April 12, 2011 21:01:14PM
Solar Energy Development PEIS
Comment ID: SolarD11028

First Name: Erica
Middle Initial:
Last Name: McMahon
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for being responsible regarding solar development that protects our national parks.

Thank you for your comment, Brian von Dedenroth.

The comment tracking number that has been assigned to your comment is SolarD11029.

Comment Date: April 12, 2011 21:01:28PM
Solar Energy Development PEIS
Comment ID: SolarD11029

First Name: Brian
Middle Initial: P
Last Name: von Dedenroth
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

If we don't learn from history we're doomed to repeat it. Although pursuing solar is an excellent idea, I'm of the opinion that instead of pursuing it on an industrial scale in remote areas that take up vast resources and transporting it large distances that take up more resources and require loans from private land holders is mis-guided. Instead, I would prefer to see solar distributed on a wide scale on our already massive human footprint. Place it on as many residential and commercial buildings as possible. If a building can create more energy than it needs, credit the owners and transport it to nearby building that cannot. Augment this with a localized smart grid, better storage capacity, smaller scale systems within or immediately on the outskirts of developed areas and adjacent to freeways. If this is not feasible, then solar production should still be adjacent to populated areas and developed infrastructures taking up as few resources in land as possible. It should by no means be placed in areas near national parks, undeveloped wild lands or private or government lands which sustain a great deal of wildlife and could be converted to wilderness, national, state or regional parks. Pursue solar by all means but don't create it in one area and distribute it widely from there as we've done with coal, nuclear, hydro-electric and other current forms of power generation. Place it in areas close to people and in land that has already been scarred by previous exploitation like gas, oil nuclear, etc...

Thank you for your comment, wendy colschen.

The comment tracking number that has been assigned to your comment is SolarD11030.

Comment Date: April 12, 2011 21:04:09PM
Solar Energy Development PEIS
Comment ID: SolarD11030

First Name: wendy
Middle Initial: J
Last Name: colschen
Organization:
Address: 520 5th st.
Address 2:
Address 3:
City: Rawlins
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

All for solar but think you can do it without ruining some of the most beautiful places on earth don't you? Please try to re-arrange your plans to protect Joshua Tree National Parks wilderness and wildlife.

Iron Mountain SEZ needs to be removed.

The Amargosa Valley sez should be downsized to reduce impact.

Red Dands sez impacts water resources .

Thank you for your comment, Bruce Jackson.

The comment tracking number that has been assigned to your comment is SolarD11031.

Comment Date: April 12, 2011 21:04:15PM
Solar Energy Development PEIS
Comment ID: SolarD11031

First Name: Bruce
Middle Initial:
Last Name: Jackson
Organization:
Address: 2636 Tiller Ave
Address 2:
Address 3:
City: Port Hueneme
State: CA
Zip: 930411369
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is a right way to implement solar energy development in America on public land. It should be developed only in solar energy zones that do NOT compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once it is amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- 1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Amanda Scuder.

The comment tracking number that has been assigned to your comment is SolarD11032.

Comment Date: April 12, 2011 21:04:31PM
Solar Energy Development PEIS
Comment ID: SolarD11032

First Name: Amanda
Middle Initial:
Last Name: Scuder
Organization:
Address: 175 West 92nd Street, Apt. 6D
Address 2:
Address 3: 175 West 92nd Street, Apt. 6D
City: New York
State: NY
Zip: 10025
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Siddharth Mehrotra.

The comment tracking number that has been assigned to your comment is SolarD11033.

Comment Date: April 12, 2011 21:04:40PM
Solar Energy Development PEIS
Comment ID: SolarD11033

First Name: Siddharth
Middle Initial:
Last Name: Mehrotra
Organization:
Address: 3230 Orange Drive
Address 2:
Address 3:
City: Camarillo
State: CA
Zip: 930101322
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar power, windfarming, and hydroelectrics were invented so that destruction of wild lands is prohibited. It is therefore unconscionable that wild lands and public lands are overwhelmed by the placement of industrial-scale national projects meant to obtain electricity from these or any sources. Therefore I ask that all solar panels be placed in urban areas, close to their clients; that all windfarms be placed also in urban areas, as on the sides of buildings; and that hydroelectric turbines be installed in the municipal water-supplies of cities. By these devices, you will prevent wildlands' destruction and bring about a steady source of energy as well.

Thank you for your comment, Walter Kneibert.

The comment tracking number that has been assigned to your comment is SolarD11034.

Comment Date: April 12, 2011 21:05:17PM
Solar Energy Development PEIS
Comment ID: SolarD11034

First Name: Walter
Middle Initial: -
Last Name: Kneibert
Organization:
Address: 26 Beatrice Ave.
Address 2:
Address 3:
City: West Islip, New York
State: NY
Zip: 117951503
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

For a cleaner and healthier world we need to shut down the big oil and coal polutters. By promoting solar and wind power , our children will have a brighter future .

Thank you for your comment, Catherine Houle.

The comment tracking number that has been assigned to your comment is SolarD11035.

Comment Date: April 12, 2011 21:05:55PM
Solar Energy Development PEIS
Comment ID: SolarD11035

First Name: Catherine
Middle Initial:
Last Name: Houle
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Bonnie Breckenridge.

The comment tracking number that has been assigned to your comment is SolarD11036.

Comment Date: April 12, 2011 21:06:24PM
Solar Energy Development PEIS
Comment ID: SolarD11036

First Name: Bonnie
Middle Initial:
Last Name: Breckenridge
Organization:
Address: 4143 44th St.
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 92105
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I whole-heartedly support our nation's transition to solar energy, although, as with any energy system, its impact on local ecology must be studied and taken into consideration.

Thank you for your comment, Nancy Schuhrke.

The comment tracking number that has been assigned to your comment is SolarD11037.

Comment Date: April 12, 2011 21:08:05PM
Solar Energy Development PEIS
Comment ID: SolarD11037

First Name: Nancy
Middle Initial: E
Last Name: Schuhrke
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Richard Spotts.

The comment tracking number that has been assigned to your comment is SolarD11038.

Comment Date: April 12, 2011 21:10:45PM
Solar Energy Development PEIS
Comment ID: SolarD11038

First Name: Richard
Middle Initial: A
Last Name: Spotts
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I appreciate this opportunity to submit my comments on the Solar Energy Development Draft PEIS.

I support and urge BLM to adopt the solar energy zones alternative. I believe that the specific solar zones identified in this alternative are the most appropriate and timely places to locate new solar facilities on BLM administered lands. I do not support the alternative that adds millions of acres of additional BLM lands for potential solar development as these lands are likely to pose much greater conflicts in terms of natural and cultural resources. If the solar zones alternative is adopted and fully implemented, and there is a subsequent demonstrated need for additional BLM lands, then such additional lands should be subject to site-specific NEPA evaluation. It is premature to include them now, both due to the absence of site-specific analysis, and due to the absence of a strong demonstrated need at this time.

However, even within this solar energy zones alternative that I generally support, there is a need for some revisions.

In particular, there are four proposed Solar Energy Zones (SEZ) that may threaten some of our national parks.

The Riverside East SEZ should be reconfigured to reduce impacts to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ should be reduced or reconfigured to reduce negative impacts to Death Valley's wilderness and precious water resources, including desert wetlands that are home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

In addition, any proposed solar projects to be sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Moreover, BLM should include proposed national parks, wilderness areas, and national monuments as potential high conflict areas for industrial solar development. Further consideration of these sites at this time would seem to invite conflict and controversy, and there should be more than enough suitable lands elsewhere.

In summary, please be "smart from the start" in determining where solar energy development is appropriate and necessary, versus where it is not.

Thank you very much for considering my comments.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11039.

Comment Date: April 12, 2011 21:11:16PM
Solar Energy Development PEIS
Comment ID: SolarD11039

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Bo Baggs.

The comment tracking number that has been assigned to your comment is SolarD11040.

Comment Date: April 12, 2011 21:13:42PM

Solar Energy Development PEIS

Comment ID: SolarD11040

First Name: Bo

Middle Initial:

Last Name: Baggs

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold address from public record

Attachment:

Comment Submitted:

Solar is practical, cheap and reliable. Here in the Sun Belt, we ought to be taking the lead in developing solar technology!

Thank you for your comment, fred powell.

The comment tracking number that has been assigned to your comment is SolarD11041.

Comment Date: April 12, 2011 21:17:34PM
Solar Energy Development PEIS
Comment ID: SolarD11041

First Name: fred
Middle Initial:
Last Name: powell
Organization:
Address: 3002 119th st.
Address 2:
Address 3: 3002 119th st.
City: toledo
State: OH
Zip: 43611
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We have been kow-towing to big business for generations. It is time to stop.

Thank you for your comment, dave councilman.

The comment tracking number that has been assigned to your comment is SolarD11042.

Comment Date: April 12, 2011 21:26:56PM
Solar Energy Development PEIS
Comment ID: SolarD11042

First Name: dave
Middle Initial:
Last Name: councilman
Organization:
Address:
Address 2:
Address 3:
City:
State: MN
Zip: 554261936
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is good and important, but it must be done safely for people and wildlife and in appropriate areas only.

Thank you for your comment, Debbie Horan.

The comment tracking number that has been assigned to your comment is SolarD11043.

Comment Date: April 12, 2011 21:26:59PM
Solar Energy Development PEIS
Comment ID: SolarD11043

First Name: Debbie
Middle Initial:
Last Name: Horan
Organization:
Address: 619 Old School House Drive
Address 2:
Address 3:
City: Springfield
State: PA
Zip: 19064
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The US needs to be a leader in developing solar power. We can do this. we need to do this. Thank you

Thank you for your comment, Janet Robinson.

The comment tracking number that has been assigned to your comment is SolarD11044.

Comment Date: April 12, 2011 21:27:03PM
Solar Energy Development PEIS
Comment ID: SolarD11044

First Name: Janet
Middle Initial:
Last Name: Robinson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I think solar development on public lands is a good idea; we need to develop alternative sources of energy. However, it is not a good idea if the construction and operation threatens a national park or refuge such that it will undermine the purpose of the park. The impacts the ecosystem, wildlife, and human enjoyment must be studied before any work begins.

I understand several proposed Solar Energy Zones (SEZ) have been identified and I see potential problems with 4 of them that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jennifer Kauffman.

The comment tracking number that has been assigned to your comment is SolarD11045.

Comment Date: April 12, 2011 21:30:09PM
Solar Energy Development PEIS
Comment ID: SolarD11045

First Name: Jennifer
Middle Initial: L
Last Name: Kauffman
Organization:
Address: 8027 Bagley Avenue N
Address 2:
Address 3:
City: Seattle
State: WA
Zip: 98103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am writing to support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, the proposed Solar Energy Zones (SEZ) that threaten our national parks need to be modified.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Sincerely,
Jennifer Kauffman

Thank you for your comment, Anton McInerney.

The comment tracking number that has been assigned to your comment is SolarD11046.

Comment Date: April 12, 2011 21:30:29PM
Solar Energy Development PEIS
Comment ID: SolarD11046

First Name: Anton
Middle Initial: C
Last Name: McInerney
Organization:
Address: 128 Park St
Address 2:
Address 3:
City: North Reading
State: MA
Zip: 018642540
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The failure at Fukushima shows how vulnerable our entire civilization is using only central power sources without the backup and continuum of all integrated tech systems.

Thank you for your comment, Noel & Meghan Parenti.

The comment tracking number that has been assigned to your comment is SolarD11047.

Comment Date: April 12, 2011 21:32:06PM
Solar Energy Development PEIS
Comment ID: SolarD11047

First Name: Noel & Meghan
Middle Initial:
Last Name: Parenti
Organization:
Address:
Address 2:
Address 3:
City: Winston-Salem
State: NC
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Meghan Prior

Thank you for your comment, Dorothy Hanes.

The comment tracking number that has been assigned to your comment is SolarD11048.

Comment Date: April 12, 2011 21:33:26PM
Solar Energy Development PEIS
Comment ID: SolarD11048

First Name: Dorothy
Middle Initial: T
Last Name: Hanes
Organization:
Address: 22803 West Bluff Dr
Address 2:
Address 3:
City: West Linn
State: OR
Zip: 97068
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Solar energy should be a wholistic option to take care of everyone, everything, and every animal and plant.

Thank you for your time and attention.

Thank you for your comment, Charlotte Stahl.

The comment tracking number that has been assigned to your comment is SolarD11049.

Comment Date: April 12, 2011 21:34:24PM
Solar Energy Development PEIS
Comment ID: SolarD11049

First Name: Charlotte
Middle Initial:
Last Name: Stahl
Organization: NPCA
Address: 1167 NW Wallula Ave
Address 2:
Address 3:
City: Gresham
State: OR
Zip: 97030
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for helping to make responsible solar development that protects our national parks. Your action will help make a difference!

Sincerely,
Charlotte

Thank you for your comment, Linda Jacob.

The comment tracking number that has been assigned to your comment is SolarD11050.

Comment Date: April 12, 2011 21:37:03PM

Solar Energy Development PEIS

Comment ID: SolarD11050

First Name: Linda

Middle Initial: L

Last Name: Jacob

Organization:

Address: PO Box 7171

Address 2:

Address 3:

City: Santa Cruz

State: CA

Zip: 95061

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Solar energy is way overdue.

Thank you for your comment, Norm Stanley.

The comment tracking number that has been assigned to your comment is SolarD11051.

Comment Date: April 12, 2011 21:38:43PM
Solar Energy Development PEIS
Comment ID: SolarD11051

First Name: Norm
Middle Initial:
Last Name: Stanley
Organization:
Address: 39796 Pine Bench Rd.
Address 2:
Address 3:
City: Yucaipa
State: CA
Zip: 92399
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to get smarter concerning our energy policy

Thank you for your comment, Dawn Kosec.

The comment tracking number that has been assigned to your comment is SolarD11052.

Comment Date: April 12, 2011 21:39:25PM
Solar Energy Development PEIS
Comment ID: SolarD11052

First Name: Dawn
Middle Initial:
Last Name: Kosec
Organization:
Address: 1895 Innwood Drive
Address 2:
Address 3:
City: Austintown
State: OH
Zip: 44515
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar developme

Thank you for your comment, Louis McCarten.

The comment tracking number that has been assigned to your comment is SolarD11053.

Comment Date: April 12, 2011 21:39:37PM
Solar Energy Development PEIS
Comment ID: SolarD11053

First Name: Louis
Middle Initial: A
Last Name: McCarten
Organization:
Address: POO Box 684
Address 2:
Address 3:
City: Glendale
State: CA
Zip: 912090684
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There must be a million places in the United States where such a development would not pose a problem. But in a place of unique ecological and cultural value like Death Valley National Park, massive solar power development will be a problem. Conservation areas are designated for conservation purposes and that is what the people who fund them want.

Thank you for your comment, Joseph Kohn MD.

The comment tracking number that has been assigned to your comment is SolarD11054.

Comment Date: April 12, 2011 21:39:58PM
Solar Energy Development PEIS
Comment ID: SolarD11054

First Name: Joseph
Middle Initial:
Last Name: Kohn MD
Organization: www.WeAreOne.cc - We Are One, Inc.
Address: 144 Spencer St #202
Address 2:
Address 3:
City: Brooklyn
State: NY
Zip: 112053990
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

www.WeAreOne.cc

Thank you for your comment, Patricia Gallo.

The comment tracking number that has been assigned to your comment is SolarD11055.

Comment Date: April 12, 2011 21:43:03PM
Solar Energy Development PEIS
Comment ID: SolarD11055

First Name: Patricia
Middle Initial: L
Last Name: Gallo
Organization:
Address: 4690 S Barrington PL
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 857305022
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

don't compromise the parks

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11056.

Comment Date: April 12, 2011 21:43:35PM
Solar Energy Development PEIS
Comment ID: SolarD11056

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative. By concentrating solar development within parcels of land, needless future conflicts with national park resources and sensitive desert ecology would be avoided.

Four proposed Solar Energy Zones (SEZ) would threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Yee Yean Lim.

The comment tracking number that has been assigned to your comment is SolarD11057.

Comment Date: April 12, 2011 21:44:56PM
Solar Energy Development PEIS
Comment ID: SolarD11057

First Name: Yee Yean
Middle Initial:
Last Name: Lim
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country: MYS
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Also, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Sharon Peralta.

The comment tracking number that has been assigned to your comment is SolarD11058.

Comment Date: April 12, 2011 21:47:28PM
Solar Energy Development PEIS
Comment ID: SolarD11058

First Name: Sharon
Middle Initial: L
Last Name: Peralta
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I believe that we must develop renewable power sources, but development must be driven by sound science and common sense regarding impact and risk. It is feasible that renewable energy can co-exist with environment and species preservation if done right.

Thank you for your comment, Kathy Koloze.

The comment tracking number that has been assigned to your comment is SolarD11059.

Comment Date: April 12, 2011 21:48:36PM
Solar Energy Development PEIS
Comment ID: SolarD11059

First Name: Kathy
Middle Initial:
Last Name: Koloze
Organization:
Address: 1711 Hubert St
Address 2:
Address 3:
City: Dallas
State: TX
Zip: 752067905
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sally REhberger.

The comment tracking number that has been assigned to your comment is SolarD11060.

Comment Date: April 12, 2011 21:54:03PM
Solar Energy Development PEIS
Comment ID: SolarD11060

First Name: Sally
Middle Initial:
Last Name: REhberger
Organization:
Address:
Address 2:
Address 3:
City:
State: IL
Zip: 62249
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

An educated people use common sense when it comes to achieving a goal. Please show that we Americans are thinking people who don't sacrifice our wild places when a little thought and planning can reap great benefits while preserving our national park sanctuaries. I don't feel I should even be needing to write this, but apparently it is necessary.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11061.

Comment Date: April 12, 2011 21:57:47PM
Solar Energy Development PEIS
Comment ID: SolarD11061

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11062.

Comment Date: April 12, 2011 21:59:32PM
Solar Energy Development PEIS
Comment ID: SolarD11062

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Please support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to make responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Jim Leske.

The comment tracking number that has been assigned to your comment is SolarD11063.

Comment Date: April 12, 2011 22:00:01PM
Solar Energy Development PEIS
Comment ID: SolarD11063

First Name: Jim
Middle Initial: C
Last Name: Leske
Organization: Good dogs are trained
Address: 6511 Clybourn Ave
Address 2:
Address 3:
City: N Hollywood
State: CA
Zip: 916062729
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Going green is a good thing !

Thank you for your comment, Trish Trejo.

The comment tracking number that has been assigned to your comment is SolarD11064.

Comment Date: April 12, 2011 22:00:37PM
Solar Energy Development PEIS
Comment ID: SolarD11064

First Name: Trish
Middle Initial:
Last Name: Trejo
Organization:
Address: 1514 Camelia Ln
Address 2:
Address 3:
City: Sulphur
State: LA
Zip: 70663
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I am an advocate of alternative energy and I believe that solar energy should be fully explored as one of those alternatives, I believe we must be careful of the impact that solar development will have on wilderness and wildlife areas.

For example, the Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The three diverse ecosystems of this park preserve unique plant and animal life whose balance could be upset by solar development.

The Iron Mountain SEZ must be removed, also to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. In addition, the Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands, home to endangered species such as the Devil's Hole Pupfish and other rare amphibians.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Please consider these comments as you make your decision.

Thank you for your comment, Brice Grunert.

The comment tracking number that has been assigned to your comment is SolarD11065.

Comment Date: April 12, 2011 22:00:44PM
Solar Energy Development PEIS
Comment ID: SolarD11065

First Name: Brice
Middle Initial:
Last Name: Grunert
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. There are four proposed SEZ's that threaten our national parks, the Riverside East SEZ, Iron Mountain SEZ, Amargosa Valley SEZ, and Red Sands SEZ. Any proposed solar projects sited within 15 miles of a national park boundary should be consulted with the National park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Thank you for your comment, Kathleen Simmons.

The comment tracking number that has been assigned to your comment is SolarD11066.

Comment Date: April 12, 2011 22:00:58PM
Solar Energy Development PEIS
Comment ID: SolarD11066

First Name: Kathleen
Middle Initial: V
Last Name: Simmons
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I believe that solar energy is one of the best options to rid our dependence on any kind of oil, foreign or domestic.
We know that solar energy is not cheap, but once it is up and running it will pay for itself in time.
I believe that solar panels should not interfere with National Parks or the animals that inhabit them. These parks should be able to offer input into where solar should be installed.
With co-operation among different groups, solar energy will be a great asset.

Thank you for your comment, linda petrulias.

The comment tracking number that has been assigned to your comment is SolarD11067.

Comment Date: April 12, 2011 22:03:20PM
Solar Energy Development PEIS
Comment ID: SolarD11067

First Name: linda
Middle Initial: r
Last Name: petrulias
Organization:
Address: 23 silvia drive
Address 2:
Address 3:
City: cazadero
State: CA
Zip: 95421
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support solar energy. however solar energy should be developed only in zones that don't compromise national park wildlife, scenery, water resources, night sky viewing, archeological sites. thank you.

Thank you for your comment, Steve Kuehler.

The comment tracking number that has been assigned to your comment is SolarD11068.

Comment Date: April 12, 2011 22:03:26PM
Solar Energy Development PEIS
Comment ID: SolarD11068

First Name: Steve
Middle Initial: C
Last Name: Kuehler
Organization:
Address: 12222 Merit Drive #1450
Address 2:
Address 3:
City: Dallas
State: TX
Zip: 75251
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

we need clean energy

Thank you for your comment, Mercedes Lackey.

The comment tracking number that has been assigned to your comment is SolarD11069.

Comment Date: April 12, 2011 22:04:24PM
Solar Energy Development PEIS
Comment ID: SolarD11069

First Name: Mercedes
Middle Initial: R
Last Name: Lackey
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, James Spotts.

The comment tracking number that has been assigned to your comment is SolarD11070.

Comment Date: April 12, 2011 22:04:54PM
Solar Energy Development PEIS
Comment ID: SolarD11070

First Name: James
Middle Initial: R
Last Name: Spotts
Organization:
Address: 68 W Mira Monte Avenue
Address 2:
Address 3:
City: Sierra Madre
State: CA
Zip: 91024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in identified solar energy zones that do not compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing and the opportunity for present and future generations to enjoy. I do support carefully sited Solar Energy Zones (SEZ) that do not threaten fragile desert environment or our national parks and monuments.

I am, therefore, opposed to the following SEZ as currently configured:

1. The Riverside East SEZ
2. The Iron Mountain SEZ
3. The Amargosa Valley SEZ
4. The Red Sands SEZ

Thank you for your comment, Michael Evans.

The comment tracking number that has been assigned to your comment is SolarD11071.

Comment Date: April 12, 2011 22:05:34PM
Solar Energy Development PEIS
Comment ID: SolarD11071

First Name: Michael
Middle Initial: W
Last Name: Evans
Organization:
Address: 3731 S Sepulveda Blvd
Address 2: Apt 1
Address 3:
City: Los Angeles
State: CA
Zip: 900346888
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Brenda Hixenbaugh.

The comment tracking number that has been assigned to your comment is SolarD11072.

Comment Date: April 12, 2011 22:06:35PM
Solar Energy Development PEIS
Comment ID: SolarD11072

First Name: Brenda
Middle Initial: K
Last Name: Hixenbaugh
Organization: Private Citizen
Address: 1218 8th Avenue South #3
Address 2:
Address 3:
City: Great Falls
State: MT
Zip: 59405
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

With all due respect I write to express my views on the utilization of solar. My views on this are Pro and I can hardly wait until we can once and for all rid our lands of the hideous oil and coal use. We are starting out on a new and bright adventure and I hope that it will start, with the care of our lands, animals, plant life, and waters. Something that the oil, coal, and mining industry decided, was inconsequential. With that said, it is with the greatest hope, for this world's future it's survival, that the welfare of all, will be placed foremost in all decisions. Thank you so much.

Thank you for your comment, B Vila.

The comment tracking number that has been assigned to your comment is SolarD11073.

Comment Date: April 12, 2011 22:07:01PM
Solar Energy Development PEIS
Comment ID: SolarD11073

First Name: B
Middle Initial:
Last Name: Vila
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I support the development of solar energy, I firmly believe it should only be developed in areas that don't compromise wildlife, scenery, archaeological sites, water resources, and the opportunity for present and future generations to fully enjoy America's heritage. For these reasons, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Currently, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Once amended, I will strongly support a Solar Energy Zone alternative that concentrates solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11074.

Comment Date: April 12, 2011 22:07:10PM
Solar Energy Development PEIS
Comment ID: SolarD11074

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Richard Newhouse.

The comment tracking number that has been assigned to your comment is SolarD11075.

Comment Date: April 12, 2011 22:07:51PM
Solar Energy Development PEIS
Comment ID: SolarD11075

First Name: Richard
Middle Initial:
Last Name: Newhouse
Organization:
Address: 119 keats avenue
Address 2:
Address 3:
City: hartsdale
State: NY
Zip: 10530
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, sara shaw.

The comment tracking number that has been assigned to your comment is SolarD11076.

Comment Date: April 12, 2011 22:07:54PM
Solar Energy Development PEIS
Comment ID: SolarD11076

First Name: sara
Middle Initial:
Last Name: shaw
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe that the time is now to invest in CLEAN renewable energy sources such as solar. But the proper use of lands for these purposes should be sought out. We only have a few remaining tracts of public lands. We have plenty of disturbed, brown sites that could be better fit for the use of solar panels. Close in proximity to urban centers, and therefore cheaper to build and maintain. We need public lands to shelter endangered plants and animals, not improper placement of solar panels

Thank you for your comment, Natalie Hall.

The comment tracking number that has been assigned to your comment is SolarD11077.

Comment Date: April 12, 2011 22:08:35PM
Solar Energy Development PEIS
Comment ID: SolarD11077

First Name: Natalie
Middle Initial: G
Last Name: Hall
Organization: NPCA
Address: 4956 Rubio Ave.
Address 2:
Address 3:
City: Encino
State: CA
Zip: 91436
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on solar energy. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. Thanks.

Thank you for your comment, Margalo Ashley-Farrand.

The comment tracking number that has been assigned to your comment is SolarD11078.

Comment Date: April 12, 2011 22:13:44PM
Solar Energy Development PEIS
Comment ID: SolarD11078

First Name: Margalo
Middle Initial:
Last Name: Ashley-Farrand
Organization:
Address: 3300 NW 185th Ave, #92
Address 2:
Address 3:
City: Portland
State: OR
Zip: 972293406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

It is very important for the parks' future to have solar power, but installed carefully so that no harm is done in the installation.

Thank you for your comment, Theresa Rieve.

The comment tracking number that has been assigned to your comment is SolarD11079.

Comment Date: April 12, 2011 22:13:49PM
Solar Energy Development PEIS
Comment ID: SolarD11079

First Name: Theresa
Middle Initial: A
Last Name: Rieve
Organization:
Address: 5321 Dent Avenue
Address 2:
Address 3:
City: San Jose
State: CA
Zip: 95118
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy Production is critical if we are to become Energy Independent and keep ourselves safe from pollution and other dangers of fossil fuel and nuclear production. However, it is also important to site solar collectors in places where they will not impact wildlife and will not destroy our most scenic areas. In fact, the best place for solar is on EVERY city roof, and the best way to provide it is to take the subsidies that are now going to nuclear and to fossil fuels, and re-route them to individuals and small businesses. Subsidizing small producers is the path both to energy independence and to cleaner air and water.

Thank you for your comment, Paul Sinacore.

The comment tracking number that has been assigned to your comment is SolarD11080.

Comment Date: April 12, 2011 22:14:34PM
Solar Energy Development PEIS
Comment ID: SolarD11080

First Name: Paul
Middle Initial:
Last Name: Sinacore
Organization:
Address: 9441 Reverie Road
Address 2:
Address 3: 9441 Reverie Road
City: Tujunga
State: CA
Zip: 910423023
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The time is now...

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11081.

Comment Date: April 12, 2011 22:15:12PM
Solar Energy Development PEIS
Comment ID: SolarD11081

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The Brightsource Ivanpah Solar Project has already negatively affected wildlife, plants and the habitat. BLM approved the project footprint, in Desert Tortoise habitat where a good number of Desert Tortoises have been found. Also the project has affected some sensitive plant species. Why was this allowed on our public lands?

Thank you for your comment, Rita McCabe.

The comment tracking number that has been assigned to your comment is SolarD11082.

Comment Date: April 12, 2011 22:17:18PM
Solar Energy Development PEIS
Comment ID: SolarD11082

First Name: Rita
Middle Initial:
Last Name: McCabe
Organization:
Address: 1140 Blanchan Ave.
Address 2:
Address 3:
City: La Grange Park
State: IL
Zip: 60526
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We treasure our National Parks not only for their biodiversity but also for their breath-taking beauty. While solar energy is both healthy for the environment and economically preferable to carbon based energy for the future of our energy independence, those places chosen for its placement should not be sites that mar our parks' vistas nor further endanger those species already under threat of extinction.

Thank you for your comment, Judi Trecartin.

The comment tracking number that has been assigned to your comment is SolarD11083.

Comment Date: April 12, 2011 22:20:57PM
Solar Energy Development PEIS
Comment ID: SolarD11083

First Name: Judi
Middle Initial: M
Last Name: Trecartin
Organization:
Address: 2529 Sandy Hill Court
Address 2:
Address 3:
City: Holiday
State: FL
Zip: 34691
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need more solar now.....

Thank you for your comment, Bernadette Payne.

The comment tracking number that has been assigned to your comment is SolarD11084.

Comment Date: April 12, 2011 22:22:37PM
Solar Energy Development PEIS
Comment ID: SolarD11084

First Name: Bernadette
Middle Initial: M
Last Name: Payne
Organization:
Address: 2100 W. Bradley Pl.
Address 2:
Address 3:
City: Chicago
State: IL
Zip: 606184910
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Andrew Jones.

The comment tracking number that has been assigned to your comment is SolarD11085.

Comment Date: April 12, 2011 22:23:38PM
Solar Energy Development PEIS
Comment ID: SolarD11085

First Name: Andrew
Middle Initial:
Last Name: Jones
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sarah Johnson.

The comment tracking number that has been assigned to your comment is SolarD11086.

Comment Date: April 12, 2011 22:26:51PM
Solar Energy Development PEIS
Comment ID: SolarD11086

First Name: Sarah
Middle Initial:
Last Name: Johnson
Organization:
Address: 86 N Midland Ave
Address 2:
Address 3:
City: Nyack
State: NY
Zip: 10960
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the development of solar power in a responsible thoughtful manner. Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. In addition it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. Thank you.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11087.

Comment Date: April 12, 2011 22:29:26PM
Solar Energy Development PEIS
Comment ID: SolarD11087

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. In addition, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11088.

Comment Date: April 12, 2011 22:30:15PM
Solar Energy Development PEIS
Comment ID: SolarD11088

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I have been aware of global warming for some 25 years. No more oil drilling especially in any ocean area. No more nuclear plants, all must change. Why is no one speaking of geothermal energy, its clean and it exists, it only must be captured. We must have more commuter trains, and start eliminating all gasoline driven cars off the production lines. Also all of the increasing of freeways certainly does not help matters, only invites more trucks and cars. We must bring back freight trains, go backwards if need be. How about dirt roads parallel to big roads for riding horses. Horse back rider considerations have been eliminated from society, its time to bring back the dirt roads. Call me crazy, but that is what is needed.

Thank you for your comment, Nancy Smith.

The comment tracking number that has been assigned to your comment is SolarD11089.

Comment Date: April 12, 2011 22:31:39PM
Solar Energy Development PEIS
Comment ID: SolarD11089

First Name: Nancy
Middle Initial: C
Last Name: Smith
Organization:
Address: 13160 Nassau Dr.
Address 2:
Address 3:
City: SEal Beach
State: CA
Zip: 90740
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

TAKE,ACTION

Thank you for your comment, Susan Pacey-Field.

The comment tracking number that has been assigned to your comment is SolarD11090.

Comment Date: April 12, 2011 22:33:36PM

Solar Energy Development PEIS

Comment ID: SolarD11090

First Name: Susan

Middle Initial: L

Last Name: Pacey-Field

Organization:

Address: PO Box 1044

Address 2:

Address 3:

City: Reno

State: NV

Zip: 89504

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

We need more alternative energy sources

Thank you for your comment, Johann Hollar.

The comment tracking number that has been assigned to your comment is SolarD11091.

Comment Date: April 12, 2011 22:36:05PM
Solar Energy Development PEIS
Comment ID: SolarD11091

First Name: Johann
Middle Initial:
Last Name: Hollar
Organization:
Address: 2044 Fremont Ave
Address 2:
Address 3:
City: St. Paul
State: MN
Zip: 55119
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Save the environment.

Thank you for your comment, dawn odonnell.

The comment tracking number that has been assigned to your comment is SolarD11092.

Comment Date: April 12, 2011 22:36:49PM
Solar Energy Development PEIS
Comment ID: SolarD11092

First Name: dawn
Middle Initial:
Last Name: odonnell
Organization:
Address: 54 bump hill rd
Address 2:
Address 3:
City: greenfield center
State: NY
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Stop being dinosaurs and let the fossil fuel craving far into the tar pits where it belongs. We need clean energy, the real thing, not the so called clean coal or very scary nukes and natural FRACKING gas!

Thank you for your comment, karen wible.

The comment tracking number that has been assigned to your comment is SolarD11093.

Comment Date: April 12, 2011 22:36:50PM
Solar Energy Development PEIS
Comment ID: SolarD11093

First Name: karen
Middle Initial:
Last Name: wible
Organization:
Address: 4210 ne 130th circle
Address 2:
Address 3:
City: vancouver
State: WA
Zip: 98686
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The USA must use renewable energy to ensure the end of our reliance on foreign oil, buffer us from climate change. We need to also ensure solar facilities are installed responsibly without harming our national parks!

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, James Button.

The comment tracking number that has been assigned to your comment is SolarD11094.

Comment Date: April 12, 2011 22:37:07PM
Solar Energy Development PEIS
Comment ID: SolarD11094

First Name: James
Middle Initial:
Last Name: Button
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Barbara Diederichs.

The comment tracking number that has been assigned to your comment is SolarD11095.

Comment Date: April 12, 2011 22:38:13PM
Solar Energy Development PEIS
Comment ID: SolarD11095

First Name: Barbara
Middle Initial:
Last Name: Diederichs
Organization:
Address: 12956 Christman Lane
Address 2:
Address 3: 12956 Christman Lane
City: Poway
State: CA
Zip: 92064
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is important, however, it should not be developed destroying natural resources. The roofs of homes and businesses are the first place that should be developed with solar collectors, only then can natural areas be sacrificed.
Thank you for your consideration!

Thank you for your comment, Todd Cisna.

The comment tracking number that has been assigned to your comment is SolarD11096.

Comment Date: April 12, 2011 22:39:50PM
Solar Energy Development PEIS
Comment ID: SolarD11096

First Name: Todd
Middle Initial: B
Last Name: Cisna
Organization:
Address: 11144 E. Camelot Ave
Address 2:
Address 3:
City: Effingham
State: IL
Zip: 62401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, jeff levitt.

The comment tracking number that has been assigned to your comment is SolarD11097.

Comment Date: April 12, 2011 22:40:31PM
Solar Energy Development PEIS
Comment ID: SolarD11097

First Name: jeff
Middle Initial:
Last Name: levitt
Organization:
Address: pob 13821
Address 2:
Address 3:
City: albany
State: NY
Zip: 12212
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Keep our parks for the people to enjoy, not as a place to conduct solar energy experiments. We go to the parks to get away from industrial encroachments on our land.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11098.

Comment Date: April 12, 2011 22:42:30PM
Solar Energy Development PEIS
Comment ID: SolarD11098

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Dear Mr. Abbey and Mr. Salazar,

I really appreciate the opportunity to add to the dialogue regarding solar energy. First and foremost, I encourage you to work with the Department of Energy, President Obama, and federal legislators to develop a sensible national energy policy that prioritizes rooftop solar development through feed-in tariffs and meaningful tax benefits for businesses and individuals. Regarding the Solar PEIS, I have the following recommendations:

----Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

----There are four proposed Solar Energy Zones (SEZes) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument, and should be reconsidered.

----Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Our National Parks are special places that we hold in trust for future generations, and I urge you to consider them as you work to establish the BLM's policy for solar energy development on the public lands that we all own.

Thank you for your time and consideration,
Michael Cipra

Thank you for your comment, William Modesitt.

The comment tracking number that has been assigned to your comment is SolarD11099.

Comment Date: April 12, 2011 22:44:23PM
Solar Energy Development PEIS
Comment ID: SolarD11099

First Name: William
Middle Initial: E
Last Name: Modesitt
Organization: Modesitt Software
Address: 4728 Mount La Platta Dr
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 92117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.??There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Russell Weisz.

The comment tracking number that has been assigned to your comment is SolarD11100.

Comment Date: April 12, 2011 22:44:26PM
Solar Energy Development PEIS
Comment ID: SolarD11100

First Name: Russell
Middle Initial: B
Last Name: Weisz
Organization:
Address: 319 Laguna St.
Address 2:
Address 3:
City: Santa Cruz
State: CA
Zip: 95060
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Russell Weisz

Thank you for your comment, Linda Gazzola.

The comment tracking number that has been assigned to your comment is SolarD11101.

Comment Date: April 12, 2011 22:45:25PM
Solar Energy Development PEIS
Comment ID: SolarD11101

First Name: Linda
Middle Initial:
Last Name: Gazzola
Organization:
Address: 500 High Cliffe Lane
Address 2:
Address 3:
City: Tarrytown
State: NY
Zip: 10591
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Thank you for your comment, Angie Affolter.

The comment tracking number that has been assigned to your comment is SolarD11102.

Comment Date: April 12, 2011 22:49:31PM
Solar Energy Development PEIS
Comment ID: SolarD11102

First Name: Angie
Middle Initial:
Last Name: Affolter
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Mark Bartleman.

The comment tracking number that has been assigned to your comment is SolarD11103.

Comment Date: April 12, 2011 22:50:15PM
Solar Energy Development PEIS
Comment ID: SolarD11103

First Name: Mark
Middle Initial: R
Last Name: Bartleman
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support the amended Solar Energy Zone alternative that concentrates solar development within parcels of land that avoid future conflicts with national park resources and sensitive desert ecology.

The proposed Solar Energy Zones (SEZ) that threaten our national parks include:

- * The Riverside East SEZ needs to be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

And it is imperative the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Brad Kraus.

The comment tracking number that has been assigned to your comment is SolarD11104.

Comment Date: April 12, 2011 22:51:15PM
Solar Energy Development PEIS
Comment ID: SolarD11104

First Name: Brad
Middle Initial:
Last Name: Kraus
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Renewable energy is necessary for our country to release itself from the grip of petroleum and other fossil fuels. However, it needs to be done in a thoughtful, ecologic way that does not do harm to the natural habitats where it might be placed. Please do not make alternative energy as bad as our current energy suppliers regarding the environment. Thank you.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11105.

Comment Date: April 12, 2011 22:51:47PM
Solar Energy Development PEIS
Comment ID: SolarD11105

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

A careful environmental impact study would be necessary not to disturb many preserved habitats. This is why we must use caution when attempting any building on public national park land.

Thank you for your comment, David Fouche.

The comment tracking number that has been assigned to your comment is SolarD11106.

Comment Date: April 12, 2011 22:52:14PM
Solar Energy Development PEIS
Comment ID: SolarD11106

First Name: David
Middle Initial: L
Last Name: Fouche
Organization:
Address: 181 1/2 Euclid St.
Address 2:
Address 3:
City: Winston-Salem
State: NC
Zip: 271064530
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

We can all work together for a more healthy and responsible future for energy development.

Thank you for your comment, Patricia Orlinski.

The comment tracking number that has been assigned to your comment is SolarD11107.

Comment Date: April 12, 2011 22:52:49PM
Solar Energy Development PEIS
Comment ID: SolarD11107

First Name: Patricia
Middle Initial:
Last Name: Orlinski
Organization: Valley Interfaith Project
Address: 10511 W. Kingswood Circle
Address 2: na
Address 3: na
City: Sun City
State: AZ
Zip: 853512246
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks. But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11108.

Comment Date: April 12, 2011 22:53:33PM
Solar Energy Development PEIS
Comment ID: SolarD11108

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Putting solar on our roof was the best thing we have ever done. Our only regret is not having put more panels on our roof. With the ongoing reality of climate change and global warming, it is only obvious that solar energy is the solution to our energy, pollution and even safety problems. We urge the powers that be to quickly implement laws mandating the use of solar energy by all: homeowners, schools, businesses, churches, and all other buildings.

Thank you for your comment, James Seibert.

The comment tracking number that has been assigned to your comment is SolarD11109.

Comment Date: April 12, 2011 22:54:27PM
Solar Energy Development PEIS
Comment ID: SolarD11109

First Name: James
Middle Initial: S
Last Name: Seibert
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the expansion of solar energy to as many homes and businesses as possible as resource are available.

James Seibert

Thank you for your comment, George Hassinger.

The comment tracking number that has been assigned to your comment is SolarD11110.

Comment Date: April 12, 2011 22:58:15PM
Solar Energy Development PEIS
Comment ID: SolarD11110

First Name: George
Middle Initial: T
Last Name: Hassinger
Organization:
Address: 615 Hamilton IANE
Address 2:
Address 3:
City: Santa Clara
State: CA
Zip: 95051
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Before the parks are invaded with solar panels anywhere, these devices should be installed at ALL of the grocery store parking lots, to provide shade from the sun & rain, to take the place of the trees which are never allowed to provide any, due to being cut back for the prevention of falling debris, leaves & branches, which would provide shade as originally planned but are not allowed to grow out, for fear of law suits and such. There is such an array installed at a bus depot, in San Jose, and is QUITE effective! This would ALSO stop the heat-reflection from the parking lot blacktops, making the atmosphere more sweltering during the summer months!

Thank you for your comment, Jasmine Humes.

The comment tracking number that has been assigned to your comment is SolarD11111.

Comment Date: April 12, 2011 22:58:52PM

Solar Energy Development PEIS

Comment ID: SolarD11111

First Name: Jasmine

Middle Initial: M

Last Name: Humes

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold address from public record

Attachment:

Comment Submitted:

Please support solar energy! Its the way to a better, cleaner enviroment.

Thank you for your comment, Carla Rautenberg.

The comment tracking number that has been assigned to your comment is SolarD11112.

Comment Date: April 12, 2011 23:01:32PM
Solar Energy Development PEIS
Comment ID: SolarD11112

First Name: Carla
Middle Initial:
Last Name: Rautenberg
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As an American, I strongly support the development of renewable and sustainable energy resources such as Solar and Wind.

As an American, I must also defend the fragile ecology of our precious National Parks.

Four proposed Solar Energy Zones (SEZ) could threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I agree that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Johnson.

The comment tracking number that has been assigned to your comment is SolarD11113.

Comment Date: April 12, 2011 23:02:36PM
Solar Energy Development PEIS
Comment ID: SolarD11113

First Name: Michael
Middle Initial:
Last Name: Johnson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need you to support Solar Energy

Thank you for your comment, George Hassinger.

The comment tracking number that has been assigned to your comment is SolarD11114.

Comment Date: April 12, 2011 23:02:42PM
Solar Energy Development PEIS
Comment ID: SolarD11114

First Name: George
Middle Initial: T
Last Name: Hassinger
Organization:
Address: 615 Hamilton IANE
Address 2:
Address 3:
City: Santa Clara
State: CA
Zip: 95051
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Before the parks are invaded with solar panels anywhere, these devices should be installed at ALL of the grocery store parking lots, to provide shade from the sun & rain, to take the place of the trees which are never allowed to provide any, due to being cut back for the prevention of falling debris, leaves & branches, which would provide shade as originally planned but are not allowed to grow out, for fear of law suits and such. There is such an array installed at a bus depot, in San Jose, and is QUITE effective! This would ALSO stop the heat-reflection from the parking lot blacktops, making the atmosphere more sweltering during the summer months!

Thank you for your comment, Frank Hamrick.

The comment tracking number that has been assigned to your comment is SolarD11115.

Comment Date: April 12, 2011 23:03:37PM
Solar Energy Development PEIS
Comment ID: SolarD11115

First Name: Frank
Middle Initial:
Last Name: Hamrick
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I want to see solar energy become a larger contributor to our energy grid.

Thank you for your comment, Beth Braun.

The comment tracking number that has been assigned to your comment is SolarD11116.

Comment Date: April 12, 2011 23:05:15PM
Solar Energy Development PEIS
Comment ID: SolarD11116

First Name: Beth
Middle Initial:
Last Name: Braun
Organization:
Address: 4457 N. Malden Street
Address 2:
Address 3:
City: Chicago
State: IL
Zip: 60640
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lyhn Barnes.

The comment tracking number that has been assigned to your comment is SolarD11117.

Comment Date: April 12, 2011 23:08:28PM
Solar Energy Development PEIS
Comment ID: SolarD11117

First Name: Lyhn
Middle Initial: A
Last Name: Barnes
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's a shame greed and laziness rule most peoples lives.

Thank you for your comment, Sandy Draus.

The comment tracking number that has been assigned to your comment is SolarD11118.

Comment Date: April 12, 2011 23:09:01PM
Solar Energy Development PEIS
Comment ID: SolarD11118

First Name: Sandy
Middle Initial:
Last Name: Draus
Organization:
Address: 3638 E. Monterosa St. #5
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 850184824
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. Read m

Thank you for your comment, Brenda Tucker.

The comment tracking number that has been assigned to your comment is SolarD11119.

Comment Date: April 12, 2011 23:09:09PM
Solar Energy Development PEIS
Comment ID: SolarD11119

First Name: Brenda
Middle Initial: C
Last Name: Tucker
Organization:
Address: 21754 Frazer Ave
Address 2:
Address 3:
City: Southfield
State: MI
Zip: 480753890
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11120.

Comment Date: April 12, 2011 23:12:32PM
Solar Energy Development PEIS
Comment ID: SolarD11120

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, John Rash.

The comment tracking number that has been assigned to your comment is SolarD11121.

Comment Date: April 12, 2011 23:13:20PM
Solar Energy Development PEIS
Comment ID: SolarD11121

First Name: John
Middle Initial: P
Last Name: Rash
Organization:
Address: 1055 W Granville Ave
Address 2: Apt 1101
Address 3:
City: Chicago
State: IL
Zip: 606602129
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

no further comment

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11122.

Comment Date: April 12, 2011 23:15:09PM
Solar Energy Development PEIS
Comment ID: SolarD11122

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Dear Sir or Madam,

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Constance Rogers.

The comment tracking number that has been assigned to your comment is SolarD11123.

Comment Date: April 12, 2011 23:16:37PM
Solar Energy Development PEIS
Comment ID: SolarD11123

First Name: Constance
Middle Initial: A
Last Name: Rogers
Organization: Gilroy Historical Society & others
Address: 7690 Santa Theresa Drive
Address 2:
Address 3:
City: Gilroy
State: CA
Zip: 950205524
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please protect our National Parks! We need solar energy, but it should be implemented in a way that does not intrude on the habitat of our beloved National parks.

Thank you for your comment, dogan ozkan.

The comment tracking number that has been assigned to your comment is SolarD11124.

Comment Date: April 12, 2011 23:17:18PM
Solar Energy Development PEIS
Comment ID: SolarD11124

First Name: dogan
Middle Initial: -
Last Name: ozkan
Organization:
Address: zambak sok. no:8/10 ciftci apt
Address 2: dikilitas besiktas
Address 3: istanbul turkey
City: coldfoot
State: AK
Zip: 997012160
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, John Teevan.

The comment tracking number that has been assigned to your comment is SolarD11125.

Comment Date: April 12, 2011 23:17:37PM
Solar Energy Development PEIS
Comment ID: SolarD11125

First Name: John
Middle Initial: P
Last Name: Teevan
Organization:
Address: 1136 Misty Creek Street
Address 2:
Address 3:
City: Chula Vista
State: CA
Zip: 91913
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Thank you for your comment, Hannah MacLaren.

The comment tracking number that has been assigned to your comment is SolarD11126.

Comment Date: April 12, 2011 23:18:20PM
Solar Energy Development PEIS
Comment ID: SolarD11126

First Name: Hannah
Middle Initial: H
Last Name: MacLaren
Organization:
Address: 2167 Crescent Drive
Address 2:
Address 3:
City: Altadena
State: CA
Zip: 91001
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I feel strongly that solar energy capacity be initially utilized by individual homes and business, suggesting that as a first stage, federal support goes to that. And only then might larger scale installations take place.

And considering those large scale installations, proposed under the Solar Energy Development PEIS --when amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

All proposed zones that threaten our national parks must be off-limits. These include:

- 1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4) and the Red Sands SEZ that threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sandra Woodall.

The comment tracking number that has been assigned to your comment is SolarD11127.

Comment Date: April 12, 2011 23:18:36PM
Solar Energy Development PEIS
Comment ID: SolarD11127

First Name: Sandra
Middle Initial:
Last Name: Woodall
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support the development of solar power plants. I also feel that care should be given the siting of these plants. Since this is a new industry, we have a chance to do it right from the beginning. The best site for a photovoltaic plant is an urban flat roof. It is by definition not a sensitive area. It is close to current infrastructure and the local power grid. The worst site is an endangered or endemic species habitat. We are losing biological diversity too fast to purposely hurry the process. Building far from existing infrastructure also adds to total cost and environmental disruption.

Thank you for your comment, martha simon.

The comment tracking number that has been assigned to your comment is SolarD11128.

Comment Date: April 12, 2011 23:21:10PM
Solar Energy Development PEIS
Comment ID: SolarD11128

First Name: martha
Middle Initial:
Last Name: simon
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Useful, i.e. noninvasive soar technology is a good thing!

Thank you for your comment, Russell Grindle.

The comment tracking number that has been assigned to your comment is SolarD11129.

Comment Date: April 12, 2011 23:22:23PM
Solar Energy Development PEIS
Comment ID: SolarD11129

First Name: Russell
Middle Initial:
Last Name: Grindle
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I believe that urban and suburban sites for the development of solar energy should be examined more fully. In my area, Genentech has a large parking lot that is covered by large solar collectors that not only provide energy but also shade the automobiles parked there. How many thousands of paved over acres could provide this benefit for their communities? Land that has already been removed from a natural state should be considered for solar development before covering yet more undeveloped land.

Thank you for your comment, Carole Simmons.

The comment tracking number that has been assigned to your comment is SolarD11130.

Comment Date: April 12, 2011 23:23:07PM
Solar Energy Development PEIS
Comment ID: SolarD11130

First Name: Carole
Middle Initial:
Last Name: Simmons
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jill & Rich Hoehlein.

The comment tracking number that has been assigned to your comment is SolarD11131.

Comment Date: April 12, 2011 23:29:14PM
Solar Energy Development PEIS
Comment ID: SolarD11131

First Name: Jill & Rich
Middle Initial:
Last Name: Hoehlein
Organization:
Address: 602 Powderhorn Trail
Address 2: 602 Powderhorn Trail
Address 3:
City: Hesperus
State: CO
Zip: 81326
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar YES!!! but be thoughtful about where it is placed. Not all sites are valuable for solar and some sites that are good for solar, just may be too precious a natural resource for other things (i.e. animal and plant life) to be used for such.

Thank you for your comment, Ruth-Ann Radcliff.

The comment tracking number that has been assigned to your comment is SolarD11132.

Comment Date: April 12, 2011 23:30:18PM
Solar Energy Development PEIS
Comment ID: SolarD11132

First Name: Ruth-Ann
Middle Initial:
Last Name: Radcliff
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I believe that there are better methods for alternative energy such as solar that will not compromise public access to public lands, and destruction of the environment. I also see this as another give-away to big energy corporations rather than putting it in the hands of the people. The American people would like to see better use of public lands and their tax dollars. Why public lands where the population density is low? Why not put solar panels on rooftops in urban areas and, particularly, in shopping centers, where population is dense and usage would be immediate?

Thank you for your comment, mary ferraro.

The comment tracking number that has been assigned to your comment is SolarD11133.

Comment Date: April 12, 2011 23:31:22PM
Solar Energy Development PEIS
Comment ID: SolarD11133

First Name: mary
Middle Initial: t
Last Name: ferraro
Organization:
Address: 718 Fulton
Address 2:
Address 3:
City: Aurora
State: CO
Zip: 80010
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please look into solar energy to take over the carbon and gas dependability. But don't do it in an half fast way. Take the environment, flora and fauna into consideration. The project needs to impact both the least. One way to do it is to embed solar panels into building walls, windows and in the pavement. This way, the impact on the fields and the environment will be the least.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11134.

Comment Date: April 12, 2011 23:39:32PM
Solar Energy Development PEIS
Comment ID: SolarD11134

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

While the development of Solar Energy is quite vital, all attention must be paid to the environment and the impact on the environment, including parks, land use, air and water quality, etc.

Thank you for your comment, Beth Fay.

The comment tracking number that has been assigned to your comment is SolarD11135.

Comment Date: April 12, 2011 23:40:28PM
Solar Energy Development PEIS
Comment ID: SolarD11135

First Name: Beth
Middle Initial:
Last Name: Fay
Organization:
Address:
Address 2:
Address 3:
City:
State: NJ
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I know that we need renewable energy, but not at the expense of ruining our national parks. Please be respectful of our public lands when considering optional energy resources, such as solar.

Thank you for your comment, Leah McIntosh.

The comment tracking number that has been assigned to your comment is SolarD11136.

Comment Date: April 12, 2011 23:45:49PM
Solar Energy Development PEIS
Comment ID: SolarD11136

First Name: Leah
Middle Initial:
Last Name: McIntosh
Organization:
Address: 805 Ridge View Dr
Address 2:
Address 3: 805 Ridge View Dr
City: Leander
State: TX
Zip: 786412959
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

These are my comments on the Draft Solar Energy Development PEIS:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elaine Fischer.

The comment tracking number that has been assigned to your comment is SolarD11137.

Comment Date: April 12, 2011 23:48:23PM
Solar Energy Development PEIS
Comment ID: SolarD11137

First Name: Elaine
Middle Initial:
Last Name: Fischer
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Elaine Fischer

Thank you for your comment, Heather Ferguson.

The comment tracking number that has been assigned to your comment is SolarD11138.

Comment Date: April 12, 2011 23:51:31PM
Solar Energy Development PEIS
Comment ID: SolarD11138

First Name: Heather
Middle Initial:
Last Name: Ferguson
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ginger Anderson.

The comment tracking number that has been assigned to your comment is SolarD11139.

Comment Date: April 13, 2011 00:01:22AM
Solar Energy Development PEIS
Comment ID: SolarD11139

First Name: Ginger
Middle Initial: M
Last Name: Anderson
Organization:
Address: 9915 England Drive
Address 2:
Address 3:
City: Overland Park
State: KS
Zip: 66212
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe that alternative energy sources need to be investigated and pursued. However, the operative word here is investigated. Wind and solar need to be subject to the similar if not very same environmental impact studies that should be done before anything is done in a natural area, public or private.

Please do the appropriate homework so that solar does not become a different sort of coal or gas/oil fiasco.

Thank you for your comment, Richard Sanders.

The comment tracking number that has been assigned to your comment is SolarD11140.

Comment Date: April 13, 2011 00:12:05AM
Solar Energy Development PEIS
Comment ID: SolarD11140

First Name: Richard
Middle Initial: D
Last Name: Sanders
Organization:
Address: 2022 Driftstone Drive
Address 2:
Address 3:
City: Glendora
State: CA
Zip: 917405388
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly, without harming our national parks.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I would strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. But there are currently four proposed Solar Energy Zones (SEZ) that threaten our national parks, and need to be amended:

(1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

(2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

(3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

(4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lance Michel.

The comment tracking number that has been assigned to your comment is SolarD11141.

Comment Date: April 13, 2011 00:12:39AM
Solar Energy Development PEIS
Comment ID: SolarD11141

First Name: Lance
Middle Initial: A
Last Name: Michel
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Exercise common sense for Humanity, ignore greed, and Be Real...Make the RIGHT choice for ALL!!

Thank you for your comment, lily yang.

The comment tracking number that has been assigned to your comment is SolarD11142.

Comment Date: April 13, 2011 00:18:02AM
Solar Energy Development PEIS
Comment ID: SolarD11142

First Name: lily
Middle Initial:
Last Name: yang
Organization:
Address: 7205 indian path circle
Address 2:
Address 3:
City: las vegas
State: NV
Zip: 89128
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Mark Alexander.

The comment tracking number that has been assigned to your comment is SolarD11143.

Comment Date: April 13, 2011 00:23:06AM
Solar Energy Development PEIS
Comment ID: SolarD11143

First Name: Mark
Middle Initial:
Last Name: Alexander
Organization:
Address: 750 W. Cleveland St.
Address 2: Apt. K
Address 3:
City: Fayetteville
State: AR
Zip: 727013274
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Susan Weihofen.

The comment tracking number that has been assigned to your comment is SolarD11144.

Comment Date: April 13, 2011 00:27:12AM
Solar Energy Development PEIS
Comment ID: SolarD11144

First Name: Susan
Middle Initial:
Last Name: Weihofen
Organization:
Address: 1181 N Rohlwing Rd #333
Address 2:
Address 3:
City: Itasca
State: IL
Zip: 60143
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to develop solar energy. It should be developed only in zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Sundra Allen.

The comment tracking number that has been assigned to your comment is SolarD11145.

Comment Date: April 13, 2011 00:30:43AM
Solar Energy Development PEIS
Comment ID: SolarD11145

First Name: Sundra
Middle Initial: r
Last Name: Allen
Organization:
Address: 259 Wayne Ct
Address 2:
Address 3:
City: Salt Lake City
State: UT
Zip: 84101
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I vote.
I think solar energy is long overdue.

Thank you for your comment, William Lee Kohler.

The comment tracking number that has been assigned to your comment is SolarD11146.

Comment Date: April 13, 2011 00:33:10AM
Solar Energy Development PEIS
Comment ID: SolarD11146

First Name: William Lee
Middle Initial:
Last Name: Kohler
Organization:
Address: 1238 Coburg Rd
Address 2:
Address 3:
City: Eugene
State: OR
Zip: 97401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is the energy of the future. However as long as it is collected by earthbound solar panels our National Parks and natural areas MUST be protected by insuting that all installations are done responsibly.
It should be an imperative to move on to solar power satellites ASAP so that we can get rid of all the earthbound eyesores and power installations.

Thank you for your comment, Marc Beschler.

The comment tracking number that has been assigned to your comment is SolarD11147.

Comment Date: April 13, 2011 00:34:07AM
Solar Energy Development PEIS
Comment ID: SolarD11147

First Name: Marc
Middle Initial:
Last Name: Beschler
Organization:
Address:
Address 2:
Address 3:
City: New York
State: NY
Zip: 10022
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Thank you for your comment, Rita Moore.

The comment tracking number that has been assigned to your comment is SolarD11148.

Comment Date: April 13, 2011 00:39:23AM
Solar Energy Development PEIS
Comment ID: SolarD11148

First Name: Rita
Middle Initial: A
Last Name: Moore
Organization:
Address: 6 Fern Hollow
Address 2:
Address 3:
City: Mercer Island
State: WA
Zip: 98040
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Deserts are not waste lands. They provide a home for desert plants and creatures. In general wind and solar farms should be located in areas already damaged by humans rather than natural areas which provide good habitat.

Thank you for your comment, Juell DeSpain.

The comment tracking number that has been assigned to your comment is SolarD11149.

Comment Date: April 13, 2011 00:52:11AM
Solar Energy Development PEIS
Comment ID: SolarD11149

First Name: Juell
Middle Initial:
Last Name: DeSpain
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that do not compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11150.

Comment Date: April 13, 2011 00:55:29AM

Solar Energy Development PEIS

Comment ID: SolarD11150

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2: [Withheld by requestor]

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Please build renewable energy facilities without damaging sensitive environments and ecosystems.

Thank you for your comment, Charles Daly.

The comment tracking number that has been assigned to your comment is SolarD11151.

Comment Date: April 13, 2011 00:55:33AM
Solar Energy Development PEIS
Comment ID: SolarD11151

First Name: Charles
Middle Initial: K
Last Name: Daly
Organization:
Address: 517 Newtons Corner Rd
Address 2:
Address 3:
City: Howell
State: NJ
Zip: 07731
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

With amendments, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the Bureau of Land Management include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your attention and consideration in this matter.

Thank you for your comment, Francee Levin.

The comment tracking number that has been assigned to your comment is SolarD11152.

Comment Date: April 13, 2011 00:56:46AM
Solar Energy Development PEIS
Comment ID: SolarD11152

First Name: Francee
Middle Initial:
Last Name: Levin
Organization:
Address: 307 Summit Townes Way
Address 2:
Address 3:
City: Columbia
State: SC
Zip: 29229
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Surely our National Parks should be leaders in the use of clean, safe energy, the perfect place to experiment with and promote the use of solar energy to preserve our natural resources and beauty.

Thank you for your comment, Daniel Rosenthal.

The comment tracking number that has been assigned to your comment is SolarD11153.

Comment Date: April 13, 2011 00:56:54AM
Solar Energy Development PEIS
Comment ID: SolarD11153

First Name: Daniel
Middle Initial:
Last Name: Rosenthal
Organization:
Address: 2367 Willamette
Address 2:
Address 3:
City: Eugene
State: OR
Zip: 97405
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar farms are best placed in situations where they can enhance the value of the land they occupy. If created within preserved park areas they lose their potential to benefit society. We should look for opportunities in areas currently unused or under-used.

Thank you for your comment, Peter Reynolds.

The comment tracking number that has been assigned to your comment is SolarD11154.

Comment Date: April 13, 2011 01:01:16AM
Solar Energy Development PEIS
Comment ID: SolarD11154

First Name: Peter
Middle Initial:
Last Name: Reynolds
Organization:
Address: 1024 Edinborough Dr
Address 2:
Address 3:
City: Durham
State: NC
Zip: 27703
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I will strongly support the Solar Energy Zone alternative. But there's a right way and a wrong way to embark on this mission. Solar energy should not compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Solar projects planned within 15 miles of a national park boundary should require consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Thank you for your comment, Mikanuk "Larry Adams".

The comment tracking number that has been assigned to your comment is SolarD11155.

Comment Date: April 13, 2011 01:02:49AM
Solar Energy Development PEIS
Comment ID: SolarD11155

First Name: Mikanuk "Larry
Middle Initial: D
Last Name: Adams"
Organization:
Address: 3149 36th Avenue South
Address 2:
Address 3:
City: Minneapolis
State: MN
Zip: 55406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully agree with building solar energy in the Desert Southwest. However, we need to ensure that birds and all other species of wildlife and their habitat are not intruded upon. For example, wind turbines present a problem, as the air is the route our bird friends use to survive. Also, solar collectors need to also well-thought out so our reptile, rodent, mammal and all other animal species' environments are not impinged upon.

In other words, these plans need to be not only well-thought out but environmentally-designed not to impede on wildlife in any way, shape or form. The right design will allow our animal friends to thrive in their environment while allowing us to save ours.

Thank you for your comment, Louise DeNight.

The comment tracking number that has been assigned to your comment is SolarD11156.

Comment Date: April 13, 2011 01:06:45AM
Solar Energy Development PEIS
Comment ID: SolarD11156

First Name: Louise
Middle Initial:
Last Name: DeNight
Organization:
Address: 15 Ivy Mills Rd
Address 2:
Address 3:
City: Glen Mills
State: PA
Zip: 19342
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

I see that there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I believe that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Alice Goodman.

The comment tracking number that has been assigned to your comment is SolarD11157.

Comment Date: April 13, 2011 01:07:23AM
Solar Energy Development PEIS
Comment ID: SolarD11157

First Name: Alice
Middle Initial:
Last Name: Goodman
Organization:
Address: 13713 16th Ave. SW
Address 2:
Address 3:
City: Burien
State: WA
Zip: 98166
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Hari Lubin.

The comment tracking number that has been assigned to your comment is SolarD11158.

Comment Date: April 13, 2011 01:08:13AM
Solar Energy Development PEIS
Comment ID: SolarD11158

First Name: Hari
Middle Initial:
Last Name: Lubin
Organization:
Address: 85 Corte Encanto
Address 2:
Address 3:
City: Greenbrae
State: CA
Zip: 94904
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar power is GOOD; however, not at the expense of our parks. Why can't you figure out how we can have both. If we can go to the moon, we can come up with a fair solution.

Thank you for your comment, Donna Travis.

The comment tracking number that has been assigned to your comment is SolarD11159.

Comment Date: April 13, 2011 01:09:53AM
Solar Energy Development PEIS
Comment ID: SolarD11159

First Name: Donna
Middle Initial: M
Last Name: Travis
Organization: na
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We have a proven way of using this technology, This is a good progress for our enviroment and can futher increase more energy. I support this cause as we can stay away from polluting and nonrenewalbe resources. Lets do this.

Thank you for your comment, Twyla Meyer.

The comment tracking number that has been assigned to your comment is SolarD11160.

Comment Date: April 13, 2011 01:19:26AM

Solar Energy Development PEIS

Comment ID: SolarD11160

First Name: Twyla

Middle Initial: M

Last Name: Meyer

Organization:

Address: 244 Hickory Ave.

Address 2:

Address 3:

City: Pomona

State: CA

Zip: 91767

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

We need safer forms of energy like wind and solar power.

Thank you for your comment, Steve Smith.

The comment tracking number that has been assigned to your comment is SolarD11161.

Comment Date: April 13, 2011 01:32:22AM
Solar Energy Development PEIS
Comment ID: SolarD11161

First Name: Steve
Middle Initial:
Last Name: Smith
Organization:
Address: Constitution Ave
Address 2:
Address 3:
City: Washington
State: DC
Zip: 20560
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Sir/Madam,

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you

Thank you for your comment, Rhonda Clements.

The comment tracking number that has been assigned to your comment is SolarD11162.

Comment Date: April 13, 2011 01:35:33AM
Solar Energy Development PEIS
Comment ID: SolarD11162

First Name: Rhonda
Middle Initial:
Last Name: Clements
Organization:
Address: 21314 9th Pl W
Address 2:
Address 3:
City: Lynnwood
State: WA
Zip: 98036
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to be investing in alternative energy especially solar and wind, that is the real help for the future not destroying our country more than it has been and making life even harder on everyone except the rich!! What happened to change??

Thank you for your comment, Edward Craig.

The comment tracking number that has been assigned to your comment is SolarD11163.

Comment Date: April 13, 2011 01:39:48AM
Solar Energy Development PEIS
Comment ID: SolarD11163

First Name: Edward
Middle Initial: P
Last Name: Craig
Organization:
Address: 850 West Fifth Ave
Address 2: Apt 11
Address 3:
City: Eugene
State: OR
Zip: 97402
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am certain my government is not about to endanger the habitat of any species, especially a rare one, for solar power.

Thank you for your comment, Mark Strauss.

The comment tracking number that has been assigned to your comment is SolarD11164.

Comment Date: April 13, 2011 01:45:58AM
Solar Energy Development PEIS
Comment ID: SolarD11164

First Name: Mark
Middle Initial: B
Last Name: Strauss
Organization:
Address: 2233 Bigelow Ave.
Address 2:
Address 3: 2233 Bigelow Ave.
City: Simi Valley
State: CA
Zip: 93065
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Mark Strauss.

The comment tracking number that has been assigned to your comment is SolarD11165.

Comment Date: April 13, 2011 01:47:58AM
Solar Energy Development PEIS
Comment ID: SolarD11165

First Name: Mark
Middle Initial:
Last Name: Strauss
Organization:
Address: 2233 Bigelow Ave.
Address 2:
Address 3: 2233 Bigelow Ave.
City: Simi Valley
State: CA
Zip: 93065
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Helen Ostrander.

The comment tracking number that has been assigned to your comment is SolarD11166.

Comment Date: April 13, 2011 01:56:24AM
Solar Energy Development PEIS
Comment ID: SolarD11166

First Name: Helen
Middle Initial: M
Last Name: Ostrander
Organization:
Address: 144 Noble Road
Address 2:
Address 3:
City: Fairview
State: NC
Zip: 28730
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I feel that solar should be used in all of our parks and I agree that they should be inconspicuous so the public can still enjoy the scenery and magnificance of the natural beauty of the park. I think it's about time that this country begins using more natural sources of energy.

Thank you for your comment, Phyllis Fast.

The comment tracking number that has been assigned to your comment is SolarD11167.

Comment Date: April 13, 2011 02:02:57AM
Solar Energy Development PEIS
Comment ID: SolarD11167

First Name: Phyllis
Middle Initial: R
Last Name: Fast
Organization:
Address: 498 Long Hill Road
Address 2:
Address 3:
City: Gillette
State: NJ
Zip: 07933
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rick Provencio.

The comment tracking number that has been assigned to your comment is SolarD11168.

Comment Date: April 13, 2011 02:07:51AM
Solar Energy Development PEIS
Comment ID: SolarD11168

First Name: Rick
Middle Initial:
Last Name: Provencio
Organization:
Address: 416 Cincinnati Avenue
Address 2:
Address 3:
City: El Paso
State: TX
Zip: 799022611
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Andrew Horn.

The comment tracking number that has been assigned to your comment is SolarD11169.

Comment Date: April 13, 2011 02:08:06AM
Solar Energy Development PEIS
Comment ID: SolarD11169

First Name: Andrew
Middle Initial:
Last Name: Horn
Organization:
Address: 197 East 4th St.
Address 2:
Address 3:
City: New York City
State: NY
Zip: 10009
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for development of solar and other alternative forms of energy. However trying to save the environment in a way that harms another aspect of the environment, ie national parks and nature reserves, is rather absurd. Think first and act effectively.
Thanks!

Thank you for your comment, Dianne Nezgoda.

The comment tracking number that has been assigned to your comment is SolarD11170.

Comment Date: April 13, 2011 02:30:28AM
Solar Energy Development PEIS
Comment ID: SolarD11170

First Name: Dianne
Middle Initial: J
Last Name: Nezgoda
Organization:
Address: 9851 Yoakum Drive
Address 2:
Address 3:
City: Beverly Hills
State: CA
Zip: 90210
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am thrilled that attempts to utilize solar energy are nearing fruition, however I hope the placement of the equipment does not interfere with our National Park vistas.

Thank you for your comment, Carih Branson.

The comment tracking number that has been assigned to your comment is SolarD11171.

Comment Date: April 13, 2011 02:47:03AM
Solar Energy Development PEIS
Comment ID: SolarD11171

First Name: Carih
Middle Initial:
Last Name: Branson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

America needs to work toward a renewable energy future to buffer us from climate change, help us kick our reliance on foreign oil & enhance our national security. We need a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air & water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air & light pollution, impair spectacular vistas & drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

Thank you for your comment, danny grantham.

The comment tracking number that has been assigned to your comment is SolarD11172.

Comment Date: April 13, 2011 03:18:22AM
Solar Energy Development PEIS
Comment ID: SolarD11172

First Name: danny
Middle Initial:
Last Name: grantham
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy is an energy alternative that should be reviewed and considered to reducing our dependency

Thank you for your comment, Terry Gorby.

The comment tracking number that has been assigned to your comment is SolarD11173.

Comment Date: April 13, 2011 03:35:30AM
Solar Energy Development PEIS
Comment ID: SolarD11173

First Name: Terry
Middle Initial: L
Last Name: Gorby
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Oscar Revilla Alguacil.

The comment tracking number that has been assigned to your comment is SolarD11174.

Comment Date: April 13, 2011 04:05:14AM
Solar Energy Development PEIS
Comment ID: SolarD11174

First Name: Oscar
Middle Initial:
Last Name: Revilla Alguacil
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Orysia Twerdochlib.

The comment tracking number that has been assigned to your comment is SolarD11175.

Comment Date: April 13, 2011 04:27:27AM
Solar Energy Development PEIS
Comment ID: SolarD11175

First Name: Orysia
Middle Initial: C
Last Name: Twerdochlib
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Above all we need to protect the integrity of our national parks.

Thank you for your comment, Bryan Baier.

The comment tracking number that has been assigned to your comment is SolarD11176.

Comment Date: April 13, 2011 04:45:12AM
Solar Energy Development PEIS
Comment ID: SolarD11176

First Name: Bryan
Middle Initial:
Last Name: Baier
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The construction of clean energy facilities needs to be done responsibly if it is to achieve truly green ends. Please do not allow for the construction or development of any facilities that would in any way hinder the ability of our national parks and open spaces to function the way they do.

Thank you for your comment, Carol Bernstein.

The comment tracking number that has been assigned to your comment is SolarD11177.

Comment Date: April 13, 2011 04:47:07AM
Solar Energy Development PEIS
Comment ID: SolarD11177

First Name: Carol
Middle Initial: j
Last Name: Bernstein
Organization:
Address: 605a Country Club Road
Address 2:
Address 3:
City: Vestal
State: NY
Zip: 13850
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

-Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

* --Any proposed solar projects sited within 15 miles of a national park

Thank you for your comment, Holly Chisholm.

The comment tracking number that has been assigned to your comment is SolarD11178.

Comment Date: April 13, 2011 05:19:40AM
Solar Energy Development PEIS
Comment ID: SolarD11178

First Name: Holly
Middle Initial:
Last Name: Chisholm
Organization:
Address: 183 Ora
Address 2:
Address 3:
City: Oxford
State: MI
Zip: 48371
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jim Corriere.

The comment tracking number that has been assigned to your comment is SolarD11179.

Comment Date: April 13, 2011 05:24:54AM
Solar Energy Development PEIS
Comment ID: SolarD11179

First Name: Jim
Middle Initial: V
Last Name: Corriere
Organization:
Address: 1662 E. Main St.
Address 2:
Address 3:
City: Brawley
State: CA
Zip: 922279508
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

No solar panels in state parks!

Thank you for your comment, Patricia Bolt.

The comment tracking number that has been assigned to your comment is SolarD11180.

Comment Date: April 13, 2011 05:49:20AM
Solar Energy Development PEIS
Comment ID: SolarD11180

First Name: Patricia
Middle Initial:
Last Name: Bolt
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We must end our reliance on oil for political and environmental reasons. We are destroying our atmosphere, bringing about global warming and destroying natural habitats, our oceans and wildlife with toxic pollutions and oil spills.

We need to develop clean, renewable energy sources quickly and get off of oil now.

Thank you for your comment, Susan Lee.

The comment tracking number that has been assigned to your comment is SolarD11181.

Comment Date: April 13, 2011 06:01:45AM
Solar Energy Development PEIS
Comment ID: SolarD11181

First Name: Susan
Middle Initial: S
Last Name: Lee
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. I would ask that the following amendments be considered.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time.

Thank you for your comment, Elizabeth Franks.

The comment tracking number that has been assigned to your comment is SolarD11182.

Comment Date: April 13, 2011 06:07:30AM
Solar Energy Development PEIS
Comment ID: SolarD11182

First Name: Elizabeth
Middle Initial: R
Last Name: Franks
Organization:
Address: 418 Chisholm Trail
Address 2:
Address 3:
City: Cincinnati
State: OH
Zip: 45215
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all in favor of developing alternative sources of energy, but as a nature lover and outdoorsperson, I'm concerned about negative impact on wilderness areas of our national parks. So I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for this opportunity to comment.

Thank you for your comment, Carmen L.

The comment tracking number that has been assigned to your comment is SolarD11183.

Comment Date: April 13, 2011 06:21:12AM

Solar Energy Development PEIS

Comment ID: SolarD11183

First Name: Carmen

Middle Initial:

Last Name: L

Organization:

Address:

Address 2:

Address 3:

City: [Withheld by requestor]

State:

Zip:

Country: [Withheld by requestor]

Privacy Preference: Withhold address from public record

Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. It should be developed on urban roofs, which is a better option.

Thank you for your comment, betty raubenolt.

The comment tracking number that has been assigned to your comment is SolarD11184.

Comment Date: April 13, 2011 06:27:22AM
Solar Energy Development PEIS
Comment ID: SolarD11184

First Name: betty
Middle Initial:
Last Name: raubenolt
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear Decision Maker,

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, diane hedley.

The comment tracking number that has been assigned to your comment is SolarD11185.

Comment Date: April 13, 2011 06:36:01AM
Solar Energy Development PEIS
Comment ID: SolarD11185

First Name: diane
Middle Initial: d
Last Name: hedley
Organization: many
Address: 26 scotch mist way
Address 2:
Address 3:
City: ballston spa
State: NY
Zip: 12020
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We can protect our parkland and have new energy, just do it responsibly

Thank you for your comment, Russell Riley.

The comment tracking number that has been assigned to your comment is SolarD11186.

Comment Date: April 13, 2011 06:37:52AM
Solar Energy Development PEIS
Comment ID: SolarD11186

First Name: Russell
Middle Initial:
Last Name: Riley
Organization:
Address: 7954 Atlas Street
Address 2:
Address 3: 7954 Atlas Street
City: Pensacola
State: FL
Zip: 32506
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Save our contry!

Thank you for your comment, David Burley.

The comment tracking number that has been assigned to your comment is SolarD11187.

Comment Date: April 13, 2011 06:43:07AM
Solar Energy Development PEIS
Comment ID: SolarD11187

First Name: David
Middle Initial:
Last Name: Burley
Organization:
Address: 205 W. Charles St
Address 2:
Address 3:
City: Hammond
State: LA
Zip: 70401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I full support providing solar energy as a major source of energy. However, we must engage best practices in locating near national parks and on other public lands. There is a way to do this correctly. Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. Thank you.

Thank you for your comment, Clara Beeler.

The comment tracking number that has been assigned to your comment is SolarD11188.

Comment Date: April 13, 2011 06:44:21AM
Solar Energy Development PEIS
Comment ID: SolarD11188

First Name: Clara
Middle Initial: M
Last Name: Beeler
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jennifer Voss.

The comment tracking number that has been assigned to your comment is SolarD11189.

Comment Date: April 13, 2011 06:53:03AM
Solar Energy Development PEIS
Comment ID: SolarD11189

First Name: Jennifer
Middle Initial:
Last Name: Voss
Organization:
Address:
Address 2:
Address 3:
City: Clyde
State: TX
Zip: 79510
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Nancy Beavers.

The comment tracking number that has been assigned to your comment is SolarD11190.

Comment Date: April 13, 2011 06:53:47AM
Solar Energy Development PEIS
Comment ID: SolarD11190

First Name: Nancy
Middle Initial:
Last Name: Beavers
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The federal government has initiated an environmental review to identify where to develop its solar energy projects on public lands. There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. I support solar energy development only within appropriately sited Solar Energy Zones where our national parks are not harmed!

Thank you for your comment, Kris Pagenkopf.

The comment tracking number that has been assigned to your comment is SolarD11191.

Comment Date: April 13, 2011 06:54:43AM
Solar Energy Development PEIS
Comment ID: SolarD11191

First Name: Kris
Middle Initial:
Last Name: Pagenkopf
Organization:
Address:
Address 2:
Address 3:
City: Gainesville
State: FL
Zip: 32607
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- 1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, kay fish.

The comment tracking number that has been assigned to your comment is SolarD11192.

Comment Date: April 13, 2011 06:54:56AM
Solar Energy Development PEIS
Comment ID: SolarD11192

First Name: kay
Middle Initial: c
Last Name: fish
Organization:
Address: 4908 theys road
Address 2:
Address 3:
City: raleigh
State: NC
Zip: 27606
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Alternative energy sources should be developed only in energy zones that do not compromise national park wildlife and archaeological sites. Leave these opportunities for future generations to fully enjoy America's heritage. Explore the realities of giving tax breaks for the use of private lands to develop alternative forms of energy.

Thank you for your comment, Bonnie Miller.

The comment tracking number that has been assigned to your comment is SolarD11193.

Comment Date: April 13, 2011 07:01:07AM
Solar Energy Development PEIS
Comment ID: SolarD11193

First Name: Bonnie
Middle Initial:
Last Name: Miller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, vicki burns.

The comment tracking number that has been assigned to your comment is SolarD11194.

Comment Date: April 13, 2011 07:03:29AM
Solar Energy Development PEIS
Comment ID: SolarD11194

First Name: vicki
Middle Initial:
Last Name: burns
Organization:
Address: 3647 Broadway
Address 2:
Address 3:
City: new york
State: NY
Zip: 10031
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please consider our National Parks and their legacy while making important energy developments.

Thank you for your comment, Kimberly Cresic.

The comment tracking number that has been assigned to your comment is SolarD11195.

Comment Date: April 13, 2011 07:06:34AM
Solar Energy Development PEIS
Comment ID: SolarD11195

First Name: Kimberly
Middle Initial:
Last Name: Cresic
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Draft Solar Energy Development PEIS.

I believe intuitive and ecologically friendly solar energy construction can be a reality within protected areas. The process must be an honest and transparent collaboration that includes partners from legitimate environmental and scientific groups. Let's move forward instead of backward.

Thank you for your comment, Mark Wroblewski.

The comment tracking number that has been assigned to your comment is SolarD11196.

Comment Date: April 13, 2011 07:16:11AM
Solar Energy Development PEIS
Comment ID: SolarD11196

First Name: Mark
Middle Initial: P
Last Name: Wroblewski
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear Sir:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Respectfully,
Mark Wroblewski

Thank you for your comment, Zelma Taylor.

The comment tracking number that has been assigned to your comment is SolarD11197.

Comment Date: April 13, 2011 07:19:31AM
Solar Energy Development PEIS
Comment ID: SolarD11197

First Name: Zelma
Middle Initial: S
Last Name: Taylor
Organization:
Address: 319 High Street
Address 2:
Address 3:
City: Petersburg
State: VA
Zip: 23803
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is renewable and clean. The development of solar energy will create many jobs.

However, it must not come at the expense of protecting the environment. Natural eco-systems have developed since the beginning and they are necessary for a healthy planet.

What good is energy if the planet is not fit for the living?

Thank you for your comment, Lori Ferguson.

The comment tracking number that has been assigned to your comment is SolarD11198.

Comment Date: April 13, 2011 07:25:04AM
Solar Energy Development PEIS
Comment ID: SolarD11198

First Name: Lori
Middle Initial:
Last Name: Ferguson
Organization:
Address: 710 Phoenix Ave
Address 2:
Address 3:
City: Clearwater
State: FL
Zip: 33756
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This issue needs to be addressed in a hurry. Also, why is there no discussion on over population? Lets thin the herd in the human count as well.

Thank you for your comment, Carlo Zucchi.

The comment tracking number that has been assigned to your comment is SolarD11199.

Comment Date: April 13, 2011 07:32:04AM

Solar Energy Development PEIS

Comment ID: SolarD11199

First Name: Carlo

Middle Initial:

Last Name: Zucchi

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country: ITA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Green Energy must respect natural habitats and endangered species.

Don't use free-lands, but use dismissed terrains, buildings, houses, etc. !

Thank you for your comment, jeanne servis.

The comment tracking number that has been assigned to your comment is SolarD11200.

Comment Date: April 13, 2011 07:32:46AM
Solar Energy Development PEIS
Comment ID: SolarD11200

First Name: jeanne
Middle Initial: s
Last Name: servis
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Our National Parks have been established over a long period of time for many protections (scenery, wildlife, water, recreation, etc.) It is therefore wise to consider carefully the impacts solar development will have on these areas and to weigh our values to accommodate and not destroy.

Thank you for your comment, Elizabeth Larrison.

The comment tracking number that has been assigned to your comment is SolarD11201.

Comment Date: April 13, 2011 07:34:50AM
Solar Energy Development PEIS
Comment ID: SolarD11201

First Name: Elizabeth
Middle Initial: A
Last Name: Larrison
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Ruth Kram.

The comment tracking number that has been assigned to your comment is SolarD11202.

Comment Date: April 13, 2011 07:40:17AM
Solar Energy Development PEIS
Comment ID: SolarD11202

First Name: Ruth
Middle Initial: p
Last Name: Kram
Organization:
Address: 111 Coccio Drive
Address 2:
Address 3: 111 Coccio Drive
City: West Orange
State: NJ
Zip: 07052
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

plz save what is left of our irreplaceable natural treasure--invading our parks and hurting our wildlife is too high a price when other areas are available

Thank you for your comment, sarah lincoln.

The comment tracking number that has been assigned to your comment is SolarD11203.

Comment Date: April 13, 2011 07:41:25AM
Solar Energy Development PEIS
Comment ID: SolarD11203

First Name: sarah
Middle Initial:
Last Name: lincoln
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please be thoughtful in your decisionmaking process

Thank you for your comment, William Lawless.

The comment tracking number that has been assigned to your comment is SolarD11204.

Comment Date: April 13, 2011 07:43:57AM
Solar Energy Development PEIS
Comment ID: SolarD11204

First Name: William
Middle Initial: M
Last Name: Lawless
Organization:
Address: 86 Commonwealth Ave.
Address 2:
Address 3:
City: Pittsfield
State: MA
Zip: 01201
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar boost is desired begining for non petroleum based energy.
Let's go!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11205.

Comment Date: April 13, 2011 07:49:26AM
Solar Energy Development PEIS
Comment ID: SolarD11205

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Norden.

The comment tracking number that has been assigned to your comment is SolarD11206.

Comment Date: April 13, 2011 07:50:38AM
Solar Energy Development PEIS
Comment ID: SolarD11206

First Name: Michael
Middle Initial: J
Last Name: Norden
Organization:
Address: 22290 Co. Rd. S
Address 2:
Address 3: 22290 Co. Rd. S
City: Defiance
State: OH
Zip: 435129509
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Erika DeCarlo.

The comment tracking number that has been assigned to your comment is SolarD11207.

Comment Date: April 13, 2011 07:53:11AM
Solar Energy Development PEIS
Comment ID: SolarD11207

First Name: Erika
Middle Initial: E
Last Name: DeCarlo
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Margaret Marshall.

The comment tracking number that has been assigned to your comment is SolarD11208.

Comment Date: April 13, 2011 07:54:31AM
Solar Energy Development PEIS
Comment ID: SolarD11208

First Name: Margaret
Middle Initial: B
Last Name: Marshall
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please be careful where you decide to put the solar energy zones. Putting them in national parks, where one of the goals is to preserve wildlife and provide natural, scenic areas for Americans to enjoy, would take away from these goals.

Thank you for your comment, Christopher Norbury.

The comment tracking number that has been assigned to your comment is SolarD11209.

Comment Date: April 13, 2011 08:07:25AM
Solar Energy Development PEIS
Comment ID: SolarD11209

First Name: Christopher
Middle Initial:
Last Name: Norbury
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11210.

Comment Date: April 13, 2011 08:12:02AM

Solar Energy Development PEIS

Comment ID: SolarD11210

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Draft Solar Energy NOW!

Thank you for your comment, Timothy & Jan Dwyer.

The comment tracking number that has been assigned to your comment is SolarD11211.

Comment Date: April 13, 2011 08:26:25AM
Solar Energy Development PEIS
Comment ID: SolarD11211

First Name: Timothy & Jan
Middle Initial: M
Last Name: Dwyer
Organization:
Address: 97 W. Ellen Ave.
Address 2:
Address 3:
City: Cortland
State: IL
Zip: 601124119
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

Since the federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado, we need to proceed correctly.

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Please proceed, but protect our National Parks.

Thank you for your comment, Judith Raymond.

The comment tracking number that has been assigned to your comment is SolarD11212.

Comment Date: April 13, 2011 08:26:58AM
Solar Energy Development PEIS
Comment ID: SolarD11212

First Name: Judith
Middle Initial: A
Last Name: Raymond
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We leave footprints that sometimes last many generations. Alternative energy sources are a good way to lighten the footprints for many generations, but there again, only if it is done in a way to keep the parks in tact as much as possible.

Thank you for your comment, Ron Molina.

The comment tracking number that has been assigned to your comment is SolarD11213.

Comment Date: April 13, 2011 08:39:33AM

Solar Energy Development PEIS

Comment ID: SolarD11213

First Name: Ron

Middle Initial:

Last Name: Molina

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

help!

Thank you for your comment, Doug and Jan Parker.

The comment tracking number that has been assigned to your comment is SolarD11214.

Comment Date: April 13, 2011 08:45:21AM
Solar Energy Development PEIS
Comment ID: SolarD11214

First Name: Doug and Jan
Middle Initial:
Last Name: Parker
Organization:
Address: 18732 Road 25.8
Address 2:
Address 3:
City: Dolores
State: CO
Zip: 81323
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

WE strongly support solar energy development. However, it should be done in a way that protects wildlife, habitat and our national parks and recreation areas. Solar energy zones should be placed so that they do not interfere with archaeological and cultural sites, do not contribute to light pollution, and enhance rather than detract from our natural scenic beauty.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11215.

Comment Date: April 13, 2011 08:54:31AM
Solar Energy Development PEIS
Comment ID: SolarD11215

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I believe it's important to respect the value of our National Parks in locating solar energy zones. Their position should not interfere with the wonderful experiences our Parks provide. Nor should they have any detrimental environmental impact.

Thank you for your comment, Henry Kettelhut.

The comment tracking number that has been assigned to your comment is SolarD11216.

Comment Date: April 13, 2011 08:55:57AM
Solar Energy Development PEIS
Comment ID: SolarD11216

First Name: Henry
Middle Initial: K
Last Name: Kettelhut
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sigmund Hudson.

The comment tracking number that has been assigned to your comment is SolarD11217.

Comment Date: April 13, 2011 08:59:31AM
Solar Energy Development PEIS
Comment ID: SolarD11217

First Name: Sigmund
Middle Initial: N
Last Name: Hudson
Organization:
Address: 602 E 41
Address 2:
Address 3:
City: Savannah
State: GA
Zip: 31401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar projects should not have negative impacts on national or state parks. These areas have been set aside for the obvious reasons. If a solar project is proposed within 15 miles of a national park boundary there needs to be extensive public notice and consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elaine Bevilacqua.

The comment tracking number that has been assigned to your comment is SolarD11218.

Comment Date: April 13, 2011 09:00:18AM
Solar Energy Development PEIS
Comment ID: SolarD11218

First Name: Elaine
Middle Initial: J
Last Name: Bevilacqua
Organization:
Address: 7017 Carnation St. Apt. 432
Address 2:
Address 3:
City: Richmond
State: VA
Zip: 23225
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development should take place in areas that do not adversely affect the environment or the wildlife.

Thank you for your comment, Shannon Mayfield-Chapin.

The comment tracking number that has been assigned to your comment is SolarD11219.

Comment Date: April 13, 2011 09:01:00AM
Solar Energy Development PEIS
Comment ID: SolarD11219

First Name: Shannon
Middle Initial: A
Last Name: Mayfield-Chapin
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
 - The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
 - The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
 - Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
- Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linda Burlingame.

The comment tracking number that has been assigned to your comment is SolarD11220.

Comment Date: April 13, 2011 09:03:05AM
Solar Energy Development PEIS
Comment ID: SolarD11220

First Name: Linda
Middle Initial:
Last Name: Burlingame
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

WE HAVE ONLY ONE CHANCE WITH THIS PLANET AND ITS CREATURES!!

Thank you for your comment, L. J. Travers.

The comment tracking number that has been assigned to your comment is SolarD11221.

Comment Date: April 13, 2011 09:04:39AM
Solar Energy Development PEIS
Comment ID: SolarD11221

First Name: L. J.
Middle Initial:
Last Name: Travers
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Angela Rhoads.

The comment tracking number that has been assigned to your comment is SolarD11222.

Comment Date: April 13, 2011 09:07:41AM
Solar Energy Development PEIS
Comment ID: SolarD11222

First Name: Angela
Middle Initial: V
Last Name: Rhoads
Organization:
Address: 114 Military Road
Address 2:
Address 3:
City: Buffalo
State: NY
Zip: 142072837
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our cities, with their large exposed building surfaces and expanded roof areas, are the place for giant solar farms: not our wilderness and park areas. Most cities could be made cooler and more comfortable if excess solar radiation could be collected by skyscrapers as part of either retrofitting or built-in panels on new construction, instead of allowing this energy to passively collect in concrete and radiate wastefully away overnight.

Thank you for your comment, Barbara Liszeo.

The comment tracking number that has been assigned to your comment is SolarD11223.

Comment Date: April 13, 2011 09:11:43AM
Solar Energy Development PEIS
Comment ID: SolarD11223

First Name: Barbara
Middle Initial:
Last Name: Liszeo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Susan Carroll.

The comment tracking number that has been assigned to your comment is SolarD11224.

Comment Date: April 13, 2011 09:12:58AM
Solar Energy Development PEIS
Comment ID: SolarD11224

First Name: Susan
Middle Initial:
Last Name: Carroll
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

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- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Bethanie Gehman.

The comment tracking number that has been assigned to your comment is SolarD11225.

Comment Date: April 13, 2011 09:13:02AM
Solar Energy Development PEIS
Comment ID: SolarD11225

First Name: Bethanie
Middle Initial:
Last Name: Gehman
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Jared Cornelia.

The comment tracking number that has been assigned to your comment is SolarD11226.

Comment Date: April 13, 2011 09:16:20AM
Solar Energy Development PEIS
Comment ID: SolarD11226

First Name: Jared
Middle Initial:
Last Name: Cornelia
Organization:
Address: 125 Denn Place
Address 2:
Address 3:
City: Wilmington
State: DE
Zip: 19804
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11227.

Comment Date: April 13, 2011 09:16:54AM

Solar Energy Development PEIS

Comment ID: SolarD11227

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

I am in favor of solar energy but it should be used responsibly in the national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11228.

Comment Date: April 13, 2011 09:16:56AM
Solar Energy Development PEIS
Comment ID: SolarD11228

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

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- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Mary O'Brien.

The comment tracking number that has been assigned to your comment is SolarD11229.

Comment Date: April 13, 2011 09:21:38AM
Solar Energy Development PEIS
Comment ID: SolarD11229

First Name: Mary
Middle Initial:
Last Name: O'Brien
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended to protect national parks and desert ecology, I support the Solar Energy alternative.
Proposed projects within 15 miles of a national park should trigger consultation with the National Park Service.

Thank you for your comment, al mcluckie.

The comment tracking number that has been assigned to your comment is SolarD11230.

Comment Date: April 13, 2011 09:24:18AM
Solar Energy Development PEIS
Comment ID: SolarD11230

First Name: al
Middle Initial:
Last Name: mcluckie
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, William Wertenbaker.

The comment tracking number that has been assigned to your comment is SolarD11231.

Comment Date: April 13, 2011 09:27:07AM
Solar Energy Development PEIS
Comment ID: SolarD11231

First Name: William
Middle Initial:
Last Name: Wertenbaker
Organization:
Address: 115 Southcrest Dr.
Address 2:
Address 3: 115 Southcrest Dr.
City: Burlington
State: VT
Zip: 05401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Joen Mein.

The comment tracking number that has been assigned to your comment is SolarD11232.

Comment Date: April 13, 2011 09:27:28AM
Solar Energy Development PEIS
Comment ID: SolarD11232

First Name: Joen
Middle Initial: D
Last Name: Mein
Organization:
Address: 1415 San Saba Drive
Address 2:
Address 3:
City: Dallas
State: TX
Zip: 752183552
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is coming of age and it is time we moved away from polluting fossil fuel energies--coal, oil, and gas, which have been disastrous to our planet and its inhabitants. However, we must never let the construction and building of solar plants to be built on or near our national parks, national recreation areas, national forests, wild and scenic rivers, state and local parks. New laws must be developed to safeguard our heritage and inhabitants.

Thank you for your comment, Patricia law.

The comment tracking number that has been assigned to your comment is SolarD11233.

Comment Date: April 13, 2011 09:29:01AM
Solar Energy Development PEIS
Comment ID: SolarD11233

First Name: Patricia
Middle Initial:
Last Name: law
Organization:
Address:
Address 2:
Address 3:
City:
State: CA
Zip: 92102
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

protect what little is left of our wilderness and wildlife

Thank you for your comment, Thomas Zissu.

The comment tracking number that has been assigned to your comment is SolarD11234.

Comment Date: April 13, 2011 09:31:43AM
Solar Energy Development PEIS
Comment ID: SolarD11234

First Name: Thomas
Middle Initial: B
Last Name: Zissu
Organization:
Address: 42 Paper Mill Road
Address 2:
Address 3:
City: Woodbury
State: CT
Zip: 06798
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar installations should not go in any environmentally sensitive areas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11235.

Comment Date: April 13, 2011 09:33:50AM
Solar Energy Development PEIS
Comment ID: SolarD11235

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Judith Willoughby.

The comment tracking number that has been assigned to your comment is SolarD11236.

Comment Date: April 13, 2011 09:37:44AM
Solar Energy Development PEIS
Comment ID: SolarD11236

First Name: Judith
Middle Initial: M
Last Name: Willoughby
Organization:
Address: 2 Williams Avenue
Address 2:
Address 3:
City: Middletown
State: NJ
Zip: 077486010
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Matthew Walker.

The comment tracking number that has been assigned to your comment is SolarD11237.

Comment Date: April 13, 2011 09:40:58AM
Solar Energy Development PEIS
Comment ID: SolarD11237

First Name: Matthew
Middle Initial:
Last Name: Walker
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear Friends,

This matter addresses two issues I most care about: green energy and our national parks. We need both, and there's no reason development of energy can't proceed without harming the parks.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

ANY proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration,
Matthew Walker

Thank you for your comment, Rick Dahn.

The comment tracking number that has been assigned to your comment is SolarD11238.

Comment Date: April 13, 2011 09:42:06AM
Solar Energy Development PEIS
Comment ID: SolarD11238

First Name: Rick
Middle Initial: L
Last Name: Dahn
Organization:
Address: 50 Hays Cir.
Address 2:
Address 3:
City: Silver Bay
State: MN
Zip: 556141242
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I would like to invest in solar energy at home. At this time is not affordable. How can the government help the individual afford this?

Thank you for your comment, Wesley Wolf.

The comment tracking number that has been assigned to your comment is SolarD11239.

Comment Date: April 13, 2011 09:44:50AM
Solar Energy Development PEIS
Comment ID: SolarD11239

First Name: Wesley
Middle Initial:
Last Name: Wolf
Organization:
Address: 77 Waterview Ct.
Address 2:
Address 3:
City: Barrington
State: IL
Zip: 600103893
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am fully in favor of sustainable energy projects, including solar, but they must not be situated in places that detract from wilderness scenery or have a serious adverse effect on wildlife. I have concerns about four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11240.

Comment Date: April 13, 2011 09:46:53AM
Solar Energy Development PEIS
Comment ID: SolarD11240

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy.

Thank you for your comment, Angela Black.

The comment tracking number that has been assigned to your comment is SolarD11241.

Comment Date: April 13, 2011 09:55:08AM
Solar Energy Development PEIS
Comment ID: SolarD11241

First Name: Angela
Middle Initial:
Last Name: Black
Organization:
Address:
Address 2:
Address 3:
City:
State: CA
Zip: 90740
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. I am against developing solar energy that damages or compromises wildlife areas.

Thank you for your comment, Joy Zadaca.

The comment tracking number that has been assigned to your comment is SolarD11242.

Comment Date: April 13, 2011 09:55:45AM
Solar Energy Development PEIS
Comment ID: SolarD11242

First Name: Joy
Middle Initial:
Last Name: Zadaca
Organization:
Address:
Address 2:
Address 3:
City:
State: CA
Zip: 908071927
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, frederick sall.

The comment tracking number that has been assigned to your comment is SolarD11243.

Comment Date: April 13, 2011 09:56:11AM
Solar Energy Development PEIS
Comment ID: SolarD11243

First Name: frederick
Middle Initial: w
Last Name: sall
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

there is a surplus of public land in the west suitable for solar energy development. let's develop solar energy where the wildlife and flora will not be significantly adversely affected by the construction and presence of the facilities.

Thank you for your comment, gene hillegass.

The comment tracking number that has been assigned to your comment is SolarD11244.

Comment Date: April 13, 2011 09:58:00AM
Solar Energy Development PEIS
Comment ID: SolarD11244

First Name: gene
Middle Initial: a
Last Name: hillegass
Organization:
Address: 12voriole lane
Address 2:
Address 3:
City: READING
State: PA
Zip: 19606
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

NONE

Thank you for your comment, Donald wright.

The comment tracking number that has been assigned to your comment is SolarD11245.

Comment Date: April 13, 2011 09:58:19AM
Solar Energy Development PEIS
Comment ID: SolarD11245

First Name: Donald
Middle Initial:
Last Name: wright
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended,we strongly support the Solar Zone Energy alternative,which would concentrate solar development within parcels of land that avoid needless future conflicts with natural park resourses and sensitive desert ecology.

Thank you for your comment, Kelly Dozier.

The comment tracking number that has been assigned to your comment is SolarD11246.

Comment Date: April 13, 2011 09:58:34AM
Solar Energy Development PEIS
Comment ID: SolarD11246

First Name: Kelly
Middle Initial: S
Last Name: Dozier
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear Decision Makers,

I am very excited about the prospect of further development of clean, renewable sources of energy for our country. Thank you for your work on this effort. I do have some concerns about the possibility of damaging our nation's parks and monuments with this effort. I feel that the goals can be achieved while protecting our irreplaceable assets.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration of these issues.

Sincerely,

Thank you for your comment, Melissa Chepuru.

The comment tracking number that has been assigned to your comment is SolarD11247.

Comment Date: April 13, 2011 10:00:03AM
Solar Energy Development PEIS
Comment ID: SolarD11247

First Name: Melissa
Middle Initial:
Last Name: Chepuru
Organization:
Address: 7 Dickel Rd.
Address 2: 984 N. Broadway, Ste. 500A
Address 3:
City: Scarsdale
State: NY
Zip: 10583
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to start spending money on things that matter, our future. Solar energy is clean, cheap once we are up and running and creates jobs. Our govt. subsidizes oil, gas and coal. How would those industries be doing today without all the breaks that are given them. And if those subsidies were put into training a workforce and building a solar infrastructure, along with developing light rail transport, and so on, the economy, the environment and our involvement in wars overseas would benefit. Let's stop dithering. WE wanted change. Real change. The Congress is acting like a bunch of children on the playground vying for the best swing. God, it's embarrassing. Get over your big egos and do something before the American public decides to cut your salaries and benefits. Oh, that we could, we would have by now.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11248.

Comment Date: April 13, 2011 10:00:38AM

Solar Energy Development PEIS

Comment ID: SolarD11248

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip:

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Be smart with solar.

Thank you for your comment, Louis Harris, Jr..

The comment tracking number that has been assigned to your comment is SolarD11249.

Comment Date: April 13, 2011 10:06:22AM
Solar Energy Development PEIS
Comment ID: SolarD11249

First Name: Louis
Middle Initial: C
Last Name: Harris, Jr.
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Whereas it is necessary for us to develop alternate energy resources, it is vital that placements on public lands take into consideration the original reasons for the protection of the lands, i.e., scenery, wildlife, night sky viewing, open country, protection of beautiful places, etc. Especially important will be the preservation of corridors for wildlife to move through. Please no placements that do not take these matters into consideration.

Thank you for your attention.

Thank you for your comment, Christine McCarthy.

The comment tracking number that has been assigned to your comment is SolarD11250.

Comment Date: April 13, 2011 10:06:23AM
Solar Energy Development PEIS
Comment ID: SolarD11250

First Name: Christine
Middle Initial:
Last Name: McCarthy
Organization:
Address: 108 S. Main St., Apt. 5
Address 2:
Address 3:
City: North Wales
State: PA
Zip: 19454
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please use solar energy!

Thank you for your comment, Katherine Russell.

The comment tracking number that has been assigned to your comment is SolarD11251.

Comment Date: April 13, 2011 10:08:20AM
Solar Energy Development PEIS
Comment ID: SolarD11251

First Name: Katherine
Middle Initial: B
Last Name: Russell
Organization:
Address: 409 Sand Hill Road
Address 2:
Address 3:
City: Savannah
State: GA
Zip: 31410
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in agreement with the NPCA assessment that three SEZs need to be modified. California's Iron Mountain SEZ should be eliminated because of its harmful impacts especially to water resources, but also for the scenic vistas from Joshua Tree National Park and for night sky viewing. California's Riverside East SEZ should be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands. It is important not to injure natural resources including natural vistas while trying to save the future. The development of solar arrays and other power generation should be encouraged in suburban and urban locations where there is the added advantage of a shorter transit of source to use.

Thank you for your comment, Nancy Richard.

The comment tracking number that has been assigned to your comment is SolarD11252.

Comment Date: April 13, 2011 10:09:20AM
Solar Energy Development PEIS
Comment ID: SolarD11252

First Name: Nancy
Middle Initial:
Last Name: Richard
Organization:
Address: Poppasquash Rd.
Address 2:
Address 3:
City: Bristol
State: RI
Zip: 02809
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As we progress toward alternate energy alternatives such as solar energy, we must ensure that every precaution is taken to lessen its impact on our national parks, sensitive wildernesses, and wildlife. Joshua Tree and Death Valley are isolated parks which MUST be protected. Lest we lose sight of our priorities, the pursuit of alternate energy resources must adhere to those principles.

Thank you for your comment, Jill Timm.

The comment tracking number that has been assigned to your comment is SolarD11253.

Comment Date: April 13, 2011 10:09:26AM
Solar Energy Development PEIS
Comment ID: SolarD11253

First Name: Jill
Middle Initial:
Last Name: Timm
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Eldon Wedlock.

The comment tracking number that has been assigned to your comment is SolarD11254.

Comment Date: April 13, 2011 10:12:06AM
Solar Energy Development PEIS
Comment ID: SolarD11254

First Name: Eldon
Middle Initial: D
Last Name: Wedlock
Organization: National Parks Conservation Ass'n - member
Address: 4525 Cove Circle
Address 2: Apt. 308
Address 3:
City: St. Petersburg
State: FL
Zip: 33708
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Clearly, America needs to work toward a renewable energy future to buffer us from climate change, help us kick our reliance on foreign oil and enhance our national security. But there's a right way and a wrong way to embark on this mission. Solar energy should be developed in areas that don't compromise our national parks. America should develop renewable energy resources in a smart, ecologically sound manner that protects our national treasures.

The federal government has initiated the Solar Programmatic Environmental Impact Statement (Solar PEIS) process to identify where solar energy development should occur on federal lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado. The government has identified Twenty four solar energy zones where renewable energy companies can build their facilities.

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air or light pollution, impair the spectacular vistas and draw down water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

NPCA strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and views from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and draw down precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands. I hope you can make these changes. Peace.

Thank you for your comment, Eiffler Jeffrey.

The comment tracking number that has been assigned to your comment is SolarD11255.

Comment Date: April 13, 2011 10:12:14AM
Solar Energy Development PEIS
Comment ID: SolarD11255

First Name: Eiffler
Middle Initial: A
Last Name: Jeffrey
Organization:
Address: 7660 E Viking Blvd
Address 2:
Address 3:
City: Chisago City
State: MN
Zip: 55013
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I would like to quickly comment on the development of solar energy in the American Southwest. I fully support the development of solar energy but I also want to ensure that the development does not degrade national parks or any other area of environmental sensitivity or significance.

Thank you

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11256.

Comment Date: April 13, 2011 10:13:04AM
Solar Energy Development PEIS
Comment ID: SolarD11256

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Leslie Geller.

The comment tracking number that has been assigned to your comment is SolarD11257.

Comment Date: April 13, 2011 10:21:54AM
Solar Energy Development PEIS
Comment ID: SolarD11257

First Name: Leslie
Middle Initial: E
Last Name: Geller
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I've been a member of NPCA for many years, and their email just spurred me to comment on solar energy development.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

The NPCA's email educated me that there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you,
Leslie Geller

Thank you for your comment, margaret bish.

The comment tracking number that has been assigned to your comment is SolarD11258.

Comment Date: April 13, 2011 10:22:43AM
Solar Energy Development PEIS
Comment ID: SolarD11258

First Name: margaret
Middle Initial: h
Last Name: bish
Organization:
Address: 519-22nd ave. south
Address 2:
Address 3:
City: birmingham
State: AL
Zip: 35205
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please leave the set-aside, natural areas alone. we have so few, and they are being used as political/financial pawns.

Thank you for your comment, barara austin.

The comment tracking number that has been assigned to your comment is SolarD11259.

Comment Date: April 13, 2011 10:24:43AM
Solar Energy Development PEIS
Comment ID: SolarD11259

First Name: barara
Middle Initial:
Last Name: austin
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support development only within appropriately sited Solar Energy Zones that do not harm our national parks. Any solar project sited within 15 miles of a national parks boundry should trigger consultation with the National Park service to determine whether the project unacceptably impacts or diminishers national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas and national monuments as high conflict areas for industrial solar development.
B.Austin

Thank you for your comment, Joanne Rist.

The comment tracking number that has been assigned to your comment is SolarD11260.

Comment Date: April 13, 2011 10:27:52AM
Solar Energy Development PEIS
Comment ID: SolarD11260

First Name: Joanne
Middle Initial:
Last Name: Rist
Organization:
Address: 208 South Lakeshore Drive
Address 2:
Address 3:
City: Manahawkin
State: NJ
Zip: 08050
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Marcia Woolman.

The comment tracking number that has been assigned to your comment is SolarD11261.

Comment Date: April 13, 2011 10:28:43AM
Solar Energy Development PEIS
Comment ID: SolarD11261

First Name: Marcia
Middle Initial: W
Last Name: Woolman
Organization:
Address: 3085 Burrland Lane
Address 2:
Address 3:
City: The Plains
State: VA
Zip: 20198
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

When determining locations for the development of solar energy, please seek locations that do not impact our National Parks. They are being maintained as a place to preserve our natural heritage and for people to return to a simpler time. Finding solar energy panels, wind turbines and the like will ruin this experience.

Thank you for your comment, Mark Rist.

The comment tracking number that has been assigned to your comment is SolarD11262.

Comment Date: April 13, 2011 10:28:44AM
Solar Energy Development PEIS
Comment ID: SolarD11262

First Name: Mark
Middle Initial:
Last Name: Rist
Organization:
Address: 208 South Lakeshore Drive
Address 2:
Address 3:
City: Manahawkin
State: NJ
Zip: 08050
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joanne Rist.

The comment tracking number that has been assigned to your comment is SolarD11263.

Comment Date: April 13, 2011 10:29:21AM
Solar Energy Development PEIS
Comment ID: SolarD11263

First Name: Joanne
Middle Initial:
Last Name: Rist
Organization:
Address: 208 South Lakeshore Drive
Address 2:
Address 3:
City: Manahawkin
State: NJ
Zip: 08050
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11264.

Comment Date: April 13, 2011 10:30:29AM
Solar Energy Development PEIS
Comment ID: SolarD11264

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Chantal Dothey.

The comment tracking number that has been assigned to your comment is SolarD11265.

Comment Date: April 13, 2011 10:31:30AM
Solar Energy Development PEIS
Comment ID: SolarD11265

First Name: Chantal
Middle Initial:
Last Name: Dothey
Organization:
Address: 1388 Lynn Park Dr
Address 2:
Address 3:
City: Cleveland
State: OH
Zip: 441211631
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Clearly, America needs to work toward a renewable energy future to buffer us from climate change, help us kick our reliance on foreign oil and enhance our national security. But there's a right way and a wrong way to embark on this mission. Solar energy should be developed in areas that don't compromise our national parks. America should develop renewable energy resources in a smart, ecologically sound manner that protects our national treasures.

The federal government has initiated the Solar Programmatic Environmental Impact Statement (Solar PEIS) process to identify where solar energy development should occur on federal lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado. The government has identified Twenty four solar energy zones where renewable energy companies can build their facilities.

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

NPCA strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, David Brettin.

The comment tracking number that has been assigned to your comment is SolarD11266.

Comment Date: April 13, 2011 10:37:15AM
Solar Energy Development PEIS
Comment ID: SolarD11266

First Name: David
Middle Initial: L
Last Name: Brettin
Organization: The International Center for Reiki Training
Address:
Address 2:
Address 3:
City: Maitland
State: FL
Zip: 32751
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for taking time to read my comments and thoughts. I am a strong supporter of Solar and other green energies. However the intent behind the move to green energy is to reduce the impact Humanity has on nature. In the interest of this goal, I have a few suggestions relating to four proposed Solar Energy Zones near Joshua Tree National Park.

The Riverside East SEZ could have severe negative impact on wildlife corridors near the park, as well as negatively influencing wildlife within the park itself. This Zone should be restructured to reduce these impacts. The Iron Mountain SEZ intrudes upon natural scenery of Joshua Tree National Park, as well as negatively impacting the wildlife in the park. I thank you kindly to please move such a grand contribution to Eco-friendly energy production, so as to make it even more environmentally conscious. The Amargosa Valley SEZ unfortunately threatens Endangered Species habitats by reducing the water supply crucial to the desert wetlands home of the Devil's Hole Pupfish and several other species. Please, for the future of a whole ecosystem, reconfigure the layout to prevent this detrimental impact. The Red Sands SEZ threatens water supplies, this time in White Sands National Monument, also threatening dune formation in the same area.

As I said at the beginning of my comments, I strongly support the push for Solar energy and the establishment of Solar Energy Zones, However the impact of the SEZs mentioned above could cause great distress to both the wildlife in the National Parks and to the visitors who go there to enjoy the scenery. In my opinion that if an SEZ is set up within 15 mi. of a National Park boundary, the National Park Service should be involved in the planed layout to further reduce the impact our society has on the natural world and the wonders it holds. Thank you again for taking the time to read my concerns.

Thank you for your comment, Stephen Leone.

The comment tracking number that has been assigned to your comment is SolarD11267.

Comment Date: April 13, 2011 10:38:08AM
Solar Energy Development PEIS
Comment ID: SolarD11267

First Name: Stephen
Middle Initial:
Last Name: Leone
Organization:
Address: 29 Ridge Road
Address 2:
Address 3:
City: Smithtown
State: NY
Zip: 11787
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
National park land should be used for Recreation only, not industrial projects.

Thank you for your comment, Melinda Dastrup.

The comment tracking number that has been assigned to your comment is SolarD11268.

Comment Date: April 13, 2011 10:39:49AM
Solar Energy Development PEIS
Comment ID: SolarD11268

First Name: Melinda
Middle Initial:
Last Name: Dastrup
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The US government subsidizes the oil industry and corn (for ethanol). They have been in business commercially for years. If they cannot survive without the subsidies, then they should no longer be in business. Isn't that the capital way? Solar and other green energy should be the recipients of subsidies, if any are going to be given out. They are a young industry and need the assistance to increase their infrastructure.

Thank you for your comment, Sharon Parshall.

The comment tracking number that has been assigned to your comment is SolarD11269.

Comment Date: April 13, 2011 10:40:06AM
Solar Energy Development PEIS
Comment ID: SolarD11269

First Name: Sharon
Middle Initial:
Last Name: Parshall
Organization:
Address: 4348 336th Pl SE
Address 2:
Address 3:
City: Fall City
State: WA
Zip: 98024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to get rid of our dependence on oil and gas. Solar power is one way to do this, a way that is not harmful to the environment. Stop pandering to big oil and make a move toward better energy sources.

Thank you for your comment, Dwight Phelps.

The comment tracking number that has been assigned to your comment is SolarD11270.

Comment Date: April 13, 2011 10:40:21AM
Solar Energy Development PEIS
Comment ID: SolarD11270

First Name: Dwight
Middle Initial: A
Last Name: Phelps
Organization:
Address: 7 Middle Dr.
Address 2:
Address 3:
City: Windsor Locks
State: CT
Zip: 06096
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is important to keep our National Parks in a natural state for the future generations. When some public lands are developed for Solar Energy is is important to keep this in mind.

Thank you for your comment, John Brady.

The comment tracking number that has been assigned to your comment is SolarD11271.

Comment Date: April 13, 2011 10:41:03AM
Solar Energy Development PEIS
Comment ID: SolarD11271

First Name: John
Middle Initial: P
Last Name: Brady
Organization:
Address: 3815 N. Central Park Ave.
Address 2:
Address 3:
City: Chicago
State: IL
Zip: 606184102
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please be certain that any and all solar facilities which are installed are done so responsibly without harming our national parks.

Thank you for your comment, Marianne Squyres.

The comment tracking number that has been assigned to your comment is SolarD11272.

Comment Date: April 13, 2011 10:44:18AM
Solar Energy Development PEIS
Comment ID: SolarD11272

First Name: Marianne
Middle Initial: D
Last Name: Squyres
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy is a terrific way to generate necessary energy, and it's great that national parks can aid that cause. However, as the National Parks Conservation Association points out, "there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage." Any solar energy projects in or near national parks must be scrutinized for their impact on the parks and all their resources and programs. If they're found harmful in any way, they must either be scrapped altogether, or relocated to more suitable locations. PLEASE implement solar energy very carefully and in a way that does not harm the parks or their mission. Thank you.

Thank you for your comment, Daniel Cadzow.

The comment tracking number that has been assigned to your comment is SolarD11273.

Comment Date: April 13, 2011 10:46:55AM
Solar Energy Development PEIS
Comment ID: SolarD11273

First Name: Daniel
Middle Initial:
Last Name: Cadzow
Organization:
Address: 82 Humboldt Pkwy
Address 2:
Address 3:
City: Buffalo
State: NY
Zip: 142142605
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

coal and oil are already forms of solar energy, but they are killing us. we need a more direct way of harvesting the sun's energy!

Thank you for your comment, Chezna Warner.

The comment tracking number that has been assigned to your comment is SolarD11274.

Comment Date: April 13, 2011 10:47:07AM
Solar Energy Development PEIS
Comment ID: SolarD11274

First Name: Chezna
Middle Initial:
Last Name: Warner
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Deborah Judd.

The comment tracking number that has been assigned to your comment is SolarD11275.

Comment Date: April 13, 2011 10:47:26AM
Solar Energy Development PEIS
Comment ID: SolarD11275

First Name: Deborah
Middle Initial:
Last Name: Judd
Organization:
Address: 40 Alveston Street
Address 2:
Address 3:
City: Jamaica Plain
State: MA
Zip: 02130
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I applaud the exploration of Solar energy alternative, but it must be done in a way that is in concert with the land and the history of an area.

Thank you for your comment, Deborah Judd.

The comment tracking number that has been assigned to your comment is SolarD11276.

Comment Date: April 13, 2011 10:47:27AM
Solar Energy Development PEIS
Comment ID: SolarD11276

First Name: Deborah
Middle Initial:
Last Name: Judd
Organization:
Address: 40 Alveston Street
Address 2:
Address 3:
City: Jamaica Plain
State: MA
Zip: 02130
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I applaud the exploration of Solar energy alternative, but it must be done in a way that is in concert with the land and the history of an area.

Thank you for your comment, Lillian Arboleda.

The comment tracking number that has been assigned to your comment is SolarD11277.

Comment Date: April 13, 2011 10:48:14AM
Solar Energy Development PEIS
Comment ID: SolarD11277

First Name: Lillian
Middle Initial:
Last Name: Arboleda
Organization:
Address: 11540 Chimney Rock
Address 2:
Address 3:
City: Houston
State: TX
Zip: 77035
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Cecelia Samp.

The comment tracking number that has been assigned to your comment is SolarD11278.

Comment Date: April 13, 2011 10:48:53AM
Solar Energy Development PEIS
Comment ID: SolarD11278

First Name: Cecelia
Middle Initial:
Last Name: Samp
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, Richard Berggren.

The comment tracking number that has been assigned to your comment is SolarD11279.

Comment Date: April 13, 2011 10:50:25AM
Solar Energy Development PEIS
Comment ID: SolarD11279

First Name: Richard
Middle Initial:
Last Name: Berggren
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please keep in mind the beauty of our national parks when citing solar energy projects. Our national parks are sanctuaries for wildlife, trees and plants that are necessary for oxygen replenishment and are havens for families on vacation. They are also sources of revenue for tourism.

Don't damage these things while planning for needed space for energy development.

Thank you for your comment, Vivienne Lenk.

The comment tracking number that has been assigned to your comment is SolarD11280.

Comment Date: April 13, 2011 10:50:35AM
Solar Energy Development PEIS
Comment ID: SolarD11280

First Name: Vivienne
Middle Initial:
Last Name: Lenk
Organization:
Address: 251-31 42nd Avenue
Address 2:
Address 3:
City: Little Neck
State: NY
Zip: 11363
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe the chief goal of our energy program should be to require that all new RESIDENTIAL building in our western states be mandatory. That being said, the government should also be a leader in how to use solar energy in all government run facilities--- but with respect to our National Parks and Monuments, the solar applications should be responsibly and artistically placed so as not to impede the natural beauty of our parks, nor interfere with wildlife and wildlife habitat. I urge the US government to work with environmental architects, engineers and solar experts to develop such artistic and responsible energy applications for our parks. Sincerely, Vivienne Lenk

Thank you for your comment, David Lindsay.

The comment tracking number that has been assigned to your comment is SolarD11281.

Comment Date: April 13, 2011 10:51:05AM
Solar Energy Development PEIS
Comment ID: SolarD11281

First Name: David
Middle Initial:
Last Name: Lindsay
Organization: Society for American Archaeology
Address: 900 Second Street NE
Address 2: Suite 12
Address 3:
City: Washington
State: DC
Zip: 20002
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SAA.COMMENTS.SOLAR.PEIS.pdf

Comment Submitted:

Please see the attached comments of the Society for American Archaeology.



SOCIETY FOR AMERICAN ARCHAEOLOGY

April 13, 2011

Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

VIA online: <http://solareis.anl.gov>

Re: Scoping Comments of the Society for American Archaeology (SAA) on the Draft Solar Energy Programmatic Environmental Impact Statement

To Whom It May Concern:

The SAA endorses the letter sent by the National Trust for Historic Preservation concerning the Programmatic Environmental Impact Statement (PEIS) to evaluate utility-scale solar energy development on Bureau of Land Management (BLM) holdings in six southwestern states. We take this opportunity to provide additional comments about this PEIS.

The SAA is an international organization, founded in 1932, dedicated to research, interpretation, and protection of the archaeological heritage of the Americas. With more than 7,000 members, SAA represents professional archaeologists in colleges, universities, museums, governmental agencies, and the private sector. SAA has members in every state within the United States, as well as in many other countries around the world.

In addition to the issues articulated in the letter sent by the National Trust for Historic Preservation, the SAA has several additional concerns—

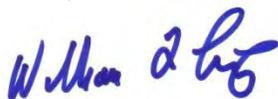
- The existing documentation of historic properties was only minimally used in developing Solar Energy Zones (SEZs). Existing Class I reports were apparently systematically consulted in Utah but not in the other states involved in the project. As a matter of policy, SAA encourages the thoughtful use of existing archaeological data in planning documents. There is no indication, however, that the draft PEIS drew on computerized state archaeological site files in the designation of SEZs and excluded lands, or in the environmental analysis.
- The DPEIS does not adequately recognize that maximal re-use of degraded lands will reduce impacts to historic properties and natural resources. We think the DPEIS should have systematically included information on degraded lands in the process of identifying SEZs, and should use stronger language in requiring developers to consider use of degraded lands as a mitigation measure.
- The purpose and need statement is narrowly drawn and thus precludes the analysis and discussion of real alternatives, such as (1) increased emphasis on the use of privately owned and degraded lands and (2) importance of energy conservation and “distributed

generation” in meeting future energy needs. SAA suggests that BLM, as the premier Federal land-managing agency, should consider all reasonable alternatives, especially when these could result in the preservation of relatively pristine public lands.

- The DPEIS, especially the Executive Summary, should more precisely describe the tiering process and should clearly state that NEPA and Section 106 reviews will be required for all project-specific applications.
- The DPEIS contemplates offering lands in SEZs for development through a competitive process. The SAA recommends that if a competitive process is developed then plans for the identification, evaluation, and treatment of historic properties be required in the bid packages and be part of the selection criteria.
- The SAA strongly recommends that the DPEIS should require, not just recommend, historic property mitigation procedures. As an example, the DPEIS states that Class III surveys “should” be done. To effectively manage historic properties, a mitigation measure must state that it “will” be done.
- The SAA believes that the DPEIS mitigation analysis should recognize the potential that buried archaeological sites will be impacted by solar energy development, and therefore recommends that an adequate geo-archaeological investigation be required for each project as a mitigation measure.
- The SAA is concerned that government-to-government consultation with tribes was not adequate to identify specific information about project impacts on traditional cultural properties. There will be significant auditory and viewshed disruptions near sacred lands and traditional cultural properties, as well as impacts to Native American trails such as the Salt Song Trail in the Riverside East SEZ. How solar energy development will identify and mitigate the cairns, cleared areas, and rock art resources associated with Native American traditional cultural properties is not adequately addressed. Further attention is also needed for the water and plant resources associated with SEZ developments.
- The SAA notes that under both action alternatives SEZ's may be enlarged, reduced, abandoned, or added to, but there is minimal discussion about how alteration to the proposed SEZ's would be handled in the EIS process or once construction of facilities is initiated. This shortcoming needs to be addressed.

In closing, the SAA expresses concern that the analysis of historic properties in the designation of the SEZs does not adequately identify significant cultural resources that may be impacted by the development of solar energy facilities. We therefore recommend that the DPEIS not be used to circumvent existing compliance procedures for considering the impact of solar development projects on historic properties eligible for the National Register of Historic Places.

Sincerely,



William F. Limp, RPA
President, Society for American Archaeology

Thank you for your comment, Piper Karie.

The comment tracking number that has been assigned to your comment is SolarD11282.

Comment Date: April 13, 2011 10:53:41AM
Solar Energy Development PEIS
Comment ID: SolarD11282

First Name: Piper
Middle Initial: L
Last Name: Karie
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar power is non invasive and clean. I, personally, lived off the utility grid using solar and wind power for over 10 years. It works and the only people that will be upset about it will be the POWER COMPANIES.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11283.

Comment Date: April 13, 2011 10:58:10AM
Solar Energy Development PEIS
Comment ID: SolarD11283

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

With so many rooftops in urban and suburban areas available for PV arrays, there is no need to encroach on our National Park lands and sensitive environments. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree. In light of the fact that Twentynine Palms Marine Base is looking to expand as well, Iron Mountain SEZ should be removed from consideration. Amargosa Valley SEZ must be reduced to avoid impacting Death Valley's ecosystem. Red Sands SEZ should also be reduced or removed in consideration of White Sands National Monument. Any proposed solar projects within 20 miles of National Park, National Forest boundaries or BLM land should be subject to stringent review by all agencies concerned.

Thank you for your comment, Joseph Bollin.

The comment tracking number that has been assigned to your comment is SolarD11284.

Comment Date: April 13, 2011 11:09:32AM
Solar Energy Development PEIS
Comment ID: SolarD11284

First Name: Joseph
Middle Initial: M
Last Name: Bollin
Organization:
Address: 2010nw15thave
Address 2:
Address 3:
City: Crystal River
State: FL
Zip: 34428
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please stop the the insanity of continuing to support the use of fossil fuels and atomic energy. These industries are driven and supported by blind greed of those making obscene profits @ the expense of the common and poor masses of this country. These practices are promoted by and allowed to continue by our government and the many corrupt politicians in our congressional arena. It is beyond my comprehension the lack of morale, integrity and ethics of our government officials.

Thank you for your comment, maricela elizondo.

The comment tracking number that has been assigned to your comment is SolarD11285.

Comment Date: April 13, 2011 11:10:31AM
Solar Energy Development PEIS
Comment ID: SolarD11285

First Name: maricela
Middle Initial:
Last Name: elizondo
Organization:
Address: 7373 University Avenue
Address 2: suite 202
Address 3:
City: San Diego
State: CA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We have to invest in earth friendly energy production.

Thank you for your comment, Michael & Kate Bluske-Clokin.

The comment tracking number that has been assigned to your comment is SolarD11286.

Comment Date: April 13, 2011 11:11:04AM
Solar Energy Development PEIS
Comment ID: SolarD11286

First Name: Michael & Kate
Middle Initial:
Last Name: Bluske-Clokin
Organization: NPCA & many other conservation organizations
Address: 5237 Fauntleroy Way SW
Address 2: #103
Address 3:
City: Seattle
State: WA
Zip: 98136
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Matthew Thompson.

The comment tracking number that has been assigned to your comment is SolarD11287.

Comment Date: April 13, 2011 11:11:46AM
Solar Energy Development PEIS
Comment ID: SolarD11287

First Name: Matthew
Middle Initial:
Last Name: Thompson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly urge the responsible agencies to use due diligence and common sense in pursuing the worthy goals of solar energy development in environmentally sensitive areas.

Thank you for your comment, Donald Burg.

The comment tracking number that has been assigned to your comment is SolarD11288.

Comment Date: April 13, 2011 11:12:04AM
Solar Energy Development PEIS
Comment ID: SolarD11288

First Name: Donald
Middle Initial:
Last Name: Burg
Organization:
Address: 17 Old Wood Rd.
Address 2:
Address 3: 17 Old Wood Rd.
City: Pomona
State: CA
Zip: 91766
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

With the development of solar and wind energy care must be taken so as not to have facilities such as windmill farms and solar reflective panel farms being invasive to our National Parks and Monuments. We do not have to ruin the natural beauty of our country be it visual or noise pollution. Lets do it right from the beginning and not have to redo mistakes in the future. Also there must be NO giveaways to corporations that will do everything in their power to make everything they do in their favor regardless of the out come. We know from experience that they will ruin our country for their bottom line.

Thank you for your comment, Linda Brebner.

The comment tracking number that has been assigned to your comment is SolarD11289.

Comment Date: April 13, 2011 11:12:34AM
Solar Energy Development PEIS
Comment ID: SolarD11289

First Name: Linda
Middle Initial: B
Last Name: Brebner
Organization: none
Address: 254 Highland Parkway
Address 2:
Address 3:
City: Rochester
State: NY
Zip: 14620
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very supportive of the development of solar energy, however not at the expense of our national parks. I grew up in Twentynine Palms, CA, and I would hate to see the Joshua Tree National Park impacted in a negative way by ill conceived development of solar energy in that area or any other national park.

Thank you for your comment, Kevin Reynolds.

The comment tracking number that has been assigned to your comment is SolarD11290.

Comment Date: April 13, 2011 11:15:47AM
Solar Energy Development PEIS
Comment ID: SolarD11290

First Name: Kevin
Middle Initial: B
Last Name: Reynolds
Organization:
Address: 1412 Highland Blvd
Address 2: Hayward
Address 3:
City: Hayward
State: CA
Zip: 94542
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Please try to do this responsibly.

Thank you.

Thank you for your comment, Bill Easter.

The comment tracking number that has been assigned to your comment is SolarD11291.

Comment Date: April 13, 2011 11:15:51AM
Solar Energy Development PEIS
Comment ID: SolarD11291

First Name: Bill
Middle Initial: H
Last Name: Easter
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

12 April 2011

To whom it concerns,

My name is Bill Easter from Twentynine Palms, California. I am writing in regards to the proposed Solar Energy Development in the Six Southwestern States (Solar Energy Development PEIS). I currently do not take a position of supporting or opposing the proposed project, however I do have concerns about our desert communities. I do realize that the days of using fossils fuels are numbered and with the current conditions in Japan the future of Nuclear energy is also going to receive more scrutiny. So what is the alternative? Finding a way to work together should be the goal of all involved as the desert is a beautiful and wonderful place to live and play. We as desert citizens need to quit thinking Not In my Back Yard (NIMBY) and work in conjunction with the business community and government in finding a way to harness wind and solar as a source of producing energy for the betterment of our planet.

The government and the business community have a responsible in the development, implementation and operation of these wind and solar projects so there impact on the fragile desert environment is minimized. With the possibility of using up to 80% of public lands for this project varies government agencies must keep in mind all of the possible negative draw backs to such a huge project. Some of my concerns are the use of water, land and the destruction of desert plants and animals. At all cost these and others like; cultural issues, Native American and health and safety issues must be taken into consideration.

In conclusion, I believe that we can have wind and solar energy within our desert community but the onus for providing a safe, environmentally friendly and a culturally sensitive project is the responsibility of local, state and government officials at all levels. Thank you for allowing the public the opportunity to make comments.

Respectfully submitted,

Bill Easter

Thank you for your comment, Judith Parker.

The comment tracking number that has been assigned to your comment is SolarD11292.

Comment Date: April 13, 2011 11:18:22AM
Solar Energy Development PEIS
Comment ID: SolarD11292

First Name: Judith
Middle Initial: A
Last Name: Parker
Organization:
Address: 2317 Naudain Street
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 191461119
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please support development of solar energy ONLY on public lands where national park wildlife, water resources, scenery, night sky viewing, and archaeological sites will not be compromised. Solar energy is wonderful, but future generations should be able to enjoy America's natural heritage.

Thank you for your comment, Paulette Zimmerman.

The comment tracking number that has been assigned to your comment is SolarD11293.

Comment Date: April 13, 2011 11:18:51AM
Solar Energy Development PEIS
Comment ID: SolarD11293

First Name: Paulette
Middle Initial:
Last Name: Zimmerman
Organization:
Address:
Address 2:
Address 3:
City:
State: MO
Zip: 63139
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

After it is amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Solar is wonderful, but we need to do it right from the very beginning

Thank you for your comment, Carole Elliott.

The comment tracking number that has been assigned to your comment is SolarD11294.

Comment Date: April 13, 2011 11:20:02AM
Solar Energy Development PEIS
Comment ID: SolarD11294

First Name: Carole
Middle Initial:
Last Name: Elliott
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Our forest is our heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11295.

Comment Date: April 13, 2011 11:20:06AM

Solar Energy Development PEIS

Comment ID: SolarD11295

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization: morris county animal and nature council

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

This is extremely important. Please?

Thank you for your comment, troy grant.

The comment tracking number that has been assigned to your comment is SolarD11296.

Comment Date: April 13, 2011 11:20:26AM
Solar Energy Development PEIS
Comment ID: SolarD11296

First Name: troy
Middle Initial: e
Last Name: grant
Organization:
Address: east atlantic blvd
Address 2:
Address 3:
City: pompano beach
State: FL
Zip: 330606628
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I will vote for any politician that promotes solar energy and opposes nuclear, oil and coal.

Thank you for your comment, Frances Kelly.

The comment tracking number that has been assigned to your comment is SolarD11297.

Comment Date: April 13, 2011 11:22:03AM
Solar Energy Development PEIS
Comment ID: SolarD11297

First Name: Frances
Middle Initial:
Last Name: Kelly
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Instead of compromising wilderness areas, why not use industrial park rooftops or office building rooftops? If solar panels are safe enough for residential use, why not business centers?

Thank you for your comment, Ruth Anne Dayton.

The comment tracking number that has been assigned to your comment is SolarD11298.

Comment Date: April 13, 2011 11:26:28AM
Solar Energy Development PEIS
Comment ID: SolarD11298

First Name: Ruth Anne
Middle Initial:
Last Name: Dayton
Organization: Ntl. Parks Conservation Assn.
Address: 3836 Sunview Dr.
Address 2:
Address 3:
City: Pgh.
State: PA
Zip: 152272635
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Donna Costa.

The comment tracking number that has been assigned to your comment is SolarD11299.

Comment Date: April 13, 2011 11:28:11AM
Solar Energy Development PEIS
Comment ID: SolarD11299

First Name: Donna
Middle Initial:
Last Name: Costa
Organization:
Address: 58 Wickes Ave
Address 2: Yonkers
Address 3:
City: Yonkers
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Lisanne Freese.

The comment tracking number that has been assigned to your comment is SolarD11300.

Comment Date: April 13, 2011 11:32:29AM
Solar Energy Development PEIS
Comment ID: SolarD11300

First Name: Lisanne
Middle Initial:
Last Name: Freese
Organization: NRDC, Nature Conservancy, Sierra Club, BCI member
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Our family cherishes open wild space. We visit National Parks, State Parks, Nat'l Monuments and BLM land regularly on vacation.

Power lines ruin views. Therefore, to keep the spectacular views we love, please use extreme sensitivity when placing solar energy components on natural resources.

Thank you.

Thank you for your comment, Margaret Brewinski.

The comment tracking number that has been assigned to your comment is SolarD11301.

Comment Date: April 13, 2011 11:36:44AM
Solar Energy Development PEIS
Comment ID: SolarD11301

First Name: Margaret
Middle Initial:
Last Name: Brewinski
Organization:
Address: 1001 N Randolph St Apt 222
Address 2:
Address 3:
City: Arlington
State: VA
Zip: 22201
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Thank you for your comment, Rose Strickland.

The comment tracking number that has been assigned to your comment is SolarD11302.

Comment Date: April 13, 2011 11:41:16AM
Solar Energy Development PEIS
Comment ID: SolarD11302

First Name: Rose
Middle Initial:
Last Name: Strickland
Organization:
Address: PO Box 8409
Address 2:
Address 3:
City: Reno
State: NV
Zip: 89507
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear BLM,

I am very disappointed with the programmatic EIS on solar projects on public lands.

The proposed alternative does not provide for "environmentally responsible" alternative energy development, but instead will sacrifice healthy desert ecosystems to a for-profit and highly subsidized industrial use on up to 22 million acres of public lands.

The proposed alternative fails to narrow public lands acreage for potential solar sites or provide reasonable restrictions to avoid environmental damage, including prohibiting siting in areas of limited and/or overappropriated water resources or giving priority to projects proposed on already disturbed public and private lands.

The PEIS fails to consider viable, more cost-effective and less environmentally damaging alternatives, including distributed PV, increasing energy efficiency, and siting projects which do not require additional massive transmission facilities.

It fails to quantify or analyze impacts of the loss of carbon sequestration by existing ecosystems in the Mojave, Great Basin and Sonoran Deserts nor does it analyze increased carbon emissions from disturbance of desert lands.

It fails to require adequate mitigation or compensation for the loss of public lands and resources.

I strongly urge the BLM to start over and comply with NEPA requirements.

Rose Strickland

Thank you for your comment, Bethanie Petitpas.

The comment tracking number that has been assigned to your comment is SolarD11303.

Comment Date: April 13, 2011 11:45:54AM
Solar Energy Development PEIS
Comment ID: SolarD11303

First Name: Bethanie
Middle Initial:
Last Name: Petitpas
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Eric Burr.

The comment tracking number that has been assigned to your comment is SolarD11304.

Comment Date: April 13, 2011 11:47:48AM
Solar Energy Development PEIS
Comment ID: SolarD11304

First Name: Eric
Middle Initial: L
Last Name: Burr
Organization: Coalition of National Park Retirees
Address: 585 Lost River Road
Address 2:
Address 3:
City: Mazama
State: WA
Zip: 98833
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a retired national park ranger I'm only too well aware of the potential for compromising wildlife habitat surrounding parks and wilderness.

Thank you for your comment, Holly Kukkonen.

The comment tracking number that has been assigned to your comment is SolarD11305.

Comment Date: April 13, 2011 11:50:12AM
Solar Energy Development PEIS
Comment ID: SolarD11305

First Name: Holly
Middle Initial: A
Last Name: Kukkonen
Organization:
Address: 1607 Burns Ave.
Address 2:
Address 3:
City: Iowa City
State: IA
Zip: 52240
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of developing solar energy. Our nation and the whole world needs to get away from the use of oil for energy.
--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Scott Herman.

The comment tracking number that has been assigned to your comment is SolarD11306.

Comment Date: April 13, 2011 11:50:47AM
Solar Energy Development PEIS
Comment ID: SolarD11306

First Name: Scott
Middle Initial:
Last Name: Herman
Organization:
Address: 89 Moss Glen Circle
Address 2:
Address 3:
City: Sacramento
State: CA
Zip: 95826
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Karla Hader.

The comment tracking number that has been assigned to your comment is SolarD11307.

Comment Date: April 13, 2011 11:54:14AM
Solar Energy Development PEIS
Comment ID: SolarD11307

First Name: Karla
Middle Initial: S
Last Name: Hader
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I believe solar and wind are important to relieve our dependency on oil, gas and coal.

Thank you for your comment, Gretta Zorn.

The comment tracking number that has been assigned to your comment is SolarD11308.

Comment Date: April 13, 2011 12:03:28PM
Solar Energy Development PEIS
Comment ID: SolarD11308

First Name: Gretta
Middle Initial:
Last Name: Zorn
Organization:
Address: 407 Rittenhouse Court
Address 2:
Address 3: 407 Rittenhouse Court
City: North Brunswick
State: NJ
Zip: 08902
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development sites should not adversely affect national parks environments.

Thank you for your comment, David Romain.

The comment tracking number that has been assigned to your comment is SolarD11309.

Comment Date: April 13, 2011 12:03:55PM
Solar Energy Development PEIS
Comment ID: SolarD11309

First Name: David
Middle Initial: L
Last Name: Romain
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am very much opposed to the use of parkland for the installation of solar farms, with large expanses of solar panels for large-scale production of electricity. I think the use of public land to produce energy should make that energy free for use in public facilities, such as the park facilities attached to the respective sites. Large-scale use of solar energy is quite inefficient. Furthermore, such large scale application would encroach on the use of such parkland for recreation and, in some cases dangerous or unsafe for public patrons of those parks.

Thank you for your comment, Barbara Carey.

The comment tracking number that has been assigned to your comment is SolarD11310.

Comment Date: April 13, 2011 12:07:02PM
Solar Energy Development PEIS
Comment ID: SolarD11310

First Name: Barbara
Middle Initial: L
Last Name: Carey
Organization:
Address: 9100 Chanute Dr.
Address 2:
Address 3:
City: Bethesda
State: MD
Zip: 20814
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The sun's energy is offered to us free. We must use it to the full.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11311.

Comment Date: April 13, 2011 12:09:57PM
Solar Energy Development PEIS
Comment ID: SolarD11311

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment.

Thank you for your comment, Dolores Pieper.

The comment tracking number that has been assigned to your comment is SolarD11312.

Comment Date: April 13, 2011 12:10:10PM
Solar Energy Development PEIS
Comment ID: SolarD11312

First Name: Dolores
Middle Initial: A
Last Name: Pieper
Organization: Nat'l Parks
Address: 486 Galahad Dr.
Address 2:
Address 3:
City: Franklin
State: IN
Zip: 461318997
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Edith Ogella.

The comment tracking number that has been assigned to your comment is SolarD11313.

Comment Date: April 13, 2011 12:11:03PM
Solar Energy Development PEIS
Comment ID: SolarD11313

First Name: Edith
Middle Initial:
Last Name: Ogella
Organization: retired
Address: 4868 Rhoads Avenue
Address 2:
Address 3:
City: Santa Barbara
State: CA
Zip: 93111
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We do not need to enter public lands for solar farms. We installed a solar unit on our home six years ago. The energy it generates meets the needs of five other homes. Why not equip every home in the sunny states with roof-top units? That would, I surmise, meet the needs of our country while the sun is shining. Wave generators would work for 24 hours, and wind power could compliment the both.

Thank you for your comment, Anthony Parisi.

The comment tracking number that has been assigned to your comment is SolarD11314.

Comment Date: April 13, 2011 12:11:56PM
Solar Energy Development PEIS
Comment ID: SolarD11314

First Name: Anthony
Middle Initial:
Last Name: Parisi
Organization:
Address: 8 Pschorn Lane
Address 2:
Address 3:
City: Hillsborough
State: NJ
Zip: 08844
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our national parks need to have the most protection possible. In order to do this, we must use the best methods available so that the least amount of impact is felt. I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering these proposals and allowing me to express my opinion.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11315.

Comment Date: April 13, 2011 12:13:44PM
Solar Energy Development PEIS
Comment ID: SolarD11315

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

As I see it, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Also, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you!

Thank you for your comment, Ran Zirasri.

The comment tracking number that has been assigned to your comment is SolarD11316.

Comment Date: April 13, 2011 12:16:31PM
Solar Energy Development PEIS
Comment ID: SolarD11316

First Name: Ran
Middle Initial:
Last Name: Zirasri
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, DeDe O'Donnell.

The comment tracking number that has been assigned to your comment is SolarD11317.

Comment Date: April 13, 2011 12:18:45PM
Solar Energy Development PEIS
Comment ID: SolarD11317

First Name: DeDe
Middle Initial:
Last Name: O'Donnell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, linda schmidt.

The comment tracking number that has been assigned to your comment is SolarD11318.

Comment Date: April 13, 2011 12:23:35PM
Solar Energy Development PEIS
Comment ID: SolarD11318

First Name: linda
Middle Initial:
Last Name: schmidt
Organization:
Address: po box 237
Address 2:
Address 3:
City: blue diamond
State: NV
Zip: 89004
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy, but why would we cut into parks or other national valued public lands? There is plenty of other property available

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11319.

Comment Date: April 13, 2011 12:24:21PM

Solar Energy Development PEIS

Comment ID: SolarD11319

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

There is no place for commercial solar energy (or any energy, for that matter) in the National Parks. Plenty of other areas are available for this purpose.

Thank you for your comment, JOSEPH McClain.

The comment tracking number that has been assigned to your comment is SolarD11320.

Comment Date: April 13, 2011 12:26:00PM
Solar Energy Development PEIS
Comment ID: SolarD11320

First Name: JOSEPH
Middle Initial: E
Last Name: McClain
Organization: retired
Address: 1210 32nd street
Address 2:
Address 3:
City: bellingham
State: WA
Zip: 98225
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As in all environmental issues, science should be the basis of decisions, not politics or deep pockets of corporations or Wall Street.

Thank you for your comment, State of Utah Utah.

The comment tracking number that has been assigned to your comment is SolarD11321.

Comment Date: April 13, 2011 12:26:37PM
Solar Energy Development PEIS
Comment ID: SolarD11321

First Name: State of Utah

Middle Initial:

Last Name: Utah

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: State of Utah Comment Letter on Solar.pdf

Comment Submitted:



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Office of the Governor
PUBLIC LANDS POLICY COORDINATION

JOHN HARJA
Director

April 16, 2011

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 S Cass Avenue-EVS/240
Argonne, IL 60439

Subject: Solar Energy Draft Programmatic EIS
RDCC Project No. 24480

To Whom It May Concern:

The State of Utah welcomes the opportunity to comment as a cooperating agency on the Bureau of Land Management (BLM)/ Department of Energy (DOE) Draft Programmatic Environmental Impact Statement (DPEIS) for Solar Energy Development in Six Southwestern States. While the state is supportive of the goals of renewable energy development in Utah, and generally supports the Preferred Solar Energy Development Program Alternative in the PEIS, there are some facets of the proposal that Utah does not support. (*See generally* "Energy Initiatives and Imperatives – Utah's 10-Year Strategic Energy Plan, found at <http://www.energy.utah.gov/governorsenergyplan/index.htm>)

The State of Utah objects to the provisions on Page A-29 of Appendix A involving a further review of lands with wilderness characteristics. Management of lands in Utah for wilderness characteristics is contrary to state law, and, as such, must be considered as part of any consistency review for BLM plan amendments (*See* SB221 2nd Sub, 2011 General Session of the Utah Legislature). In addition, Resource Management Plans have recently been finalized in Eastern and Southern Utah (Vernal, Price, Moab Monticello, Richfield and Kanab field offices), and management conditions for BLM field offices in Utah were thereby established. The PEIS must recognize this fact, and exempt these areas. Finally, the state objects to Secretarial Order 3310, and recommends the PEIS not refer to it in the final document.

The DPEIS proposes an exclusion for solar energy development for lands in Utah classified as Visual Resource Management Class III. VRM Class III provisions allow for some alteration to the visual landscape, so the State of Utah requests a detailed justification for this proposed provision. The DPEIS states that these lands "have been removed due to the high sensitivity and location proximity to Zion, Bryce, Capital Reef, Arches, and Canyonlands

National Parks.” Much in Southern Utah is in proximity to these parks, so a careful and detailed proximity analysis and visual effects examination is required, not a blanket allegation. Please provide this detailed examination of proximity, visual effects of solar energy development, and economic analysis for this proposed blanket exclusion in the Final PEIS. The state would also appreciate consultation on this issue in the interim.

The DPEIS proposes an exclusion specifically for lands in southeastern Utah for cultural resource issues. The state is fully cognizant of cultural resource management issues, and has a great track record in promoting responsible development of energy resources, while protecting cultural resources. (*See generally* <http://www.achp.gov/docs/NineMileCanyonAgreement.pdf>) This type of agreement is the very tool provided for by the National Historic Preservation Act in order to protect cultural resources in the event of a project such as solar energy projects. The state objects to this blanket exclusionary proposal, and requests the FEIS follow the intent of the NHPA, and provide for a consultation process to determine programmatic agreements for individual projects.

In addition, the State of Utah requests that the PEIS consider the recommendations found in the "Utah Renewable Energy Zone (UREZ) Phase I and II" reports. These reports identify solar energy development zones, specifically the Wayne, Grand, and Red Rock solar zones, which must be left available for potential solar development. (*See generally* www.energy.utah.gov)

The State of Utah also objects to the proposals in Appendix C to amend certain planning documents in Utah to totally exclude solar development without resolution of the issues raised by the state.

The State of Utah looks forward to working with you on the finalization of this PEIS. Please direct any other written questions regarding this correspondence to the Public Lands Policy Coordination Office at the address below, or call Judy Edwards at (801) 537-9023.

Sincerely,



John Harja
Director

Thank you for your comment, Ann Ewing.

The comment tracking number that has been assigned to your comment is SolarD11322.

Comment Date: April 13, 2011 12:27:43PM
Solar Energy Development PEIS
Comment ID: SolarD11322

First Name: Ann
Middle Initial:
Last Name: Ewing
Organization:
Address: 1221 Olivia Street
Address 2:
Address 3:
City: Key West
State: FL
Zip: 33040
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for the opportunity to comment on the US solar energy development proposals.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

If the National Park Service deems a proposed project as unacceptable for any reason, then another location must be found. We have an obligation to preserve the best of our country's natural resources for future generations to enjoy!

Thank you for your comment, Al Burt.

The comment tracking number that has been assigned to your comment is SolarD11323.

Comment Date: April 13, 2011 12:28:44PM
Solar Energy Development PEIS
Comment ID: SolarD11323

First Name: Al
Middle Initial:
Last Name: Burt
Organization: NPCA
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Keep solar fields and windmill farms OUT of our beautiful SW desert.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11324.

Comment Date: April 13, 2011 12:35:12PM
Solar Energy Development PEIS
Comment ID: SolarD11324

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am writing to express great support for the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. However, I am extremely concerned that, according to the National Parks Conservation Association (NPCA), there are four proposed Solar Energy Zones (SEZ) that present a clear threat to certain national parks. It is NPCA's belief that

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

As a conservationist, I am encouraged by this type of clean energy development. As an NPCA supporter, I absolutely agree that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, I agree with NPCA that it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Thank you for your comment, Ronald Herrmann.

The comment tracking number that has been assigned to your comment is SolarD11325.

Comment Date: April 13, 2011 12:36:14PM
Solar Energy Development PEIS
Comment ID: SolarD11325

First Name: Ronald
Middle Initial: L
Last Name: Herrmann
Organization:
Address: 605 Concord Ave.
Address 2:
Address 3:
City: South Elgin
State: IL
Zip: 601772311
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please support solar power development responsibly; seek out the less obvious, less publicly accessible, less visible or prominent areas of public lands for solar use, and keep America the Beautiful (and it's public lands) - beautiful... just as the song title reminds us.

Thank you for your comment, County of San Bernardino County of San Bernardino.

The comment tracking number that has been assigned to your comment is SolarD11326.

Comment Date: April 13, 2011 12:38:27PM

Solar Energy Development PEIS

Comment ID: SolarD11326

First Name: County of San Bernardino

Middle Initial:

Last Name: County of San Bernardino

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: Solar Energy PEIS 04-11-11.pdf

Comment Submitted:

LAND USE SERVICES DEPARTMENT



COUNTY OF SAN BERNARDINO

PLANNING DIVISION

385 North Arrowhead Avenue • San Bernardino, CA 92415-0182
(909) 387-4237 Fax (909) 387-3223
<http://www.sbcounty.gov/landuseservices>

Christine Kelly
Director

April 11, 2011

Argonne National Laboratory
Linda Resseguie, BLM Document Manager
Jane Summerson, DOE Document Manager
Solar Energy Draft PEIS
9700 S. Cass Avenue
EVS/240, Argonne, Illinois 60439

RE: San Bernardino County Review and Comment on the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States (December, 2010)

Dear Ms. Resseguie and Ms. Summerson:

Thank you for providing us a copy of the above-referenced document. During the Administrative Draft stage, the County of San Bernardino (County) staff provided comments (September, 2010) outlining concerns that we have regarding the Solar Energy Development Program Environmental Impact Statement (PEIS). Unfortunately, the comments from the County that were originally provided in our September, 2010 correspondence have not been adequately addressed. Thus, the County has reviewed the Draft PEIS and is providing the following comments:

1. Mitigation Lands

In other forums, the County has expressed its concerns about the mitigation for biological impacts that is consistently being required for renewable energy projects within the County. These concerns bear repetition here due to the significant amount of County land within the area considered in the PEIS.

First, the PEIS states on page 1-4, lines 20-24 that, "The BLM analysis in the PEIS is limited to utility scale solar development on lands administered by the BLM within the six-state study area. DOE's analysis considers all lands within the six-state study area because its support is not restricted to projects conducted on BLM administered lands." It further states on page 1-18, lines 21-23 that, "DOE will consider, as appropriate, the relevance of the analytical results for all lands in the six-state area, not just BLM-administered lands," and on page 1-19, lines 25-26 it states, "DOE may support solar projects within [Solar Energy Zones] identified by the BLM; on other BLM-administered lands; or on the other federal, state, Tribal, or private lands." Thus, although the PEIS will apply to projects that will have direct and indirect impacts upon "private lands," the PEIS does not appear to have adequately addressed and analyzed the direct and indirect impacts upon "private lands." The discussion of DOE's Alternatives contained in Chapter 7 fails to address this with any degree of specificity.

Second, the "Solar Energy Development Program Alternative" is the BLMs/DOEs stated preferred alternative. This alternative includes 21.5 million acres of BLM administered lands; with 1.76 million

acres of these lands within California (as shown in Table ES 2-1). Under this alternative, it is highly likely there would not be enough private land in the affected California-counties to be able to mitigate this amount of renewable energy project development. For this reason alone, the statement made on page ES-29, lines 21-23, regarding the "Solar Energy Development Program Alternative" (i.e. "BLM's Preferred Alternative"), that, "Simultaneously, it (i.e. this alternative) would provide a comprehensive approach for ensuring that potential adverse impacts would be minimized to the greatest extent possible," is unfounded.

This point is extremely important, and in fact critical to the County. The fundamental issue is that the wildlife agencies, specifically the U.S. Fish and Wildlife Service (FWS) and the California Department of Fish and Game (CDFG), have been requiring mitigation for desert tortoise to include the acquisition of private land and subsequent donation ("compensation") of the land to either BLM or CDFG. The mitigation ratio is generally three (3) acres of private land per acre (1) of development, but in projects involving critical habitat, has gone as high as a 5 to 1 ratio. While the two Solar Energy Zones (SEZs) within the County lie outside of critical habitat for desert tortoise, they do lie within identified habitat and are likely occupied. This has the effect of increasing the federal estate in the County, and taking private land off the tax rolls. The federal Payment in Lieu of Taxes (PILT) program does not provide funding to offset this loss of revenue. Most critically, and germane to the mitigation issue, is that a) private lands are diminishing in the County and will likely not exist in sufficient quantity to meet mitigation requirements, b) as private land is taken off the tax rolls, the ability of the County to maintain its infrastructure and supply services diminishes at the very time the solar developments will increase use of those very services, and c) the County, like all counties in California, is unable under state law to collect property tax (which might offset at least part of the loss and cost) on the capital investments made for solar developments as a result of State law exempting such development. The County has advocated that mitigation be changed to a development/mitigation fee in which the funds can be utilized to foster appropriate land management, improvement and research, and such has been authorized under SB-34, a recent state law. However, to date, the wildlife agencies have been unwilling to accept such mitigation except in addition to land compensation. We believe that the Solar PEIS could and should become a further advocate for bringing the mitigation issue to the fore, and proposing that mitigation be in the form of investments for improvement, recovery actions and research on listed and candidate species, and that land acquisition and increasing the federal estate be removed as a mitigation measure.

Third, the "Solar Energy Zone (SEZ) Program Alternative" would authorize solar energy development only in the identified SEZs (listed in Table ES 2-3). In addition to those listed, the BLM could decide later to increase or decrease the total SEZ area. The amount of BLM administered lands constituting the SEZ Program Alternative in California (as shown in Table ES 2-1) is 339,090 acres. This amount of acreage is more than twice the amount estimated by the "reasonably foreseeable (future) development." Mitigation requirements in California, in this case, could possibly exceed two or three million acres. Under this alternative, it is also highly likely there would not be enough private land in the affected California-counties to be able to mitigate this amount of renewable energy project development, unless our suggestions, above, were adopted.

Fourth, the "reasonably foreseeable development" scenario indicates that for California about 139,000 acres of BLM-lands and 46,000 acres of non BLM-lands could be developed. Mitigation requirements could be in-excess of .5 million acres (possibly up to one million acres or more). Under the "reasonably foreseeable development" scenario, it is therefore unclear as to the extent of mitigation lands required.

Fifth, if such mitigation lands, in their entirety, were to be private lands, then (for either of the two alternatives) there will not be enough mitigation lands; and for the reasonably foreseeable development scenario, it is highly probable that mitigation lands may be used up and not available for future

development projects. The scale would render vast portions of private land unavailable for future use and would severely limit the ability of future development to adequately mitigate its impacts. *[NOTE: An example of such potential cumulative impact is the Ivanpah SEGS Project.¹ The mitigation set aside for this 4,073 acre project is 8000 acres (at a 3:1 ratio). In the County, 8,000 acres represents five percent of the 140,000 acres of potential desert tortoise habitat held in private lands within the County. As stated above, the 'reasonably foreseeable development scenario alone could result in a need for more than 1.0 million acres of mitigation land, exceeding the available supply of private lands. Also, the SEZ Program Alternative as defined, could amount to three million acres of mitigation land. As a result, there are only three million acres of County private land in the West Mojave Plan Area (alone)].* This concern is validated, as the BLM has previously stated during the September 1, 2010 conference call that, "the PEIS is not identifying 'public lands' as mitigation lands. Nothing in the document specifies which type of lands (public vs. private) will be mitigation lands."

Given that the PEIS will apply to projects that will have direct and indirect impacts upon private lands, and given that nothing in the PEIS document specifies which type of lands (public or private) will be mitigation lands; therefore, the County recommends the following kinds of mitigation be included for consideration on any specific project:

- The land and wildlife management agencies determine an appropriate mitigation fee based on criteria associated with habitat replacement or other quantitative criteria. Such funds paid by the developer to a trust (such as currently exists under the auspices of the Desert Managers Group (DMG) and its MOU with the National Fish and Wildlife Foundation (NFWF), who would dispense the funds to appropriate mitigation projects and measures. Issuance of the Revised Recovery Plan for desert tortoise is imminent (expected by May 1, 2011), and Recovery Action Plans (RAPs) will be developed for each recovery unit. Implementation will require funding, and such funding will be limited from appropriations, thus mitigation funds will be an appropriate and welcome source with which to proceed with carrying out the RAPs. We envision such funding would be used for projects such as fencing, habitat restoration, invasive weed control, hazard reduction where hazards contribute to tortoise death, research, monitoring, increased enforcement, and population augmentation with programs such as head starting.

The developer could acquire private rights that exist on public land. Since many BLM-administered lands have use entitlements associated with them (particularly through right-of-way authorizations, etc.), then in terms of fairness to land owners (private property owners) and renters, lessees, permittees, or holders of valid existing rights (public property) alike, both public and private lands should be analyzed, evaluated, and considered for identification as potential mitigation lands. This strategy would result in greater equity among all parties in that mitigation responsibility would be shared among public and private landowners, renters, permittees, or lessees.

It is recognized, as stated on page 2-26, lines 15-16, of the PEIS that comments previously provided suggest, ". . . that the scope of the PEIS include evaluation of development on other federal lands . . . state lands, and private lands." The comment above is not repeating this suggestion. Rather, the comment above is stating that federal lands (with use entitlements) need to be considered or utilized as mitigation lands in a similar manner as private lands. BLM, through the process of revising the Land Use Plans (Resource Management Plans) should identify those public lands that could be identified or offered as mitigation lands (separate, and aside from, 'exclusion areas'). Further, follow-on site-specific environmental analysis of solar energy projects needs to include, consider and utilize federal land as mitigation in a similar manner as private lands.

¹ <http://www.energy.ca.gov/sitingcases/ivanpah/index.html>

Sixth, the County supports mitigation requirements that address the loss of historic and recognized land uses including dispersed recreation (OHV use or hunting), livestock grazing, and general public access to public lands. The County recommends that projects that remove areas of relatively flat, accessible land historically providing for grazing allotments, access routes to back country, and open OHV play should be mitigated by the dedication of other areas of public land to such activities or possibly the acquisition of lands that can be so dedicated.

In summary, the County recommends that the BLM/DOE identify and evaluate an additional alternative in the PEIS if the Final PEIS continues to endorse the use of private land acquisition and donation to the public estate. The additional alternative would be a "Solar Energy Zone (SEZ) Program at a scale commensurate with the Reasonable Foreseeable Development." This would provide an evaluation at a scale that balances the need to provide for renewable energy projects and at the same time could define a "realistic" extent of mitigation lands. Further, such an alternative could factor in both public and private lands as potential mitigation lands. This would also need to provide for replacement of grazing allotments, access routes, open OHV play areas, etc. by dedication of other areas of "public land" to such activities. This type of alternative could ensure that mitigation lands are available in the future, for other development proposals (i.e., projects other than renewable energy projects). The County's preferred alternative would be to shift mitigation to the charging of a development/mitigation fee which would provide for a suite of mitigation measures and could assure that such funding be spent on the highest priority projects with the highest expected benefit to the species for which mitigation is being sought.

A further alternative could also include identifying and evaluating additional Alternative SEZs in lieu of the Pisgah Peak and/or Iron Mountain SEZs.

2. Water

The Solar PEIS states (page 5-37, lines 22-24), "The six-state study area is largely composed of arid landscapes; thus water use by solar energy technologies is a significant consideration for water resources impacts and also requires the analysis of water and land management practices." Although identified as significant, the "water analysis" is lacking in the PEIS.

The PEIS states on page 5-39, lines 12-13, "In most areas, groundwater would likely be withdrawn from local aquifers to meet the project's water needs," and on page 5-37, lines 24-27, "acquiring reliable, long-term water supplies to support utility-scale solar facilities would entail either the acquisition of unallocated water supplies (depending on availability) or the conversion of existing water rights from current uses." Although it is presumed most water will come from groundwater basins, no evaluation of impacts to groundwater basins is included in the PEIS. Without clarity of impacts upon water resources, how can appropriate, applicable, realistic, meaningful mitigation measures be identified?

Unfortunately, the PEIS only provides "General Estimates of Water Requirements for Various Solar Power Plant Configurations" (page 5-45, Table 5.9-1). There is no link of these stated water estimates to actual water demand or to actual water availability (supply).

Also, the PEIS (page 5-46, lines 24-34) gives a series of "Potentially Applicable Mitigation Measures." These "measures" (which are basically "hopes" and "desires") are stated on pages 5-47 through 5-55. All of these "measures" describe what "should" occur or what is "hoped or desired" to occur, but have no substance as to what "can" or "will" occur regarding mitigation of significant impacts to water. "Measures" such as

- “Project developers should quantify water use requirements for project construction, operation, and decommissioning” (page 5-50, lines 7-8), and
- “The use of water should not contribute to the significant long-term decline of groundwater levels or surface water flows and volumes. Any project-related water use should not contribute to withdrawals that exceed the sustainable yield of the surface water or groundwater source.” (page 5-54, lines 39-42)

are stated as wishes, hopes, and desires; not compulsory requirements. Per the PEIS, these “measures” are identified as only “potentially applicable.” This means that significant impacts to water resources might not be mitigated.

Further, under County Ordinance 3872 (County Code § 33.06551 et seq.)², adopted in October 2002, groundwater withdrawals in unadjudicated basins that will harm the Groundwater Safe Yield are not permitted. Groundwater Safe Yield is defined in Section 33.06553 (i) as: “The maximum quantity of water that can be annually withdrawn from a groundwater aquifer (i) without resulting in overdraft (ii) without adversely affecting aquifer health and (iii) without adversely affecting the health of associated lakes, streams, springs and seeps or their biological resources.” The County and the BLM entered a Memorandum of Understanding in 2003 for implementation of Ordinance 3872 on public lands in the Mojave Desert.

In summary, as the entire Southwest has been in a severe drought this past decade and deliveries of imported water become increasingly unreliable, the PEIS must examine in detail the impact of solar energy development on water, including groundwater aquifers. The impacts upon water resources from solar energy projects will be significant, individually, and cumulatively. The PEIS must consider and evaluate the cumulative impacts on water supply throughout the desert in light on ongoing urban growth, reduced supplies, and the need to maintain the health of desert ecosystems. The water issue must be examined in total, and evaluation of all supplies and demands of water projected for the study areas must be evaluated. Only upon completion of such evaluation can appropriate, applicable, realistic, and meaningful mitigation measures be identified. “Mitigation” must be compulsory, rather than a “wish list” of actions.

Given the scarcity of water, and existing appropriations, the County recommends that the Final Solar PEIS must include an alternative or advocacy for the use of “dry” technology for development; and for the Pisgah SEZ specifically, we recommend that be the recommended form of development.

3. Endangered Species (and Special Status Species)

According to National Environmental Policy Act (42 U.S.C § 4321 et seq.), the federal agencies are not required to implement mitigation measures. As a result, the PEIS (Chapter 5) only includes “Potential Mitigation Measures.” Thus this Chapter identifies “Potential Mitigation Measures” that “should be” implemented, but also may not be implemented. Further, pages 5-62 (Table 5.10-1), 5-96 (Table 5.10-2), 5-110 (Table 5.10-3), and 5-123 (Table 5.10-4) state that for the overall project evaluated in this PEIS, the ability to mitigate impacts to habitat, plants and wildlife, aquatic resources, and special status species (including threatened, endangered, sensitive, and rare species) is “relatively difficult,” and, “depends on the size of area development,” and “depends on site-specific conditions.” Thus, the PEIS is

²

inconclusive as to the ultimate impact upon endangered (and special status) habitat, plant, and wildlife species. The ultimate impact upon endangered (and special status) habitat, plants, and wildlife species can only be determined at the project-specific evaluation level. Since the ability to mitigate impacts can only be determined upon identifying the size of area to be developed, and at the project-specific evaluation level, then the PEIS cannot conclude impacts to endangered (and special status) habitat, plants, and wildlife will be “mitigated,” nor make any conclusions about “impacts” to endangered (and special status) habitat, plants and wildlife.

The mitigation measure on page 5-131, lines 39-42, states, “If any federally listed threatened and endangered species are found during any phase of the project, the USFWS should be consulted as required by Section 7 of the [Endangered Species Act], and an appropriate course of action should be determined to avoid or mitigate impacts,” and the measure on page 5-134, lines 3-4 and 36-38, states, “The plan should include but not necessarily be limited to the following element, where applicable: . . . Measures to mitigate and monitor impacts on special status species developed in coordination with the appropriate federal and state agencies (e.g., BLM, USFWS, and state resource management agencies).” Relative to these particular mitigation measures, the County opposes the acquisition of habitat at a multiplied (e.g., 3:1) mitigation ratio for desert renewable energy projects because the scale of the proposed projects (as defined by the PEIS) would render vast portions of private land unavailable for future use and could severely limit the ability of future development to adequately mitigate its impacts. Instead, the County supports the implementation of an “in-lieu” fee program that will provide much needed funding for conservation, habitat restoration, implementing species recovery strategies, and predation control, but not be used to purchase vast tracts of mitigation lands or impose additional restrictions on public or private land.

4. Endangered Species (and Special Status Species)- Iron Mountain SEZ

The mitigation in Chapter 9 on page 9.2-14 states, “Consultations with the USFWS and CDFG should be conducted to address the potential for impacts on desert tortoise, a species listed as threatened under the [Endangered Species Act] and [California Endangered Species Act]. Consultation would identify an appropriate survey protocol, avoidance measures, and, if appropriate, reasonable and prudent alternatives, reasonable and prudent measures, and terms and conditions for incidental take statements.” In addition, the mitigation measure on page 9.2-13 states, “Pre-disturbance surveys should be conducted within the SEZ to determine the presence and abundance of special status species.” Relative to these particular mitigation measures, the County opposes the acquisition of habitat at a multiplied (e.g., 3:1) mitigation ratio for desert renewable energy projects because the scale of the proposed projects would render vast portions of private land unavailable for future use and could severely limit the ability of future development to adequately mitigate its impacts. Instead, the County supports the implementation of the “in-lieu” fee program mentioned above.

5. Endangered Species (and Special Status Species)- Pisgah SEZ

The mitigation in Chapter 9 on page 9.3-13 states, “Consultations with the USFWS and CDFG should be conducted to address the potential for impacts on the Mohave tui chub and desert tortoise species listed as endangered and threatened, respectively, under the ESA and CESA. Consultation would identify an appropriate survey protocol, avoidance measures, and, if appropriate, reasonable and prudent alternatives, reasonable and prudent measures, and terms and conditions for incidental take statements.” In addition, the mitigation measure on page 9.3-12 states, “Pre-disturbance surveys should be conducted within the SEZ to determine the presence and abundance of special status species. . . . A comprehensive mitigation strategy for special status species that used one or more of these options to offset the impacts of development should be developed in coordination with the appropriate federal and

state agencies.” Relative to these particular mitigation measures, as stated earlier, the County opposes the acquisition of habitat at a multiplied (e.g., 3:1) mitigation ratio for desert renewable energy projects because the scale of the proposed projects would render vast portions of private land unavailable for future use and could severely limit the ability of future development to adequately mitigate its impacts. Instead, the County supports the implementation of the “in-lieu” fee program mentioned above.

6. Infrastructure Impacts- Development-Operations-Funding

The PEIS only addresses “Transportation” from a narrowly defined perspective, that is: Traffic Hazards and Circulation/Capacity. The PEIS does not address “Transportation” from the “Development-Operations-Funding” perspective. Thus, the PEIS general mitigation measures on pages 5-257, lines 12-46, and page 5-258, lines 1-3, related to “Transportation” only focus on “Traffic Management Plans” and traffic hazards reduction. Additionally, the PEIS states in Chapter 9 on page 9.3-300, lines 29-34, relative to the Pisgah SEZ, “No SEZ-specific design features have been identified related to impacts on transportation systems around the Pisgah SEZ. The programmatic design features discussed in Appendix A, Section A.2.2, including local road improvements, multiple site access locations, staggered work schedules, and ride sharing, would all provide some relief to traffic congestion on local roads leading to the site. Depending on the location of the proposed solar facility within the SEZ, more specific access locations and local road improvements would be implemented.” Further, in Chapter 9 relative to Iron Mountain SEZ, the PEIS states on page 9.2-19, under SEC Specific Design Features, “None.”

Thus, the PEIS does not provide any information relative to how the proposed program (as defined in the PEIS) will impact “Transportation” from the development, operations and funding standpoints. No current mechanism exists to address the impacts these projects will have on public safety facilities and transportation infrastructure in the County. Large scale development existing in desert areas is already underfunded for public safety facilities because of significant federal ownership. Also, the proposed program (as defined in the PEIS) will only exacerbate impacts on the County’s limited financial resources. According to the County’s policy statement relative to these types of projects, the County is open to “a variety of approaches to address this issue, including targeted Development Impact Fees and/or direct mitigation in the form of developer constructed facilities, and is requesting that the state and federal energy and resource agencies (California Fish and Game, U.S. Fish and Wildlife Service, California Energy Commission, BLM, etc.) implement policies and procedures requiring developers of utility scale renewable energy projects to enter into mitigation agreements, pay appropriate fees, or develop other mechanisms to mitigate impacts on local agencies.” The County recommends including this language in the PEIS as mitigation.

Also, no current mechanism exists to address the impacts these project will have on the ongoing costs of providing adequate public safety and transportation services, as well as the loss of recreation and tourism revenue. Again, according to the County’s policy statement, the County is open to “a variety of approaches to address this issue, including Possessory Interest Tax, Federal Lease Revenue Sharing, Community Facilities District Formation, and others.” The County recommends including this language in the PEIS as mitigation. Preliminarily, it appears that the ongoing operation and maintenance costs will be addressed by a Possessory Interest Tax, which should approximate property tax revenue given the expected long term of a federal land lease.

7. Summary

The County has goals similar to a number of local county and city jurisdictions regarding renewable energy, including:

- 1) Encourage economic growth and job creation;
- 2) Conserve our unique natural resources;
- 3) Find the best balance to achieve both of the above;
- 4) Encourage sustainable renewable energy projects;
- 5) Require projects to pay their own way so our taxpayers don't subsidize them; and
- 6) Support practical mitigation strategies that do not consume excessive amounts of land.

We also have concerns similar to a number of local jurisdictions, including:

- 1) Large-scale project will result in lost economic opportunities. Tourism, mining, grazing, film industry, and recreational opportunities will be lost.
- 2) The current California Department of Fish and Game paradigm requires multiplying project lands by a ratio not found in any regulations or even a written policy. Some projects are hit with additive mitigation for different species. These lands also represent lost economic opportunity and thus increase the project impacts.
- 3) There is no clear path for local governments to have economic impacts addressed and mitigated. Costs to local infrastructure and public services are not fully addressed by federal agencies or the California Energy Commission.

Local governments support renewable energy, and we look forward to the positive economic impact the development of these projects can bring to our local economy. This proliferation of energy projects in the Mojave Desert require careful evaluation and consideration of the appropriate mitigation measures that are needed to protect the environment, future development, and the economy of our region. Because many of these projects will be built on federally-owned land or are under the jurisdiction of the California Energy Commission, local governments do not have control over them. Yet the projects result in impacts on local government infrastructure and services with no clear mitigation mechanism. As stated above, the PEIS does not adequately address these impact issues.

If you have any questions, regarding this letter, please direct them to Matt Slowik at mslowik@lusc.sbcounty.gov or call him at (909) 387-4237.

Sincerely,



CHRISTINE KELLY, Director
Land Use Services Department

Attachments:

- A Fair-Share Contribution Agreement-Solar Partners, LLC
- B County Policy
- C NACO Resolutions

cc: Brad Mitzelfelt, First District Supervisor
Gerry Newcombe, Deputy Executive Officer
Bart Brizzee, Deputy County Counsel
Judy Tatman, Supervising Planner, Land Use Services Department



FOR COUNTY USE ONLY

County of San Bernardino

F A S

CONTRACT TRANSMITTAL

<input checked="" type="checkbox"/> New	Vendor Code		SC	Dept.	A	Contract Number			
<input type="checkbox"/> Change									
<input type="checkbox"/> Cancel									
County Department				Dept.	Orgn.	Contractor's License No.			
County Administrative Office									
County Department Contract Representative				Telephone		Total Contract Amount			
Gerry Newcombe				(909) 387-5425		\$			
Contract Type									
<input type="checkbox"/> Revenue <input type="checkbox"/> Encumbered <input type="checkbox"/> Unencumbered <input type="checkbox"/> Other:									
If not encumbered or revenue contract type, provide reason: _____									
Commodity Code			Contract Start Date	Contract End Date	Original Amount	Amendment Amount			
						\$			
Fund	Dept.	Organization	Appr.	Obj/Rev Source	GRC/PROJ/JOB No.	Amount			
						\$			
Fund	Dept.	Organization	Appr.	Obj/Rev Source	GRC/PROJ/JOB No.	Amount			
						\$			
Fund	Dept.	Organization	Appr.	Obj/Rev Source	GRC/PROJ/JOB No.	Amount			
						\$			
Project Name				Estimated Payment Total by Fiscal Year					
Ivanpah Solar				FY	Amount	I/D	FY	Amount	I/D
Electric Generating Complex									

CONTRACTOR Solar Partners I, LLC (SPI); Solar Partners II, LLC (SPII); and Solar Partners VIII, LLC (SPVIII)

Federal ID No. or Social Security No. SPI – 20-8812461; SPII 36-4608152; and SPVIII 36-4608159

Contractor's Representative John F. Jenkins Stark, Chief Financial Officer

Address 1999 Harrison Street, #2150, Oakland, CA 94612 Phone (510) 550 - 8461

Nature of Contract: *(Briefly describe the general terms of the contract)*

This is a Fair Share Contribution Agreement between the County, the San Bernardino County Fire Protection District, and Solar Partners I, LLC, Solar Partners II, LLC, and Solar Partners VIII, LLC regarding payment to the County and SBCFPD for fire protection and emergency response services for the Ivanpah Solar Electric Generating Complex.

THIS IS NOT A CONTRACT
THIS IS A COVER
TRANSMITTAL ONLY

(Attach this transmittal to all contracts not prepared on the "Standard Contract" form.)

Approved as to Legal Form (sign in blue ink)	Reviewed as to Contract Compliance	Presented to BOS for Signature
Bart Brizzee, County Counsel	Department Head	
Date _____	Date _____	Date _____

Auditor/Controller-Recorder Use Only

<input type="checkbox"/> Contract Database	<input type="checkbox"/> FAS
Input Date	Keyed By

FAIR-SHARE CONTRIBUTION AGREEMENT
By and among
THE SAN BERNARDINO COUNTY FIRE PROTECTION DISTRICT,
THE COUNTY OF SAN BERNARDINO
And
SOLAR PARTNERS I, LLC,
SOLAR PARTNERS II, LLC, and
SOLAR PARTNERS VIII, LLC
Related to
FIRE-PROTECTION AND EMERGENCY MEDICAL SERVICES MITIGATION
FOR THE IVANPAH PROJECT

This Fair-Share Contribution Agreement (the “Agreement”) is made and entered into effective on the date of the last party’s signature below (the “Effective Date”), by and among (1) the San Bernardino County Fire Protection District (“SBCFPD”), (2) the County of San Bernardino (the “County”) and (3) Solar Partners I, LLC, Solar Partners II, LLC, and Solar Partners VIII, LLC, each a Delaware limited liability company (collectively “OWNERS”, and together with the County and SBCFPD, the “Parties”, and each a “Party”).

RECITALS

A. OWNERS intend to develop, construct and operate a solar electric generating complex near Ivanpah Dry Lake, California, consisting of three separate power plants currently known as Ivanpah 1, Ivanpah 2, and Ivanpah 3 (each individually a “Project” and collectively the “Projects”) on approximately 3,272 acres in an unincorporated portion of the County described in Exhibit “A” attached hereto.

B. In order to mitigate potential fire risks and risks requiring emergency response and to ensure the orderly provision of fire protection and emergency response services as the Projects are built out, OWNERS intend to implement, during the construction and operations phases of the Projects, a Fire Prevention Plan and Emergency Preparedness Plan, copies of which have been provided to the County and are attached as Exhibit “B.”

C. With the input of the County, SBCFPD and OWNERS, SBCFPD has caused Stanley R. Hoffman Associates to prepare a study of the Projects’ impacts on fire protection and emergency response services. The version of that study as of the date of this Agreement, the

“Estimated Allocation of Fire Facility Costs to Proposed Solar Energy Installations Project #1210,” dated June 30, 2010 (as amended from time to time, the “Fiscal Impact Analysis”), is attached hereto as Exhibit “C.”

D. The Parties agree that this Agreement is intended to (i) implement the recommendations of the Fiscal Impact Analysis (as revised from time to time and except to the extent modified herein), (ii) dictate the terms upon which OWNERS shall fulfill their fair-share contribution requirements for any and all impacts to fire protection and emergency response services in connection with the development, construction, operation, maintenance, decommissioning and closure of the Projects, whether such services are provided directly by SBCFPD or pursuant to other arrangements entered into by SBCFPD, as well as inspections and periodic training related thereto, and (iii) to satisfy the requirements (except for the California Energy Commission reporting requirements in the verification portion of Docket No. 07-AFC-5 of the Conditions of Certification described as “Worker Safety -7”) imposed by the California Energy Commission in its Final Commission Decision on the Ivanpah Solar Electric Generating System, Docket No. 07-AFC-5 of the Conditions of Certification described as “Worker Safety - 7” and “Worker Safety – 8,” copies of which are attached hereto as Exhibit “D.”

OPERATIVE PROVISIONS

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, the Parties agree as follows:

1. Recitals Incorporated. The foregoing Recitals are incorporated herein by reference.

2. Fair-Share Contributions.

(a) **Annual Operations and Maintenance Costs.** OWNERS shall pay their percentage share of 32% in the case of Solar Partners II, LLC and 34% in the case of each of Solar Partners I, LLC and Solar Partners VIII, LLC of a fair-share contribution in the amount of \$377,000 (three hundred and seventy-seven thousand dollars) per annum to fully mitigate any and all operations and maintenance costs in connection with any need to provide fire protection and emergency response services to the Projects (“O&M Fair-Share Contribution”), payable annually, in arrears, commencing on the later of July 1, 2011, or the first day of the quarter

following the quarter in which any of the Projects commences commercial operations, and ending on the Termination Date, and prorated for partial years. The O&M Fair-Share Contribution shall be adjusted annually for each fiscal year (July 1 to June 30) in accordance with the United States Department of Labor Bureau of Labor Statistics Employment Cost Index for Total Compensation (Not Seasonally Adjusted) for Private Industry Workers for the Los Angeles-Long Beach-Riverside, California Census Region and Metropolitan Area ("ECI"). By way of illustration only, if the ECI for the fiscal year July 1, 2011 to June 30, 2012 shows a five percent (5%) increase, the O&M Fair-Share Contribution for the period July 1, 2012 to June 30, 2013, shall be increased by five percent (5%).

(b) **Capital Costs.** OWNERS shall pay their percentage share of 32% in the case of Solar Partners II, LLC and 34% in the case of each of Solar Partners I, LLC and Solar Partners VIII, LLC of a one-time fair-share capital contribution in the amount of \$409,000 (four hundred and nine thousand dollars) to fully mitigate the capital impact of any and all need to provide fire protection and emergency response services to the Projects ("Capital Costs") in two equal installments, the first on or before December 31, 2011 and the second on or before December 31, 2012.

(c) **Methods of Payment.** OWNERS shall pay the O&M Fair-Share Contribution and Capital Costs to SBCFPD in immediately available funds wired to the following segregated account: Bank of America Account: 1496150090 Reference: FNZ 590 IVAN

3. Refunds and Offsets

(a) **Revisions to Fiscal Impact Analysis.** SBCFPD and the County agree, to the extent not prohibited by law and the County Code, (1) to recalculate, in accordance with the methodology of the Fiscal Impact Analysis, and to charge and collect, fair-share mitigation fees, both capital and operating costs, for any new development located within the SBCFPD service territory in which the Projects are located. If such recalculations and offsets referenced in the prior sentence result in a reduction of the amount of the O&M Fair-Share Contribution and/or Capital Costs attributable to the Projects, County and SBCFPD shall, within thirty (30) days after (A) any of (i) entering into an agreement with the owners of the new development, (ii) the County's issuance of a Conditional Use Permit or (iii) action by the California Energy Commission requiring fair-share contributions of the type that are the subject of this Agreement,

give notice to OWNERS of such reduction and any refund or credit due. OWNER shall within thirty (30) days of such notice elect by notice to SBCFPD and the County to take any such refund or credit, as applicable, as either a cash reimbursement of any Capital Costs or as a credit against future O&M Fair-Share Contributions. All future O&M Fair-Share Contributions shall be reduced in accordance with the revised Fiscal Impact Analysis to the extent that new development projects are required to make fair-share contributions. The County's obligations under this Paragraph 3 shall continue until the date (the "Reimbursement Termination Date") which is the sooner of: (i) the Termination Date; or (ii) the date on which the County and/or SBCFPD have refunded or credited to OWNERS' mitigation fees under this subsection 3(a) equal to all amounts payable by OWNERS under Paragraph 2 during the term of this Agreement.

(b) **Credit for Certain Sales/Use Tax Payments.** In addition to any refunds or offsets determined under subsections 3(a) and 3(c), SBCFPD and San Bernardino County agree to offset against up to fifty percent (50%) of the Capital Cost, on a dollar for dollar basis, any sales/use tax generated from the Projects sourced to San Bernardino County pursuant to the Bradley-Burns Uniform Local Sales and Use Tax Law, or similar legislation.

(c) **Credit for Certain Property Tax Payments** In addition to any refunds or offsets determined under subsection 3(a) or 3(b), up to sixty percent (60%) of the O&M Fair-Share Contribution, (recalculated as required), shall be offset, on a dollar for dollar basis, by any property and/or possessory interest tax revenue from the Projects. Tax revenue shall be calculated as an appropriate percentage of property and/or possessory tax payments made on Assessor Parcel Numbers ("APNs") for the Projects (current list of APNs attached hereto as Exhibit "F"). Tax payments shall be evidenced by payment amounts for such APNs as set forth on the County Tax Collector's website (<http://www.mytaxcollector.com/trSearch.aspx>, as it may be amended). Tax payments shall not include any amounts paid for penalties or interest. In the event any property tax refunds are issued for such APNs, the amount of property tax payments used to calculate tax revenue shall be reduced by the amount of the refund(s).

(d) **Provision of Fire Protection and Emergency Response Services.** Subject to the service constraints imposed by the current and developing status of fire and emergency service infrastructure, SBCFPD shall provide to the Project the level of fire protection and emergency response services that SBCFPD customarily provides to similar developments in the Project's service area and other service areas.

4. **Additional Conditions.** OWNERS shall develop the Projects in accordance with the terms of Fire Prevention Plan and Emergency Preparedness Plan, attached hereto as Exhibit "B."

5. **Term.** This Agreement shall be effective from the Effective Date, and shall continue in full force and effect until the Projects are abandoned or cease operations ("Termination Date").

6. **OWNERS' Right to Assign/Release.**

(a) **Permitted Assignees.** Upon at least ten (10) business days' advance written notice to County and SBCFPD, any OWNER may assign, pledge or transfer, in whole or part, all or part of its existing and prospective rights and obligations under this Agreement to any of the following entities (each, a "Permitted Assignee"): (i) any of its affiliates (defined as any person or party controlled by, that controls or is under common control with, OWNER; ("control" with respect to any person or party shall mean the ability to effectively control, directly or indirectly, the operations and business decisions of such person or party, whether by voting of securities or partnership interest or any other method); or (ii) in connection with any debt incurred or equity financing obtained for the Projects. County and SBCFPD agree, at any assigning OWNER's expense, to enter into such direct agreements and other documents as may reasonably be required or requested by such OWNER in connection with such assignment, pledge or transfer. The aforementioned notice shall contain the identity of the Permitted Assignee and, subject to the Permitted Assignee's reasonable confidentiality requirements, reasonable evidence of the Permitted Assignee's proof of financial capability.

(b) **Consented Assignees.** In addition, any OWNER may assign all or part of its rights and obligations under this Agreement to a person or entity other than a Permitted Assignee ("Consented Assignee"), provided that such OWNER obtains the prior written consent of the County and SBCFPD, which consent shall not be unreasonably withheld, conditioned or delayed. The County and SBCFPD acknowledge and agree that the obligations and rights to reimbursement may be separately assigned and/or retained by OWNERS.

(c) **Release.** Upon the delivery to COUNTY and SBCFPD of an executed assignment and assumption agreement between any OWNER and either a Permitted Assignee or Consented Assignee, under which any OWNER assigns and such assignee assumes, all or part of

such OWNER's existing and prospective rights and obligations under this Agreement, such OWNER shall be released from all responsibility and liability under this Agreement with respect to such assigned and assumed rights and obligations.

7. Full Satisfaction. SBCFPD and the County agree that, in consideration of the timely payment of the O&M Fair-Share Contribution and Capital Costs pursuant to Paragraph 2, SBCFPD and the COUNTY, individually or jointly, shall not at any time bring:

(a) any claims against any of the OWNERS regarding payment for fire protection and emergency response services, or any associated inspections or periodic training the COUNTY or SBCFPD may deem necessary, or,

(b) any challenges or claims in connection with the California Energy Commission certification or licensing of the Projects or the Bureau of Land Management issuance of any right of way for the Projects; or,

(c) any claim for any other development impact fees of any kind arising from the COUNTY's constitutional police power to protect the public health, safety and welfare pursuant to the California Constitution Article XI, §7 (as it may be amended).

8. Governing Law. This Agreement and the rights and duties of the Parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of the state of California, without regard to principles of conflicts of law.

9. Counterparts. This Agreement may be executed in one or more counterparts each of which shall be deemed an original and all of which shall be deemed one and the same Agreement.

10. Interest on late payments. If any Party fails to make a payment within thirty (30) days of the date on which such payment was due, interest shall accrue on such outstanding amount at a rate of four (4) percent per annum.

11. Notices. All notices, requests, demands, and other communications required under this Agreement shall be in writing, in English, and shall be deemed to have been duly given if delivered (i) personally, (ii) by facsimile transmission with written confirmation of receipt, (iii) by overnight delivery with a reputable national overnight delivery service, or (iv) by mail or by certified mail, return receipt requested, and postage prepaid. If any notice is mailed, it shall be deemed given five business days after the date such notice is deposited in the United

States mail. Delivery shall not be deemed given by electronic mail. Any notice given by carrier method other than United States mail shall be deemed given upon the actual date of such delivery. If notice is given to a Party, it shall be given at the address for such Party set forth below. It shall be the responsibility of the Parties to notify each other Party in writing of any name or address changes.

If to Solar Partners II, LLC:

1999 Harrison Street, Suite 2150
Oakland, CA 94612
Attention: Chief Financial Officer
Telephone: (510) 550-8151
Facsimile: (510) 550-8165

If to Solar Partners I, LLC:

1999 Harrison Street, Suite 2150
Oakland, CA 94612
Attention: Chief Financial Officer
Telephone: (510) 550-8151
Facsimile: (510) 550-8165

If to Solar Partners VIII, LLC:

1999 Harrison Street, Suite 2150
Oakland, CA 94612
Attention: Chief Financial Officer
Telephone: (510) 550-8151
Facsimile: (510) 550-8165

If to COUNTY:

County of San Bernardino
385 North Arrowhead Ave., Fifth Floor
Attention: Chief Executive Officer
Telephone: (909) 387-5417
Facsimile: (909) 387-5430

If to SBCFPD:

157 West 5th Street, 2nd Floor
San Bernardino, CA 92415-0451
Attention: Fire Chief
Telephone: (909) 387-5948
Facsimile: (909) 387-5542

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the day and year first written above.

[Signature Page Follows]

COUNTY OF SAN BERNARDINO

SAN BERNARDINO COUNTY FIRE PROTECTION DISTRICT

▶ _____
Gary C. Ovitt, Chairman
Board of Supervisors

▶ _____
Gary C. Ovitt, Chairman
Board of Directors

Dated: _____

Dated: _____

SIGNED AND CERTIFIED THAT A COPY OF THIS DOCUMENT HAS BEEN DELIVERED TO THE CHAIRMAN OF THE BOARD

SIGNED AND CERTIFIED THAT A COPY OF THIS DOCUMENT HAS BEEN DELIVERED TO THE CHAIRMAN OF THE BOARD

Laura H. Welch, Clerk of the Board of Supervisors
Of the County of San Bernardino

Laura H. Welch, Secretary

By: _____
Deputy

By: _____
Deputy

OWNERS:

SOLAR PARTNERS I, LLC,
By: BrightSource Energy, Inc., as member manager

SOLAR PARTNERS II, LLC,
By: BrightSource Energy, Inc., as member manager

By: ▶ _____
Authorized Signature – sign in blue ink

By: ▶ _____
Authorized Signature – sign in blue ink

Name: _____
Print or type name of person signing contract

Name: _____
Print or type name of person signing contract

Title: _____
Print or Type

Title: _____
Print or Type

Dated: _____

Dated: _____

Address: _____

Address: _____

SOLAR PARTNERS VIII, LLC,
By: BrightSource Energy, Inc., as member manager

By:  _____
Authorized Signature – sign in blue ink Name

Name: _____
Print or type name of person signing contract

Title: _____
Print or Type

Dated: _____

Address: _____

<i>Approved as to Legal Form</i>	<i>Reviewed by Contract Compliance</i>	<i>Presented to Board for Signature</i>
 _____	 _____	 _____
<i>Counsel</i>		
<i>Date</i> _____	<i>Date</i> _____	<i>Date</i> _____

RESOLUTION NO. 2010-144

**RESOLUTION REGARDING MITIGATION FOR IMPACTS TO HISTORIC AND RECOGNIZED
LAND USES FROM RENEWABLE ENERGY DEVELOPMENT PROJECTS OCCURRING ON
FEDERAL LANDS**

On Tuesday July 13, 2010, on motion of Supervisor Derry, duly seconded by Supervisor Mitzelfelt and carried, the following resolution is adopted by the Board of Supervisors of San Bernardino County, State of California.

WHEREAS, the County of San Bernardino supports the development of renewable energy;
and

WHEREAS, the development of renewable energy will create much-needed jobs, expand the supply of clean energy to meet the needs of economic growth and population growth, and is critical for the state to meet its renewable energy goals; and

WHEREAS, the development of large scale renewable energy projects on public lands has unavoidable environmental impacts which are required to be mitigated; and

WHEREAS, wildlife impacts are mitigated by a variety of measures, including acquisition of private land and transfer to agencies; and cultural resources are mitigated by measures including avoidance or salvage; and

WHEREAS, other multiple use values generally receive only mention in the environmental documentation, but are seldom offset, replaced or otherwise mitigated; and

WHEREAS, many public use areas and activities are at risk as the agencies, both State and Federal, seek to fast track projects, and view wildlife mitigation as the primary focus of concern; and

WHEREAS, large scale solar energy projects remove huge areas of relatively flat and accessible land which has historically been essential parts of grazing allotments, contained the access routes to back country, or provided areas that the Bureau of Land Management (BLM) designated as "open" for off-highway vehicle (OHV) play; and

WHEREAS, when large scale solar projects are sited in such areas, the area may become totally removed from multiple use activities, access may be cut off, and the previously permitted uses may cease, and

WHEREAS, some historic uses on public lands, such as grazing, can be mitigated through compensation or buy-out, though the effect will be a reduction from past use. There may be offsetting economic value from the energy project, but it is essential that benefits and losses both be weighed in the National Environmental Protection Act (NEPA) process; and

WHEREAS, the issue is particularly acute relative to dispersed recreation use such as off-highway vehicle use; and

WHEREAS, failure to provide at least a degree of mitigation results in the sprawling of dispersed uses on to areas where they do not belong, or to areas of private land, encouraging trespass. Such creation by users will require engagement of law enforcement at high cost to both the land management agencies as well as local government; and

WHEREAS, providing such mitigation may have an overall positive impact since the area will have the benefit of the new use plus retention of all or part of the current use; and

WHEREAS, providing such mitigation will also reduce the effect on local law enforcement to patrol and control random use as the public seeks its own alternatives for use areas.

NOW THEREFORE BE IT RESOLVED, that it is the position of the County of San Bernardino that the California Energy Commission, the U.S. Bureau of Land Management, the U.S. Forest Service, and any state or federal agency that may have jurisdiction or input into renewable energy projects, shall, during project development and impact assessment, address such issues, and directly provide alternate access routes, even if such provision requires new construction to avoid the project area.

BE IT FURTHER RESOLVED that OHV open areas, if such areas have been legitimately provided for in BLM or Forest Service land use plans, should be similarly mitigated for, by designation of other appropriate areas or the acquisition of areas by the developer for such dedication and designation.

PASSED AND ADOPTED by the Board of Supervisors of the County of San Bernardino, State of California, by the following vote:

AYES: SUPERVISORS: Mitzelfelt, Biane, Derry, Gonzales

NOES: SUPERVISORS: None

ABSENT: SUPERVISORS: Ovitt

STATE OF CALIFORNIA)
) ss.
COUNTY OF SAN BERNARDINO)

I, **LAURA H. WELCH**, Clerk of the Board of Supervisors of the County of San Bernardino, State of California, hereby certify the foregoing to be a full, true and correct copy of the record of the action taken by the Board of Supervisors, by vote of the members present, as the same appears in the Official Minutes of said Board at its meeting of July 13, 2010. Item #29, ml.

LAURA H. WELCH
Clerk of the Board of Supervisors

By _____
Deputy

RESOLUTION NO. 2010-145

**RESOLUTION REGARDING ACQUISITION OF PRIVATE LANDS FOR WILDLIFE MITIGATION,
WITH SUBSEQUENT TRANSFER TO FEDERAL OR STATE AGENCIES AND/OR MANAGEMENT
BY NON-GOVERNMENTAL ORGANIZATIONS**

On Tuesday July 13, 2010, on motion of Supervisor Derry, duly seconded by Supervisor Mitzelfelt and carried, the following resolution is adopted by the Board of Supervisors of San Bernardino County, State of California.

WHEREAS, The County of San Bernardino supports the development of renewable energy;
and

WHEREAS, the development of renewable energy will create much-needed jobs, expand the supply of clean energy to meet the needs of economic growth and population growth, and is critical for the state to meet its renewable energy goals; and

WHEREAS, the development of large scale renewable energy projects on public lands has unavoidable environmental impacts which are required to be mitigated; and

WHEREAS, large scale renewable energy projects on public land require large tracts of land, including habitat of threatened and endangered species, which must be mitigated; and

WHEREAS, wildlife agencies (State and Federal) have historically required the purchase of private land and its transfer to government agencies or non-governmental organizations (NGOs) as mitigation and "compensation" for projects that will occupy or impact species with status under Federal or State law or regulation; and

WHEREAS, such acquisitions remove private land from tax rolls and from potential future development, and, when the land becomes Federal, many counties not only lose the property tax revenue, they fall outside the limit of Payment in Lieu of Taxes (PILT) accounting; and

WHEREAS, more than 80 percent of the land in San Bernardino County is in federal ownership, and there is limited private land available for habitat mitigation, and if that land were used for mitigation it would irreparably harm the County in terms of property tax revenue and future economic growth; and

WHEREAS, large renewable energy development projects have highlighted the situation, made worse by some states, including California, providing tax exemption for renewable energy projects; and

WHEREAS, many projects are located in counties, including San Bernardino County, in which PILT payments are capped because of already large Federal estates; thus such transfers that add to the Federal estate do not receive PILT payment reflecting the expanded Federal holding. Further, since the acquiring agencies are usually the U.S. Bureau of Land Management (BLM) or the U.S. Forest Service, counties cannot receive PILT under 31 U.S.C. Chapter 69, Sections 6904 or 6905; and

WHEREAS, some state wildlife agencies, including the California Department of Fish and Game, dictate compensation requirements, and donations are made to either the state or an NGO, and thus are outside the realm of PILT. However, most renewable energy projects have a Federal nexus, and thus Federal decision-making can affect the final mitigation package; and

WHEREAS, most projects utilize significant parts of local government infrastructure, including the use of county roads for project development, operation and maintenance. In addition a variety of other county services, including solid waste disposal, law enforcement, public health, and fire and emergency medical response may all come into play during the life of any project; and

WHEREAS, it is possible that revenue derived from renewable energy projects will not cover the cost of public services, and will not match the revenue lost from property tax and from future economic development.

NOW THEREFORE BE IT RESOLVED, that the San Bernardino County Board of Supervisors calls on state and federal resource and regulatory agencies with authority over renewable energy projects to adopt one or more of the following policies to minimize and mitigate impacts to local government from the loss of taxable and developable land and from the loss of revenue from such land:

- That such mitigation compensation be determined by an agreed upon land value (for undeveloped wild land in the region), and then determined in total. Such compensation would be a one-time payment by the developer, and such payment would then be distributed among agencies for a variety of conservation works associated with the species and habitat for which mitigation is being sought. (The California Energy Commission recent Memorandum of Understanding with the National Fish and Wildlife Foundation could be model. This model has some shortcomings, however, in that it leaves land acquisition as a covered conservation activity, and excludes local government from decision-making.)
- That the project proponent transfer the land to the public agency or designated NGO, and the recipient, or successors in interest, would continue to pay property taxes, or an equivalent fee in lieu of taxes, in perpetuity, as though the land had not been transferred from private ownership. (In other words, such mitigation land would be treated as though it continued on the tax rolls, and would be taxed according to the rate in effect for each year going forward. This would provide revenue flow to local government regardless of receiving administrator.)
- That if compensation and the land transfer is to BLM or Forest Service, that the PILT formula be changed to provide for PILT payment each year to jurisdictions for the acreage transferred, regardless of caps imposed by population ceiling, or limitations in current law allowing only such payments (Section 6904 and 6905) to National Park Service and National Forest wilderness. The County further recommends if this alternative were adopted, the 5-year limit on such payments be removed.

PASSED AND ADOPTED by the Board of Supervisors of the County of San Bernardino, State of California, by the following vote:

AYES: SUPERVISORS: Mitzelfelt, Biane, Derry, Gonzales

NOES: SUPERVISORS: None

ABSENT: SUPERVISORS: Ovitt

STATE OF CALIFORNIA)
)
COUNTY OF SAN BERNARDINO) ss.

I, **LAURA H. WELCH**, Clerk of the Board of Supervisors of the County of San Bernardino, State of California, hereby certify the foregoing to be a full, true and correct copy of the record of the action taken by the Board of Supervisors, by vote of the members present, as the same appears in the Official Minutes of said Board at its meeting of July 13, 2010. Item 29, ml.

LAURA H. WELCH
Clerk of the Board of Supervisors

By _____
Deputy

Attachment D

NACO Resolutions

Resolution Regarding Mitigation for Impacts to Historic and Recognized Land Uses from Renewable Energy Development Projects Occurring on Federal Lands

Issue: Renewable energy projects, particularly large scale solar development, remove large blocks of land from the federal estate from historic multiple use activities, including dispersed recreation, livestock grazing, and general public access.

Adopted Policy: NACo requests the Bureau of Land Management and Forest Service adopt policies that provide real and substantial consideration of historic uses in the project plans and environmental documentation, and commit project developers to providing mitigation for their loss.

Background: As renewable energy development expands, the potential exclusion of historic permitted uses on Federal public lands becomes more apparent. Some projects may be benign, such as wind energy on ridge lines. Other developments such as solar on flat accessible land, remove huge areas which have historically been essential parts of grazing allotments, contained the access routes to back country, or provided areas that BLM designated as "open" for OHV recreation. Ancillary facilities and safety closures, however, for all projects, may remove areas and access from previous uses.

Some uses, such as grazing, can be mitigated through compensation or buy-out, though the effect will be a reduction from past use. There may be offsetting economic value from the energy project, but it is essential that benefits and losses both be weighed in the NEPA process and the process commit the developer to providing such mitigation.

Access through project areas cannot be addressed by the market. Development plans must provide alternate access routes. OHV open areas, if such has been legitimately provided in BLM or FS land use plans, should be similarly mitigated for, by designation of other appropriate areas or the acquisition of areas by the developer for such dedication and designation.

Failure to provide at least a degree of mitigation can result in sprawling of dispersed uses to areas of private land, encouraging trespass, and requiring engagement of law enforcement at high cost to both the land management agencies as well as local government.

NACo does not oppose development of renewable energy on public land, but wishes to assure that the NEPA process and plan of development explicitly address historic use and commit the developer to mitigation.

Fiscal Urban/Rural Impact: Renewable energy development may or may not have positive impacts on the land and the area. Projects normally result in total exclusion of the public, but their output will provide energy, employment, and increase renewable portfolios required by many states. Mitigation for impacts and use loss may add to project costs. Providing such mitigation may have an overall positive impact since the area may benefit from the new use plus retain of all or part of the current use. Providing such mitigation will also reduce the effect on local law enforcement to control trespass use that could occur if mitigation is not provided.

Adopted July 20, 2010

Resolution on Acquisition of Private Land for Wildlife Mitigation, Associated with Renewable Energy Development, with Subsequent Transfer to Federal Agencies

Issue: Wildlife agencies (State and Federal) have required the purchase of private land and its transfer to government agencies or non-governmental organizations (NGOs) as mitigation for projects that will occupy habitat or impact species with status under Federal or State law or regulation. Such acquisitions remove private land from tax rolls. When the land becomes Federal, many counties not only lose the property tax revenue, they fall outside the limit of Payment in Lieu of Taxes (PILT) accounting. Large renewable energy development projects have exacerbated the situation.

Adopted Policy: NACo requests the land and wildlife management agencies adopt procedures that provide for project mitigation other than through land transfer from private to public ownership. When such transfers are deemed the only appropriate mitigation, and offsetting PILT will not occur, then agencies must provide that project developer would continue to pay the property tax on the transferred land, or fees in lieu of taxes, in perpetuity, unless the land were restored to private ownership at a future date.

Background: The land and wildlife management agencies have sought land mitigation for impacted habitat for a variety of species, mostly those with listed status under the Endangered Species Act. Such mitigation often is required at a multiplied factor, e.g. 3:1, in which the project developer must “donate” a multiple of private land to the permitting agency or designated entity as mitigation. Such land is removed from the tax rolls.

Many projects are located in counties in which PILT payments are capped because of already large Federal estates; thus transfers may add to the Federal estate and counties do not receive additional PILT payment reflecting the expanded Federal estate. Further, since the acquiring agencies are usually BLM or the Forest Service, counties cannot receive PILT under Sections 6904 or 6905.

Most projects utilize significant parts of local government infrastructure, including the use of county roads for project development, operation and maintenance. In addition development may use other county services, including solid waste disposal, law enforcement, public health, and fire and emergency medical response during the life of the project.

Offsetting the loss of tax base must become an essential part of renewable project mitigation, even when mitigation land is transferred to a state agency or NGO. Mitigation should be accomplished by project developers depositing funds for use to provide other kinds of mitigation investment equivalent to the amount that might otherwise be invested in land acquisition.

Expand current PILT requirement that only additions to the Federal estate by NPS or in National Forest wilderness can receive payment under Section 6904. If such change were made, remove the 5-year limit on such payments.

Fiscal Urban/Rural Impact: While development may provide some positives to local economies, local governments should not be left with losses and costs associated with the project. The policy will assure a steady revenue stream regardless of mitigation requirements as well as funding for county infrastructure and services.

Adopted July 20, 2010

Thank you for your comment, anne rossiter.

The comment tracking number that has been assigned to your comment is SolarD11327.

Comment Date: April 13, 2011 12:41:30PM
Solar Energy Development PEIS
Comment ID: SolarD11327

First Name: anne
Middle Initial: m
Last Name: rossiter
Organization:
Address:
Address 2:
Address 3:
City:
State: NC
Zip: 27920
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I approve of using federal lands for renewabl energy

Thank you for your comment, O. Ruiz.

The comment tracking number that has been assigned to your comment is SolarD11328.

Comment Date: April 13, 2011 12:42:07PM
Solar Energy Development PEIS
Comment ID: SolarD11328

First Name: O.
Middle Initial:
Last Name: Ruiz
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

With some revisions I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Right now there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument. So any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

O. Ruiz

Thank you for your comment, Margo Vanderhill.

The comment tracking number that has been assigned to your comment is SolarD11329.

Comment Date: April 13, 2011 12:44:10PM
Solar Energy Development PEIS
Comment ID: SolarD11329

First Name: Margo
Middle Initial:
Last Name: Vanderhill
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy can be a real benefit to the environment in general and to the environments of the the National Parks. The solar energy farms should be sited with regard to environmental considerations and esthetic effect.

Thank you for your comment, Tina Mizhir.

The comment tracking number that has been assigned to your comment is SolarD11330.

Comment Date: April 13, 2011 12:48:57PM
Solar Energy Development PEIS
Comment ID: SolarD11330

First Name: Tina
Middle Initial:
Last Name: Mizhir
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Georgia Braithwaite.

The comment tracking number that has been assigned to your comment is SolarD11331.

Comment Date: April 13, 2011 12:50:35PM
Solar Energy Development PEIS
Comment ID: SolarD11331

First Name: Georgia
Middle Initial:
Last Name: Braithwaite
Organization: Jacobi Group
Address: 2145 Hogan Ln
Address 2:
Address 3: 2145 Hogan Ln
City: Cottonwood
State: AZ
Zip: 86326
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Nancy Neilsen.

The comment tracking number that has been assigned to your comment is SolarD11332.

Comment Date: April 13, 2011 12:59:03PM
Solar Energy Development PEIS
Comment ID: SolarD11332

First Name: Nancy
Middle Initial: R
Last Name: Neilsen
Organization:
Address: 3703 Fox Creek Rd
Address 2:
Address 3:
City: Louisville
State: TN
Zip: 37777
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe strongly, in the advancement of solar energy development. I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

-As I understand it there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I think together we can accomplish the goal of developing solar energy and maintaining our parks integrity.

Sincerely,

Nancy R. Neilsen

Thank you for your comment, Dorothy Oakes.

The comment tracking number that has been assigned to your comment is SolarD11333.

Comment Date: April 13, 2011 13:01:47PM
Solar Energy Development PEIS
Comment ID: SolarD11333

First Name: Dorothy
Middle Initial: J
Last Name: Oakes
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Installing solar energy is a laudable effort.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- >The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- >The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- >The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- >Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Since scenery is one of the reasons I visit the western National Parks, I would not care to see it marred by these proposed solar energy facilities.

Thank you for your attention.

Sincerely,

Dorothy Oakes

Thank you for your comment, Lora Schwartzberg.

The comment tracking number that has been assigned to your comment is SolarD11334.

Comment Date: April 13, 2011 13:03:14PM
Solar Energy Development PEIS
Comment ID: SolarD11334

First Name: Lora
Middle Initial:
Last Name: Schwartzberg
Organization:
Address: 7 Lower Salem Rd.
Address 2:
Address 3:
City: South Salem
State: NY
Zip: 10590
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

If amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. I feel the amendments are needed in four proposed Solar Energy Zones that threaten our national parks: the Riverside East SEZ and the Iron Mountain SEZ, which would impact Joshua Tree National Park), the Amargosa Valley SEZ, which will impact Death Valley's wilderness and water resources, and the Red Sands SEZ which would impact White Sands National Monument. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts national park resources or visitor enjoyment. Finally, it is imperative that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Demelza Costa.

The comment tracking number that has been assigned to your comment is SolarD11335.

Comment Date: April 13, 2011 13:07:07PM
Solar Energy Development PEIS
Comment ID: SolarD11335

First Name: Demelza
Middle Initial:
Last Name: Costa
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

Thank you for your comment, Michael Cloud.

The comment tracking number that has been assigned to your comment is SolarD11336.

Comment Date: April 13, 2011 13:10:59PM
Solar Energy Development PEIS
Comment ID: SolarD11336

First Name: Michael
Middle Initial:
Last Name: Cloud
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Aileen Renner.

The comment tracking number that has been assigned to your comment is SolarD11337.

Comment Date: April 13, 2011 13:12:00PM
Solar Energy Development PEIS
Comment ID: SolarD11337

First Name: Aileen
Middle Initial: V
Last Name: Renner
Organization:
Address: 187 Edison St.
Address 2:
Address 3:
City: Staten Island
State: NY
Zip: 10306
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is our future. Other contries are surpassing us in technology. The president just said that on TV! Save the Earth!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11338.

Comment Date: April 13, 2011 13:14:20PM
Solar Energy Development PEIS
Comment ID: SolarD11338

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar power is non disruptive for our world, if done right. We must get off not only foreign oil but all fossil fuel and all other dirty or dangerous energy sources. Thank you

Thank you for your comment, Mary Ellen Bowen.

The comment tracking number that has been assigned to your comment is SolarD11339.

Comment Date: April 13, 2011 13:16:48PM
Solar Energy Development PEIS
Comment ID: SolarD11339

First Name: Mary Ellen
Middle Initial:
Last Name: Bowen
Organization:
Address: 24 Warren Dr
Address 2:
Address 3:
City: Seymour
State: CT
Zip: 064833614
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

Thank you for your comment, diana kekule bastron.

The comment tracking number that has been assigned to your comment is SolarD11340.

Comment Date: April 13, 2011 13:33:44PM
Solar Energy Development PEIS
Comment ID: SolarD11340

First Name: diana
Middle Initial:
Last Name: kekule bastron
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

THANK YOU FOR HELPING TO RAISE THE CONSCIOUSNESS OF HUMANITY.

Thank you for your comment, Charles Maddoxce.

The comment tracking number that has been assigned to your comment is SolarD11341.

Comment Date: April 13, 2011 13:34:17PM
Solar Energy Development PEIS
Comment ID: SolarD11341

First Name: Charles
Middle Initial: E
Last Name: Maddoxce
Organization:
Address: 344 Broadway Avenue
Address 2:
Address 3:
City: Broadway
State: VA
Zip: 22815
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Steven Tempelman.

The comment tracking number that has been assigned to your comment is SolarD11342.

Comment Date: April 13, 2011 13:42:58PM
Solar Energy Development PEIS
Comment ID: SolarD11342

First Name: Steven
Middle Initial: C
Last Name: Tempelman
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11343.

Comment Date: April 13, 2011 13:44:00PM
Solar Energy Development PEIS
Comment ID: SolarD11343

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Our family supports solar power energy zones that won't compromise national parks lands and wildlife.

Thank you for your comment, Benjamin Martin.

The comment tracking number that has been assigned to your comment is SolarD11344.

Comment Date: April 13, 2011 13:47:14PM
Solar Energy Development PEIS
Comment ID: SolarD11344

First Name: Benjamin
Middle Initial:
Last Name: Martin
Organization:
Address:
Address 2:
Address 3:
City:
State: CT
Zip: 06492
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am happy to see Solar projects moving toward approval. These projects need to be approved and constructed as swiftly as possible to move our country away from damaging resources such as oil, gas, and coal. There are however places that need to be preserved so the sites of these projects must be considered carefully. I would suggest using sites that have already been disrupted by resource extraction and convert them to renewable energy. It would be much more beneficial to halt drilling, mining and fracking and replace it with solar and wind than to disturb pristine land that is essential to wildlife and the ecosystem.

Thank you for your comment, Richard DiMatteo.

The comment tracking number that has been assigned to your comment is SolarD11345.

Comment Date: April 13, 2011 13:49:39PM
Solar Energy Development PEIS
Comment ID: SolarD11345

First Name: Richard
Middle Initial: A
Last Name: DiMatteo
Organization:
Address: 236 Kalmia St., #107
Address 2:
Address 3: 236 Kalmia St., #107
City: San Diego
State: CA
Zip: 92101
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The need for finding sites for utilizing solar energy must be filled with responsible parameters for placing these facilities in ways that do not harm state and national parks. So I recommend the following

-Once amended, I really support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--The following are four proposed Solar Energy Zones (SEZ) that threaten our national parks, with recommendations to ameliorate their impact.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

additionally any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, William Tepper.

The comment tracking number that has been assigned to your comment is SolarD11346.

Comment Date: April 13, 2011 13:51:11PM
Solar Energy Development PEIS
Comment ID: SolarD11346

First Name: William
Middle Initial: D
Last Name: Tepper
Organization:
Address: 125 Baycliff Drive
Address 2:
Address 3:
City: Rochester
State: NY
Zip: 146094015
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is not a bad idea. However, it must be done in a way that it does not detract from the site or become a hindrance.

Thank you for your comment, Linda Winkler.

The comment tracking number that has been assigned to your comment is SolarD11347.

Comment Date: April 13, 2011 13:52:17PM
Solar Energy Development PEIS
Comment ID: SolarD11347

First Name: Linda
Middle Initial: J
Last Name: Winkler
Organization: Peace Action of Staten Island
Address: 138 Alden Place
Address 2:
Address 3:
City: SI
State: NY
Zip: 10301
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to further our sustainable energy sources, and it is up to the government to encourage the development of the industry. Tax incentives at both the commercial and residential levels should be considered; fossil fuels should be increasingly taxed to discourage their use and to aid the transition to clean energy sources such as solar power, wind energy, and water. Solar energy has so much potential which is currently being wasted. Please consider ways to implement the use of solar power for all Americans.

Alternative energy sources will provide new jobs in a blossoming industry, and keep the pollution from becoming worse, both of which are extremely important now.

Thank you for your comment, Mollie Schierman.

The comment tracking number that has been assigned to your comment is SolarD11348.

Comment Date: April 13, 2011 13:57:13PM
Solar Energy Development PEIS
Comment ID: SolarD11348

First Name: Mollie
Middle Initial: A
Last Name: Schierman
Organization:
Address: 4146 Zenith Avenue North
Address 2:
Address 3:
City: ROBBINSDALE
State: MN
Zip: 554221524
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy our heritage.

Thank you for your comment, Barbara Lafaver Gleason.

The comment tracking number that has been assigned to your comment is SolarD11349.

Comment Date: April 13, 2011 14:06:37PM
Solar Energy Development PEIS
Comment ID: SolarD11349

First Name: Barbara
Middle Initial: L
Last Name: Lafaver Gleason
Organization:
Address: 4479 Silverberry Ct.
Address 2:
Address 3:
City: Concord
State: CA
Zip: 945214419
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe in solar energy, but there must be safeguards to wildlife and sensitive desert ecology.

Thank you for your comment, Carol Gault.

The comment tracking number that has been assigned to your comment is SolarD11350.

Comment Date: April 13, 2011 14:06:58PM
Solar Energy Development PEIS
Comment ID: SolarD11350

First Name: Carol
Middle Initial: A
Last Name: Gault
Organization: Aspen Light Imaging
Address: 1028 Kings Row Ave.
Address 2:
Address 3: 1028 Kings Row Ave.
City: Carbondale
State: CO
Zip: 81623
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Power is great but it should be placed in an area that doesn't interfere with the parks other functions, preservation, wildlife management and tourism. Use the buildings already in place for the concessions and rangers for solar cell placement. Don't fill up all the empty places that are disappearing so rapidly in our country, leave places for the "buffalo (even though they are bison) to roam" and the desert tortoise to amble, and migrating birds to fly

Thank you for your comment, Karl Sundstrom.

The comment tracking number that has been assigned to your comment is SolarD11351.

Comment Date: April 13, 2011 14:21:59PM
Solar Energy Development PEIS
Comment ID: SolarD11351

First Name: Karl
Middle Initial: E
Last Name: Sundstrom
Organization:
Address: 2512 S.2nd Ave.
Address 2:
Address 3:
City: N.Riverside
State: IL
Zip: 60546
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is the future!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11352.

Comment Date: April 13, 2011 14:27:52PM
Solar Energy Development PEIS
Comment ID: SolarD11352

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization: COD STUDENT
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment: PEIS Letter.docx

Comment Submitted:

To whom it may concern,

I have been a resident of Indio, California for 4 years now while spending most of my childhood and early adult hood in Phoenix, Arizona. I have spent many hours on the I10 Freeway enjoying the vast beauty of the desert. I believe the project for green solar should be reviewed on a smaller scale, with a more logical plan to assess the outcomes of some of the proposed areas to put these issues to rest.

The implementation of green solar is important and necessary; however, the proposed scale of destruction is far too large for desert supporters to sleep at night. I do not believe the amount of construction proposed is absolutely necessary and shows a lack of compassion for the areas targeted. The immense payoff of the operation has sunk its teeth in the supporters and they are hiding behind the 'creation of jobs' logic.

The implementation of solar energy will be around for decades to come. Unfortunately, the battle between sides will continue to struggle as it seems as though no one is willing to meet in the middle, on common ground. The expectation that the entire desert should be left alone is a fantasy and I am aware of that, but the first stages of this solar plan should be minimized and analyzed accordingly. The world needs new energy plans and needs to execute the plans as soon as possible but as the saying goes, 'slow and steady wins the race'.

The belief that we need solar energy is correct, however, the scale of the proposal is far too large for all parties involved. If you expect to destroy vast desert lands and homes to many, you cannot expect that the everlasting effect will be minimal. The lands are inhabited by many, and to all of them, the desert land is not considered wastelands, it is considered home. Although we need green energy and solar implementation, we cannot destroy important pieces of human history and homes of many species on that large of a scale. To blanket 80% of the remaining PUBLIC desert lands is astronomical. The desert lands are a perfect place for green energy, and they are also a perfect place for the animals, plants and the historical value that occupy it. There needs to be a mutual agreement so that the desert solar can go into effect on a much smaller scale, to protect all that would be involved. It doesn't make sense to destroy that amount of desert land to promote clean energy.

I would like to believe that the efforts are genuine, to save the world from the inevitable demise. They are correct in stating it will create more jobs, but it will also blanket an entire civilization whether it is developed to your standards or not. Please consider the other side of the coin before covering an entire area with equipment. Begin small and consider the information you obtain, once that is done everyone will be able to weigh the positive and negative forces equally.

To whom it may concern,

I have been a resident of Indio, California for 4 years now while spending most of my childhood and early adult hood in Phoenix, Arizona. I have spent many hours on the I10 Freeway enjoying the vast beauty of the desert. I believe the project for green solar should be reviewed on a smaller scale, with a more logical plan to assess the outcomes of some of the proposed areas to put these issues to rest.

The implementation of green solar is important and necessary; however, the proposed scale of destruction is far too large for desert supporters to sleep at night. I do not believe the amount of construction proposed is absolutely necessary and shows a lack of compassion for the areas targeted. The immense payoff of the operation has sunk its teeth in the supporters and they are hiding behind the 'creation of jobs' logic.

The implementation of solar energy will be around for decades to come. Unfortunately, the battle between sides will continue to struggle as it seems as though no one is willing to meet in the middle, on common ground. The expectation that the entire desert should be left alone is a fantasy and I am aware of that, but the first stages of this solar plan should be minimized and analyzed accordingly. The world needs new energy plans and needs to execute the plans as soon as possible but as the saying goes, 'slow and steady wins the race'.

The belief that we need solar energy is correct, however, the scale of the proposal is far too large for all parties involved. If you expect to destroy vast desert lands and homes to many, you cannot expect that the everlasting effect will be minimal. The lands are inhabited by many, and to all of them, the desert land is not considered wastelands, it is considered home. Although we need green energy and solar implementation, we cannot destroy important pieces of human history and homes of many species on that large of a scale. To blanket 80% of the remaining PUBLIC desert lands is astronomical. The desert lands are a perfect place for green energy, and they are also a perfect place for the animals, plants and the historical value that occupy it. There needs to be a mutual agreement so that the desert solar can go into effect on a much smaller scale, to protect all that would be involved. It doesn't make sense to destroy that amount of desert land to promote clean energy.

I would like to believe that the efforts are genuine, to save the world from the inevitable demise. They are correct in stating it will create more jobs, but it will also blanket an entire civilization whether it is developed to your standards or not. Please consider the other side of the coin before covering an enormous area of desert land with solar equipment. Begin small and consider the information you obtain, once that is done everyone will be able to weigh the positive and negative forces equally.

Thank you for your comment, Ken Dawdy.

The comment tracking number that has been assigned to your comment is SolarD11353.

Comment Date: April 13, 2011 14:30:17PM
Solar Energy Development PEIS
Comment ID: SolarD11353

First Name: Ken
Middle Initial:
Last Name: Dawdy
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I stongly support solar energy development as long as it doesen'g conflict with National Park values.

Thank you for your comment, Donna Charpied.

The comment tracking number that has been assigned to your comment is SolarD11354.

Comment Date: April 13, 2011 14:39:21PM
Solar Energy Development PEIS
Comment ID: SolarD11354

First Name: Donna
Middle Initial: J
Last Name: Charpied
Organization: Citizens for the Chuckwalla Valley
Address: PO Box 397
Address 2: 45-200 Kaiser Road
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: CCV comments D PEIS.doc

Comment Submitted:

Thank you for your comment, Donna Charpied.

The comment tracking number that has been assigned to your comment is SolarD11355.

Comment Date: April 13, 2011 14:40:17PM
Solar Energy Development PEIS
Comment ID: SolarD11355

First Name: Donna
Middle Initial: J
Last Name: Charpied
Organization: Citizens for the Chuckwalla Valley
Address: PO Box 397
Address 2: 45-200 Kaiser Road
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: CCV comments D PEIS.doc

Comment Submitted:

Thank you for your comment, Donna Charpied.

The comment tracking number that has been assigned to your comment is SolarD11356.

Comment Date: April 13, 2011 14:41:25PM
Solar Energy Development PEIS
Comment ID: SolarD11356

First Name: Donna
Middle Initial: J
Last Name: Charpied
Organization: Citizens for the Chuckwalla Valley
Address: PO Box 397
Address 2: 45-200 Kaiser Road
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: CCV comments D PEIS.doc

Comment Submitted:

...the confluence of social and environmental movements, which deals with the inequitable environmental burden born by groups such as racial minorities, women, poor, or residents of rural areas and developing nations. It is a holistic effort that seeks to analyze and overcome the power structures that have targeted these groups and thwarted environmental

...the confluence of social and environmental movements, which deals with the inequitable environmental burden born by groups such as racial minorities, women, poor, or residents of rural areas and developing nations. It is a holistic effort that seeks to analyze and overcome the power structures that have targeted these groups and thwarted environmental

...the confluence of social and environmental movements, which deals with the inequitable environmental burden born by groups such as racial minorities, women, poor, or residents of rural areas and developing nations. It is a holistic effort that seeks to analyze and overcome the power structures that have targeted these groups and thwarted environmental

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Thank you for your comment, Deidre Moderacki.

The comment tracking number that has been assigned to your comment is SolarD11357.

Comment Date: April 13, 2011 14:45:49PM
Solar Energy Development PEIS
Comment ID: SolarD11357

First Name: Deidre
Middle Initial:
Last Name: Moderacki
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As Climate Change continues we will need more and more forested acres if we are to try to balance out our environment. With this in mind, no plans to destroy more wilderness should be considered until all the existing open areas already within fully developed areas are utilized. Solar panels can easily be erected along train lines, around sports areas, over mall parking fields to name a few. Making the planet hotter by cutting down more trees to set up solar panels for energy will not help.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11358.

Comment Date: April 13, 2011 14:46:19PM
Solar Energy Development PEIS
Comment ID: SolarD11358

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jean Naples.

The comment tracking number that has been assigned to your comment is SolarD11359.

Comment Date: April 13, 2011 14:50:32PM
Solar Energy Development PEIS
Comment ID: SolarD11359

First Name: Jean
Middle Initial: M
Last Name: Naples
Organization: Johns Hopkins Bloomberg School of Public Health
Address: 9 Benson Street
Address 2:
Address 3:
City: West Haverstraw
State: NY
Zip: 10993
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am writing with the following comments as there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Also, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Please work to ensure that the construction of any national solar energy project is in harmony with its natural surroundings. This benefits everyone and all wildlife in the USA.

Thank you for your comment, Martha Richardson.

The comment tracking number that has been assigned to your comment is SolarD11360.

Comment Date: April 13, 2011 14:58:48PM
Solar Energy Development PEIS
Comment ID: SolarD11360

First Name: Martha
Middle Initial: H
Last Name: Richardson
Organization:
Address:
Address 2:
Address 3:
City: Junction
State: TX
Zip: 76849
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

These are the areas which are of concern and need to be amended properly.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

The wilderness experience should not be diminished by the placement of solar panels, or the disruption of wildlife or its habitat to accommodate this energy. I am strongly in favor of using it appropriately.

Thank you for your comment, Barry De Jasu.

The comment tracking number that has been assigned to your comment is SolarD11361.

Comment Date: April 13, 2011 15:01:05PM
Solar Energy Development PEIS
Comment ID: SolarD11361

First Name: Barry
Middle Initial:
Last Name: De Jasu
Organization:
Address: 20 Hampton Ave. apt. 512
Address 2:
Address 3: 20 Hampton Ave. apt. 512
City: Northampton
State: MA
Zip: 01060
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be given full attention. Subsidy money should be redirected from oil, coal and nuclear and given to solar and other green energy technologies.

Thank you for your comment, Nathan Kagan.

The comment tracking number that has been assigned to your comment is SolarD11362.

Comment Date: April 13, 2011 15:03:32PM
Solar Energy Development PEIS
Comment ID: SolarD11362

First Name: Nathan
Middle Initial:
Last Name: Kagan
Organization: helpyourbodynaturally.com
Address: 4639 Jerome st.
Address 2:
Address 3:
City: Skokie
State: IL
Zip: 60076
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

<http://democracyinactionblog.com/2011/04/12/happiness-and-budget/>
What makes us happy? Nature is our foundation as species.

Thank you for your comment, Gary Thaler.

The comment tracking number that has been assigned to your comment is SolarD11363.

Comment Date: April 13, 2011 15:04:53PM
Solar Energy Development PEIS
Comment ID: SolarD11363

First Name: Gary
Middle Initial: L
Last Name: Thaler
Organization:
Address: 84 Bradstreet Avenue
Address 2:
Address 3:
City: Revere
State: MA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear Decision Maker,

Please ensure that solar energy infrastructure building does not endanger environmentally at-risk areas of public lands in the states being considered for these installations. On behalf of the preservation of our country's irreplaceable natural resources and we citizens who are vitally concerned with this sacred responsibility, I thank you.

Sincerely,
Gary Thaler

Thank you for your comment, Eric Fosburgh.

The comment tracking number that has been assigned to your comment is SolarD11364.

Comment Date: April 13, 2011 15:07:45PM
Solar Energy Development PEIS
Comment ID: SolarD11364

First Name: Eric
Middle Initial:
Last Name: Fosburgh
Organization:
Address: 1415 E Republican St #203
Address 2:
Address 3:
City: Seattle
State: WA
Zip: 98112
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elizabeth Guzynski.

The comment tracking number that has been assigned to your comment is SolarD11365.

Comment Date: April 13, 2011 15:08:26PM
Solar Energy Development PEIS
Comment ID: SolarD11365

First Name: Elizabeth
Middle Initial:
Last Name: Guzynski
Organization:
Address: 144 Cooley Rd
Address 2:
Address 3:
City: Mooresville
State: NC
Zip: 281179253
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very much in favor of solar energy and would STRONGLY encourage its use on roof tops of all commercial buildings and providing benefits to private installers of solar energy devises.
It worries me to think of doing anything to our National Parks. There is so much that we can do with out using or harming our park systems. Please consider these remarks.

Thank you for your comment, Nervo Viviane .

The comment tracking number that has been assigned to your comment is SolarD11366.

Comment Date: April 13, 2011 15:11:41PM
Solar Energy Development PEIS
Comment ID: SolarD11366

First Name: Nervo
Middle Initial: N
Last Name: Viviane
Organization:
Address: imp delphine
Address 2:
Address 3:
City: Nice
State:
Zip:
Country: FRA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy : yes !

Thank you for your comment, ELI PATSIS.

The comment tracking number that has been assigned to your comment is SolarD11367.

Comment Date: April 13, 2011 15:21:31PM
Solar Energy Development PEIS
Comment ID: SolarD11367

First Name: ELI
Middle Initial:
Last Name: PATSIS
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

For the sake of our only home---planet earth---we need to reduce our distructive efforts for more oil and use the wind and sun which are available with minimal damage to the earth. We need, also, to reduce population growth---humanity is overwhelming our resources.

Thank you for your comment, Ludger Wilp.

The comment tracking number that has been assigned to your comment is SolarD11368.

Comment Date: April 13, 2011 15:22:30PM
Solar Energy Development PEIS
Comment ID: SolarD11368

First Name: Ludger
Middle Initial: G
Last Name: Wilp
Organization: ProWal
Address: Poettering 21
Address 2:
Address 3:
City: Bottrop
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy panels grow in Germany like mushrooms.

Thank you for your comment, Marina Baker.

The comment tracking number that has been assigned to your comment is SolarD11369.

Comment Date: April 13, 2011 15:25:14PM
Solar Energy Development PEIS
Comment ID: SolarD11369

First Name: Marina
Middle Initial:
Last Name: Baker
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Hello - just a quick note to say that I support any solar projects, as long as they don't harm our national parks.
Thank you for your time, if you wish to reply, email is best.
Thank you!
Marina

Thank you for your comment, Terry Vaccaro.

The comment tracking number that has been assigned to your comment is SolarD11370.

Comment Date: April 13, 2011 15:28:25PM
Solar Energy Development PEIS
Comment ID: SolarD11370

First Name: Terry
Middle Initial:
Last Name: Vaccaro
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need to get away from depending on oil and things from other countries.
Solar energy is the best way.

Thank you for your comment, Thomas Singleton.

The comment tracking number that has been assigned to your comment is SolarD11371.

Comment Date: April 13, 2011 15:32:25PM
Solar Energy Development PEIS
Comment ID: SolarD11371

First Name: Thomas
Middle Initial: L
Last Name: Singleton
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. However, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,
Thomas Singleton

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11372.

Comment Date: April 13, 2011 15:32:41PM
Solar Energy Development PEIS
Comment ID: SolarD11372

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ingrid Crickmore.

The comment tracking number that has been assigned to your comment is SolarD11373.

Comment Date: April 13, 2011 15:36:39PM
Solar Energy Development PEIS
Comment ID: SolarD11373

First Name: Ingrid
Middle Initial:
Last Name: Crickmore
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I have two main comments regarding this PEIS. One is an overarching argument against the sacrifice of unspoiled or even little-spoiled wild public lands to industrial development, especially to the types of risky and unproven large-scale solar projects currently being proposed.

My second comment is to strongly protest any plan for impacting the areas around the Iron Mt.s of s. California.

1. Most currently proposed solar projects in the California desert are based on technology that is already outmoded or has suddenly become prohibitively expensive in comparison to photovoltaic generation situated near or in the area it will be used.

All these technologies including photovoltaic are untested in large-scale desert environments where they will be subject to extremes of wind-blown sand and dust.

Monetary incentives and pre-authorized zones of development will encourage a huge rush of inappropriate commercial development that is all too likely to become yet another desert boondoggle, and on a scale of destruction that dwarfs all previous western mining-of-investors/taxpayers-pockets while trashing public lands.

It is becoming clearer with every study that renewable energy should NOT be located far from the point where it will be used. It is a more appropriate use of public funds to encourage solar and wind development on disturbed land, including private land, near and in the cities where the power will be used.

Publicly owned arid lands in the west are our largest and last reservoirs of natural biodiversity--not only for us as a nation, but possibly for the whole world (excluding tundra, which is itself critically endangered by global warming). Current research suggests that carbon sequestration in DESERT areas is equal to or higher than that of rainforest
http://www.ecostudies.org/press/Schlesinger_Science_13_June_2008.pdf

--this may partly be due to the complex botanical/biological nature of what most people think of as "wasteland".

The effect on our environment of scraping bare these rich carbon-sequestering areas to make large-scale solar factories with outmoded technology (that will use up almost as much energy as they produce by the time construction, maintenance and transmission costs are factored in) is likely to be completely negative.

Additionally, the harm to our still-functioning complex biodiverse ecosystems and species will be irreparable. Once a large functioning ecosystem is fragmented by development, breakdown of natural processes, migration routes, interdependent species etc inevitably occurs. Furthermore, the developed areas then "invite" further development, becoming an ipso facto argument against further protection, since they are now no longer "pristine".

I live in California and am most familiar with California desert areas, but my concerns regarding industrial solar development in unimpacted, wild public lands extends to other states as well. I have backpacked and botanized in many other western states, and those areas are equally deserving of longterm protection.

In California, the BLM desert districts are specifically mandated to be managed for conservation, which should preclude industrial development, especially on the scale of energy projects currently approved and proposed, and the size and pristine locations of the PEIS solar zones.

2. Iron Mts

The Iron Mts are a proposed wilderness area, an important Desert Bighorn Sheep area and link in their migration routes between the Calumet Mts and the Old Woman Mts. I have camped, hiked and backpacked in the Iron Mts. They are gorgeous wild rugged areas with amazing views, large natural tinajas (natural water-holding basins in otherwise seasonally dry canyons) used by bighorn sheep and other wildlife, especially birds. We still haven't seen the bighorn sheep there in the flesh, but their sign (trails and scat) is everywhere, especially in the rocky canyons and near the tinajas. The mt. range is small, as are the other mt. ranges nearby that the Bighorn also use, and their vitally important migration routes across to these other ranges would be threatened by any development in the proposed PEIS Iron Mts areas.

On the east side of the range the proposed solar zone covers an important historic area--a General Patton' WWII training camp. This is the most visually interesting of any of these WWII training areas--encompassing acres and acres of mysterious rock-lined "avenues" and "yard" or tent area demarcations intricately laid out with desert rocks cleared from the surroundings. These impeccably straight lines of hand-laid rocks go through the desert shrubs and washes, and are almost invisible from a distance. They emerge into view seemingly magically when one is on the site.

There are at least 2 "chapels", one is a small, beautifully worked single-wall structure with a mosaic-like cross of rocks imbedded in it. Another amazing feature is a fenced in war-games contour map of the surrounding desert ranges--dug into and constructed of rock and dirt, which Patton and his troops used as a strategy-planning area for their military exercises. To my knowledge, nothing like this is left in any of the other known areas that his battalions camped and trained in.

The rest of the proposed PEIS Iron Mt solar areas extend up and around the range north and west and not only cut off bighorn sheep routes between the surrounding ranges but also impact the viewshed from the several wilderness areas of these ranges. Furthermore the whole area between these mountains is highly impacted by blowing sand from both the Bristol Dry lake right next to the Irons, and the Rice Valley dune area to the east. Intermittent low dunes and seasonally muddy and dry alkali flats cover the area to the north of the Irons and fierce sandstorms are generated off them regularly. This is NOT a good area to erect mirrors or photovoltaic panels for solar energy generation--it is a natural sandblasting area. This is actually true for the whole PEIS proposed Iron mt area. Even the Patton's camp area gets sandstorm activity, though it has less blow sand than to the north. As an amateur botanist, I can attest to the rich botanical biodiversity that these rugged extremes produce--the amazing wildflowers and shrubs that grow in these rocky, sandy, and alkali areas belie the average citizen's idea that there are "no plants" in areas where one doesn't see any trees.

This huge remote area is inappropriate for industrial solar development both for economic, common-sense reasons and for the conservation of irreplaceable natural and historic resources. I strongly feel that the exact same arguments probably are true for almost all the PEIS proposed energy-development zones on pristine lands.

Solar development does not have to be in the desert--Germany has no desert and has put in more solar power generation than all the proposed California desert solar facilities, most of it in or near cities. Any reduction in solar radiation is probably more than made up for by ease of maintenance and lower losses from long-distance transmission lines.

Sincerely,
Ingrid Crickmore

Thank you for your comment, Fred Krohn.

The comment tracking number that has been assigned to your comment is SolarD11374.

Comment Date: April 13, 2011 15:38:02PM
Solar Energy Development PEIS
Comment ID: SolarD11374

First Name: Fred
Middle Initial:
Last Name: Krohn
Organization: The Vanishing Tower
Address: 5100 Monument Ave
Address 2:
Address 3:
City: Richmond
State: VA
Zip: 23230
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The whole point of replacing current fossil-fuel energy with geothermal, solar, wind, and oceanic energy is to insure the survival of all native plant and animal life, not just humans. If the animals die when relocated, relocate the energy facility instead. If vegetation interferes with an installation, build elsewhere. We should feel as if we belong to the world, not that the world 'belongs' to humans; we're only temporary tenants at best. We should leave a livable world for the next renter.

Thank you for your comment, Bob Jorgensen.

The comment tracking number that has been assigned to your comment is SolarD11375.

Comment Date: April 13, 2011 15:43:24PM
Solar Energy Development PEIS
Comment ID: SolarD11375

First Name: Bob
Middle Initial:
Last Name: Jorgensen
Organization:
Address:
Address 2:
Address 3:
City:
State: IL
Zip: 61611
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Making our National Parks into islands of self-sustaining energy generation and use is a Golden Goal! It will keep the parks clean and pristine and be an example for visitors to see.

Thank you for your comment, Dena Sher.

The comment tracking number that has been assigned to your comment is SolarD11376.

Comment Date: April 13, 2011 15:50:08PM
Solar Energy Development PEIS
Comment ID: SolarD11376

First Name: Dena
Middle Initial: N
Last Name: Sher
Organization:
Address: 212 West Highland Avenue
Address 2: Apt.-D-3
Address 3:
City: PHILADELPHIA
State: PA
Zip: 19118
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our National Park system is so special and unique that it's protection is vital. Although I believe strongly in alternate energy sources, our national parks should not suffer damage in the pursuit of new energy production.

I urge careful consideration of the new sites selected for the producing windpower.

Thank you for your comment, Linda Chambre.

The comment tracking number that has been assigned to your comment is SolarD11377.

Comment Date: April 13, 2011 15:50:31PM
Solar Energy Development PEIS
Comment ID: SolarD11377

First Name: Linda
Middle Initial:
Last Name: Chambre
Organization:
Address: 2342 W. Paradise Dr.
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 85029
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please do not put these solar panels where they will be in the way.

Thank you for your comment, Melanie Blackburn.

The comment tracking number that has been assigned to your comment is SolarD11378.

Comment Date: April 13, 2011 15:56:36PM
Solar Energy Development PEIS
Comment ID: SolarD11378

First Name: Melanie
Middle Initial:
Last Name: Blackburn
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elizabeth Havens.

The comment tracking number that has been assigned to your comment is SolarD11379.

Comment Date: April 13, 2011 15:58:10PM
Solar Energy Development PEIS
Comment ID: SolarD11379

First Name: Elizabeth
Middle Initial: A
Last Name: Havens
Organization: self
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Greetings,

I hit send on the wildlife page too quickly and didn't get to say what I really wanted to say, so consider this an extension of a former comment please.

I'm fairly fond of the desert tortoise, they are a fairly hardy species even if they are on the endangered lists. I just want to suggest that there are some fairly easy solutions to limiting impact on their habitat, and actually a few good ways to help them unintentionally. And still do all we want to with renewable energy!

My grandmother had a herd of them move into her garden when she lived in China Lake NWC, Two reasons. One she grew grapes in the yard, Two, she had an old chicken coop that the tortoises dug under the fence to hang out in and lay their eggs. I know not everyone will think this a really great idea, but really, doesn't hurt to have the kind of fencing that tortoises can get under but Coyotes can't, to raise cells off the ground so that animals can move about freely (not to mention keeps the coyotes and such from messing so much with equipment, they can only raise a leg so far. ;-)) and not lose all their roaming around space, and where you have a small green space, Grapes are a Great plant to grow, they make good shade on an arbor and supply food to an animal that is endangered. really, something to think about. Anyway thought I'd put in my two cents in remembrance of Grandma's old hard shelled friends.

Thank you for your consideration.

Thank you for your comment, Ron Kloberdanz.

The comment tracking number that has been assigned to your comment is SolarD11380.

Comment Date: April 13, 2011 16:00:57PM
Solar Energy Development PEIS
Comment ID: SolarD11380

First Name: Ron
Middle Initial:
Last Name: Kloberdanz
Organization:
Address: 2751 Kilconway Lane
Address 2:
Address 3:
City: South San Francisco
State: CA
Zip: 94080
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Nancy Wang.

The comment tracking number that has been assigned to your comment is SolarD11381.

Comment Date: April 13, 2011 16:05:25PM
Solar Energy Development PEIS
Comment ID: SolarD11381

First Name: Nancy
Middle Initial: A
Last Name: Wang
Organization: Eth-Noh-Tec
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Do not share my information, thank you.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

It is counter-ethical and counter-intelligent to injure any other resources or entities to provide solar energy for humans who have already injured the Earth's resources and other living creatures. Solar is good. Make it good in every aspect. Thank you.

Thank you for your comment, William Hance.

The comment tracking number that has been assigned to your comment is SolarD11382.

Comment Date: April 13, 2011 16:09:17PM
Solar Energy Development PEIS
Comment ID: SolarD11382

First Name: William
Middle Initial: A
Last Name: Hance
Organization:
Address: 503 S Ridley Creek Rd
Address 2:
Address 3:
City: Media
State: PA
Zip: 19063
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, jeffery dorer.

The comment tracking number that has been assigned to your comment is SolarD11383.

Comment Date: April 13, 2011 16:09:18PM
Solar Energy Development PEIS
Comment ID: SolarD11383

First Name: jeffery
Middle Initial:
Last Name: dorer
Organization:
Address: 5818 Fayette St.
Address 2: Apt. #1
Address 3:
City: Los Angeles
State: CA
Zip: 90042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

In moving to clean, renewable energy sources, we have to focus on why we're doing it: to meet our energy needs in a way that's minimally impactful to the world and its natural systems. And so any implementation that develops previously unspoiled land or denies wildlife the right-of-way would be painfully ironic and should be reconsidered.

Thank you for your comment, Wendy Oser.

The comment tracking number that has been assigned to your comment is SolarD11384.

Comment Date: April 13, 2011 16:12:33PM
Solar Energy Development PEIS
Comment ID: SolarD11384

First Name: Wendy
Middle Initial:
Last Name: Oser
Organization:
Address: 1439 Santa Fe Ave
Address 2:
Address 3:
City: Berkeley
State: CA
Zip: 94702
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Yes, yes, yes to solar development

Thank you for your comment, Linda Jagielo.

The comment tracking number that has been assigned to your comment is SolarD11385.

Comment Date: April 13, 2011 16:14:28PM
Solar Energy Development PEIS
Comment ID: SolarD11385

First Name: Linda
Middle Initial: M
Last Name: Jagielo
Organization:
Address: 1311-B Deal Court
Address 2:
Address 3:
City: Lancaster
State: OH
Zip: 431301902
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Lori Bryan.

The comment tracking number that has been assigned to your comment is SolarD11386.

Comment Date: April 13, 2011 16:25:13PM
Solar Energy Development PEIS
Comment ID: SolarD11386

First Name: Lori
Middle Initial: A
Last Name: Bryan
Organization:
Address: po box 2353
Address 2:
Address 3:
City: Durango
State: CO
Zip: 81302
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please keep solar energy development in appropriately sited zones that won't affect wildlife, water resources, archeological sites, and anything that might harm our national parks.

Thank you for your comment, Katherine Weed.

The comment tracking number that has been assigned to your comment is SolarD11387.

Comment Date: April 13, 2011 16:29:26PM
Solar Energy Development PEIS
Comment ID: SolarD11387

First Name: Katherine
Middle Initial: S
Last Name: Weed
Organization:
Address: PMB 233
Address 2: 130 Wildwood Pkwy. Suite 108
Address 3:
City: Birmingham
State: AL
Zip: 35209
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

All comments below are to reduce impact on wildlife and beauty of parks and wilderness: Please reconfigure Riverside Ease SEZ, remove Iron Man SEZ, remove Amargosa Valley SEZ for Death Valley also to protect desert wetlands, and remove Red Sands SEZ. My husband and I have visited Joshua Tree and Death Valley Parks and would like them protected so that our children and grandchildren may enjoy them as we did. Please provide that any proposed solar project within 15 miles of a National Park, monument, or wilderness area trigger a consultation with the National Park Service. We have many of these areas and been stunned by the beauty of this country. While we strongly support green energy projects, we also want to be sure that do not impact these areas.

Thank you for your comment, Carol Roeder.

The comment tracking number that has been assigned to your comment is SolarD11388.

Comment Date: April 13, 2011 16:29:58PM
Solar Energy Development PEIS
Comment ID: SolarD11388

First Name: Carol
Middle Initial: B
Last Name: Roeder
Organization:
Address: 2928 Peach Tree Road
Address 2:
Address 3:
City: Fallon
State: NV
Zip: 89406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is most important - however, so are our National Parks, recreation areas, etc. There are plenty of isolated areas that are not public that can tolerate solar power

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11389.

Comment Date: April 13, 2011 16:35:35PM
Solar Energy Development PEIS
Comment ID: SolarD11389

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I totally trust the National Parks Conservation Assoc. to make the best possible decisions for locating future alternative energy facility.
Ethel Trimmer

Thank you for your comment, John Pappas.

The comment tracking number that has been assigned to your comment is SolarD11390.

Comment Date: April 13, 2011 16:36:52PM
Solar Energy Development PEIS
Comment ID: SolarD11390

First Name: John
Middle Initial: T
Last Name: Pappas
Organization:
Address:
Address 2:
Address 3:
City:
State: IL
Zip: 60659
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

[Unrelated] You will accept Microsoft's proprietary (and often virus-laden) formats, but not OpenOffice/LibreOffice formats?!?
For a .gov website that is disgusting. I don't pay my taxes so you can advertise for Microsoft.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11391.

Comment Date: April 13, 2011 16:37:04PM
Solar Energy Development PEIS
Comment ID: SolarD11391

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization: PO Box 20352
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am all for solar energy, but we must develop it soundly and environmentally, unlike coal and oil development that has destroyed so much land and compromised many natural ecosystems. Here we have a chance to do it right the first time, so we need to do so. Some Points:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Thank you for your comment, G. Rose Montgomery.

The comment tracking number that has been assigned to your comment is SolarD11392.

Comment Date: April 13, 2011 16:41:17PM
Solar Energy Development PEIS
Comment ID: SolarD11392

First Name: G. Rose
Middle Initial:
Last Name: Montgomery
Organization:
Address: 28650 N Hwy 101
Address 2:
Address 3:
City: Lilliwaup
State: WA
Zip: 98555
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Can we try and get at least this one thing right?

Thank you for your comment, Jill Dorsey.

The comment tracking number that has been assigned to your comment is SolarD11393.

Comment Date: April 13, 2011 16:43:41PM
Solar Energy Development PEIS
Comment ID: SolarD11393

First Name: Jill
Middle Initial:
Last Name: Dorsey
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I appreciate your consideration.

Thank you for your comment, Tonya Cockrell.

The comment tracking number that has been assigned to your comment is SolarD11394.

Comment Date: April 13, 2011 16:54:00PM
Solar Energy Development PEIS
Comment ID: SolarD11394

First Name: Tonya
Middle Initial:
Last Name: Cockrell
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Glen Benjamin.

The comment tracking number that has been assigned to your comment is SolarD11395.

Comment Date: April 13, 2011 16:58:59PM
Solar Energy Development PEIS
Comment ID: SolarD11395

First Name: Glen
Middle Initial: S
Last Name: Benjamin
Organization:
Address: 140 Court Street Apt 209
Address 2:
Address 3:
City: Portsmouth
State: NH
Zip: 038014443
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to pursue solar energy as it is an energy that is natural, plentiful and once we perfect harvesting and storing our energy problems will be lessened dramatically. Between solar, wind and tidal sources we should be able to end our addiction to oil, coal and other dirty sources.

Thank you for your comment, Deborah Livingston.

The comment tracking number that has been assigned to your comment is SolarD11396.

Comment Date: April 13, 2011 17:00:06PM
Solar Energy Development PEIS
Comment ID: SolarD11396

First Name: Deborah
Middle Initial: L
Last Name: Livingston
Organization:
Address: 1901 Aggie Lane
Address 2:
Address 3:
City: Austin
State: TX
Zip: 78757
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kimberly Wiley.

The comment tracking number that has been assigned to your comment is SolarD11397.

Comment Date: April 13, 2011 17:00:19PM
Solar Energy Development PEIS
Comment ID: SolarD11397

First Name: Kimberly
Middle Initial:
Last Name: Wiley
Organization:
Address: 72 Chimney Hill Rd
Address 2:
Address 3:
City: Rochester
State: NY
Zip: 14612
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will enable us to end our dependence on foreign oil, buffer us from climate change, and promote national security, we are now presented with the opportunity to ensure that solar facilities are installed responsibly without harming our national parks. But, there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that do not compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for all generations to fully appreciate America's heritage.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I believe any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. Once amended, I would strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for allowing me to express my thoughts on responsible solar development that protects our national parks.

Thank you for your comment, Barbara Apgar.

The comment tracking number that has been assigned to your comment is SolarD11398.

Comment Date: April 13, 2011 17:01:30PM
Solar Energy Development PEIS
Comment ID: SolarD11398

First Name: Barbara
Middle Initial: J
Last Name: Apgar
Organization:
Address: 1155 N. Miranda St. #H-2
Address 2:
Address 3:
City: LAS CRUCES
State: NM
Zip: 88005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I urge acceptance of Solar Energy Zone Alternative. If projects are allowed outside the SEZ's, very large areas of citizen-proposed wilderness areas and other treasured state lands will be open to development. Solar development is good but only if well planned and responsibly developed.

Thank you for your comment, Marshall Sorkin.

The comment tracking number that has been assigned to your comment is SolarD11399.

Comment Date: April 13, 2011 17:03:28PM
Solar Energy Development PEIS
Comment ID: SolarD11399

First Name: Marshall
Middle Initial:
Last Name: Sorkin
Organization:
Address: 2920 W. Sherwin Ave.
Address 2:
Address 3:
City: Chicago
State: IL
Zip: 60645
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The National Parks should use solar energy, but it should be done in an environmentally sound way. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, Robin Fox.

The comment tracking number that has been assigned to your comment is SolarD11400.

Comment Date: April 13, 2011 17:03:50PM
Solar Energy Development PEIS
Comment ID: SolarD11400

First Name: Robin
Middle Initial:
Last Name: Fox
Organization: Hudson River Sloop Clearwater, Inc.
Address: 20 Short Hill Road
Address 2:
Address 3:
City: Croton-on-Hudson
State: NY
Zip: 10520
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

SOLAR ENERGY -- THE BRIGHTEST IDEA YET

Thank you for your comment, Bruce Berger.

The comment tracking number that has been assigned to your comment is SolarD11401.

Comment Date: April 13, 2011 17:16:46PM
Solar Energy Development PEIS
Comment ID: SolarD11401

First Name: Bruce
Middle Initial:
Last Name: Berger
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is overdue, but should not be developed at the expense of our natural areas such as Joshua Tree National Park. I hope solar energy will not compromise other features of the natural world we treasure.

Thank you for your comment, Carol Berkeley.

The comment tracking number that has been assigned to your comment is SolarD11402.

Comment Date: April 13, 2011 17:16:53PM
Solar Energy Development PEIS
Comment ID: SolarD11402

First Name: Carol
Middle Initial: A
Last Name: Berkeley
Organization:
Address: 10 Camelot Dr.
Address 2:
Address 3: 10 Camelot Dr.
City: Boxford
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for solar , but lets use common sense wwith this development so we don't do good with one hand and destroy with the other like mining, oil, coal and mountain top removal. We only have one planet lets start to care and preserveit before all is loss.

Thank you for your comment, Jacquelyn Sorby.

The comment tracking number that has been assigned to your comment is SolarD11403.

Comment Date: April 13, 2011 17:18:02PM
Solar Energy Development PEIS
Comment ID: SolarD11403

First Name: Jacquelyn
Middle Initial: J
Last Name: Sorby
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The desert is a delicate ecosystem. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. I have viewed solar power stations and they are not lovely.

Thank you for your comment, Edwina Smith.

The comment tracking number that has been assigned to your comment is SolarD11404.

Comment Date: April 13, 2011 17:27:31PM
Solar Energy Development PEIS
Comment ID: SolarD11404

First Name: Edwina
Middle Initial: R
Last Name: Smith
Organization:
Address: 258 Caselli Ave
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 941142323
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, carole hagen.

The comment tracking number that has been assigned to your comment is SolarD11405.

Comment Date: April 13, 2011 17:37:52PM
Solar Energy Development PEIS
Comment ID: SolarD11405

First Name: carole
Middle Initial:
Last Name: hagen
Organization: -myself
Address: 1140 nw warrenton drive unit 322
Address 2:
Address 3:
City: warrenton
State: OR
Zip: 971469438
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is awesome---great activity!

Thank you for your comment, Dianna Mullen.

The comment tracking number that has been assigned to your comment is SolarD11406.

Comment Date: April 13, 2011 17:38:48PM
Solar Energy Development PEIS
Comment ID: SolarD11406

First Name: Dianna
Middle Initial: L
Last Name: Mullen
Organization:
Address: 1813 8th Ave
Address 2:
Address 3: 1813 8th Ave
City: Kearney
State: NE
Zip: 68845
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I moved into my house in November, 1982. A few years later, during Reagan's administration, I added solar panels. At the time, I couldn't get a loan to cover the whole package, so I had to do without the dormer, the battery back-up, and the water heater assist. I did this because I liked the idea of a renewal energy source, and I also liked the idea of lower heating costs. And gas prices weren't anywhere near as high as they are now.

The solar helps, but I feel that more is needed. I understand that there have been improvements; but more is needed there, too. If we are to break free of our dependance on foreign oil, more is definitely needed.

Thank you for your comment, Allan Yorkowitz.

The comment tracking number that has been assigned to your comment is SolarD11407.

Comment Date: April 13, 2011 17:40:59PM
Solar Energy Development PEIS
Comment ID: SolarD11407

First Name: Allan
Middle Initial:
Last Name: Yorkowitz
Organization:
Address: 49 Albemarle Rd
Address 2:
Address 3:
City: Colonia
State: NJ
Zip: 07067
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

A little common sense goes a long way.

Thank you for your comment, John Pittenger.

The comment tracking number that has been assigned to your comment is SolarD11408.

Comment Date: April 13, 2011 17:52:23PM
Solar Energy Development PEIS
Comment ID: SolarD11408

First Name: John
Middle Initial: T
Last Name: Pittenger
Organization: None
Address: 54A Hudson Parkway
Address 2:
Address 3:
City: Whiting
State: NJ
Zip: 087596303
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to get away from fossil fuels, nuclear, coal, and hydro fracturing. It is time to use safer and better technologies.

Thank you for your comment, Michael Strawn.

The comment tracking number that has been assigned to your comment is SolarD11409.

Comment Date: April 13, 2011 17:54:59PM
Solar Energy Development PEIS
Comment ID: SolarD11409

First Name: Michael
Middle Initial: J
Last Name: Strawn
Organization:
Address:
Address 2:
Address 3:
City: Warren
State: MI
Zip: 48093
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within land parcels that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, there are four proposed Solar Energy Zones (SEZ) that I think should be altered because they threaten certain national parks:

- The Riverside East SEZ should be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ should be removed entirely in order to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ should be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands that are home to endangered species such as the Devil's Hole Pupfish.
- The Red Sands SEZ should be reduced or reconfigured as well, as it threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

in addition, any proposed solar projects located within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, the BLM should include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Again, with these changes I strongly support the Solar Energy Zone alternative.

Thank you for your comment, Patricia Erwin.

The comment tracking number that has been assigned to your comment is SolarD11410.

Comment Date: April 13, 2011 17:55:45PM
Solar Energy Development PEIS
Comment ID: SolarD11410

First Name: Patricia
Middle Initial:
Last Name: Erwin
Organization:
Address: Pattyerwin@gmail.com
Address 2:
Address 3:
City: Duluth
State: GA
Zip: 30096
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My husband & I live in a Solar assisted home which he designed during the Carter Administration. I don't believe that it causes problems for our neighbors to live near us; it is a good use of modified passive solar energy. Many people who see it for the first time comment how lovely it is and it saves us energy on cooling & heating!

Thank you for your comment, Alexander Thomas Creighton.

The comment tracking number that has been assigned to your comment is SolarD11411.

Comment Date: April 13, 2011 18:06:32PM
Solar Energy Development PEIS
Comment ID: SolarD11411

First Name: Alexander Thomas
Middle Initial:
Last Name: Creighton
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Save the planet while there is time left !

Thank you for your comment, William Frayer.

The comment tracking number that has been assigned to your comment is SolarD11412.

Comment Date: April 13, 2011 18:11:40PM
Solar Energy Development PEIS
Comment ID: SolarD11412

First Name: William
Middle Initial: E
Last Name: Frayer
Organization:
Address: 2339 Meachem St.
Address 2:
Address 3:
City: Racine
State: WI
Zip: 534032463
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linda Susan Scheurer.

The comment tracking number that has been assigned to your comment is SolarD11413.

Comment Date: April 13, 2011 18:12:52PM
Solar Energy Development PEIS
Comment ID: SolarD11413

First Name: Linda Susan
Middle Initial:
Last Name: Scheurer
Organization:
Address: 235 Pawnee Drive
Address 2:
Address 3:
City: Boulder
State: CO
Zip: 80303
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Andy Lynn.

The comment tracking number that has been assigned to your comment is SolarD11414.

Comment Date: April 13, 2011 18:15:07PM
Solar Energy Development PEIS
Comment ID: SolarD11414

First Name: Andy
Middle Initial:
Last Name: Lynn
Organization:
Address: 3671 Colonial Trail
Address 2:
Address 3:
City: Douglasville
State: GA
Zip: 301351108
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11415.

Comment Date: April 13, 2011 18:15:24PM

Solar Energy Development PEIS

Comment ID: SolarD11415

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

We must have affordable solar for all.

Thank you for your comment, ruth grauert.

The comment tracking number that has been assigned to your comment is SolarD11416.

Comment Date: April 13, 2011 18:20:16PM
Solar Energy Development PEIS
Comment ID: SolarD11416

First Name: ruth
Middle Initial:
Last Name: grauert
Organization: bearnstow
Address: 83 sanford pl
Address 2:
Address 3:
City: jersey city
State: NJ
Zip: 07307
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

In no way should our Parks become "energy farms". However they should generate the electricity that they consume. Solar panels for path lighting where it exists, etc.

We all should.

Thank you for your comment, Teresa Wurts.

The comment tracking number that has been assigned to your comment is SolarD11417.

Comment Date: April 13, 2011 18:25:10PM
Solar Energy Development PEIS
Comment ID: SolarD11417

First Name: Teresa
Middle Initial: B
Last Name: Wurts
Organization:
Address: 201 Apache Drive
Address 2:
Address 3:
City: Princeton
State: KY
Zip: 42445
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Martin and Susan Bruegel.

The comment tracking number that has been assigned to your comment is SolarD11418.

Comment Date: April 13, 2011 18:25:52PM
Solar Energy Development PEIS
Comment ID: SolarD11418

First Name: Martin and Susan
Middle Initial:
Last Name: Bruegel
Organization:
Address: 202 Glen Ave
Address 2:
Address 3:
City: West Chester
State: PA
Zip: 19382
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Adamski.

The comment tracking number that has been assigned to your comment is SolarD11419.

Comment Date: April 13, 2011 18:36:37PM
Solar Energy Development PEIS
Comment ID: SolarD11419

First Name: Robert
Middle Initial: E
Last Name: Adamski
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There is a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

This plan is a good first attempt at planning to help meet our nation's future requirements. Once amended, the Solar Energy Zone alternative plan, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology is a responsible and economically sound plan that will boost our nation's energy supplies in an environmentally responsible way.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks and need to be reconsidered. First, the Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. Second, the Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. Third, the Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Finally, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I would support the recommendation that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Our national parks and wildlife refuge areas are truly unique and precious national treasures. Please provide our national parks with the respect and robust protection they so richly deserve. Protect them for future generations of Americans. Modify the draft Solar Energy Development plan to satisfy these environmental concerns.

Thank you for your comment, Maureen Kavanagh.

The comment tracking number that has been assigned to your comment is SolarD11420.

Comment Date: April 13, 2011 18:36:59PM
Solar Energy Development PEIS
Comment ID: SolarD11420

First Name: Maureen
Middle Initial:
Last Name: Kavanagh
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

In my opinion Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Karen Stickney.

The comment tracking number that has been assigned to your comment is SolarD11421.

Comment Date: April 13, 2011 18:44:26PM
Solar Energy Development PEIS
Comment ID: SolarD11421

First Name: Karen
Middle Initial: e
Last Name: Stickney
Organization:
Address: 4 Arbania St.
Address 2:
Address 3: 4 Arbania St.
City: Auburn
State: ME
Zip: 04210
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's necessary.

Thank you for your comment, Rachel de Rougemont.

The comment tracking number that has been assigned to your comment is SolarD11422.

Comment Date: April 13, 2011 18:48:56PM
Solar Energy Development PEIS
Comment ID: SolarD11422

First Name: Rachel
Middle Initial:
Last Name: de Rougemont
Organization:
Address: 1928 1/2 kent street
Address 2:
Address 3:
City: los angeles
State: CA
Zip: 90026
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Renewable energy is imperative

Thank you for your comment, Ron Roberts.

The comment tracking number that has been assigned to your comment is SolarD11423.

Comment Date: April 13, 2011 18:48:59PM
Solar Energy Development PEIS
Comment ID: SolarD11423

First Name: Ron
Middle Initial: A
Last Name: Roberts
Organization:
Address: 5080 Haven Place
Address 2:
Address 3:
City: Dublin
State: CA
Zip: 94568
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As an American citizen I implore you to help further the cause of green renewable energy such as solar and wind power. If we don't lead we follow and the other countries may initiate policies contrary to our best interests.

Thank you for your comment, John Nettleton.

The comment tracking number that has been assigned to your comment is SolarD11424.

Comment Date: April 13, 2011 18:54:19PM
Solar Energy Development PEIS
Comment ID: SolarD11424

First Name: John
Middle Initial:
Last Name: Nettleton
Organization:
Address: 4311 SE 37th Ave. #21
Address 2:
Address 3:
City:
State: OR
Zip: 97202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's time to make sane energy choices. The downsides of coal, oil and nuclear are only too clear for anyone who isn't making a profit from them.

Thank you for your comment, Allan Campbell.

The comment tracking number that has been assigned to your comment is SolarD11425.

Comment Date: April 13, 2011 18:58:44PM
Solar Energy Development PEIS
Comment ID: SolarD11425

First Name: Allan
Middle Initial: L
Last Name: Campbell
Organization: NPCA
Address: 3162 Isadora Dr
Address 2:
Address 3:
City: San Jose
State: CA
Zip: 95132
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Terry Peterson.

The comment tracking number that has been assigned to your comment is SolarD11426.

Comment Date: April 13, 2011 19:05:12PM
Solar Energy Development PEIS
Comment ID: SolarD11426

First Name: Terry
Middle Initial:
Last Name: Peterson
Organization:
Address: 667 Thorn Street
Address 2:
Address 3:
City: Imperial Beach
State: CA
Zip: 91932
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As long as it is done correctly and aesthetically I am for solar power in Death Valley

Thank you for your comment, Andrew Politzer.

The comment tracking number that has been assigned to your comment is SolarD11427.

Comment Date: April 13, 2011 19:08:20PM
Solar Energy Development PEIS
Comment ID: SolarD11427

First Name: Andrew
Middle Initial:
Last Name: Politzer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is time to start making big steps toward alternative sources of energy and fuel.

Thank you for your comment, Elsy Shallman.

The comment tracking number that has been assigned to your comment is SolarD11428.

Comment Date: April 13, 2011 19:10:24PM
Solar Energy Development PEIS
Comment ID: SolarD11428

First Name: Elsy
Middle Initial:
Last Name: Shallman
Organization: N/A
Address: 17294 37th Place North
Address 2:
Address 3: 17294 37th Place North
City: Loxahatchee
State: FL
Zip: 33470
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Shirley Smith.

The comment tracking number that has been assigned to your comment is SolarD11429.

Comment Date: April 13, 2011 19:18:19PM
Solar Energy Development PEIS
Comment ID: SolarD11429

First Name: Shirley
Middle Initial: M
Last Name: Smith
Organization:
Address: 25115 E. Broadway Ave.
Address 2: Apt. 3
Address 3:
City: Veneta
State: OR
Zip: 97487
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I completely agree with Solar Energy Development as long as it does not interfere with our National Parks. Our wildlife and wilderness ecosystems should be protected for future generations.

Tourists appreciate our pristine wilderness and clear, star-filled nights from all of our beautiful, majestic National Parks!

Thank you for your comment, Wendy kalthoff.

The comment tracking number that has been assigned to your comment is SolarD11430.

Comment Date: April 13, 2011 19:30:55PM
Solar Energy Development PEIS
Comment ID: SolarD11430

First Name: Wendy
Middle Initial: b
Last Name: kalthoff
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Karla Horst.

The comment tracking number that has been assigned to your comment is SolarD11431.

Comment Date: April 13, 2011 19:32:45PM
Solar Energy Development PEIS
Comment ID: SolarD11431

First Name: Karla
Middle Initial: A
Last Name: Horst
Organization:
Address:
Address 2:
Address 3:
City: Littleton
State: CO
Zip: 80128
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Use the sun!

Thank you for your comment, LaVerne Zehrung.

The comment tracking number that has been assigned to your comment is SolarD11432.

Comment Date: April 13, 2011 19:33:20PM
Solar Energy Development PEIS
Comment ID: SolarD11432

First Name: LaVerne
Middle Initial:
Last Name: Zehrung
Organization:
Address: 90 E wysteria Ct.
Address 2:
Address 3:
City: Shelton
State: WA
Zip: 98584
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please use scientifically up to date research to site solar energy generation we thought for the plants and animals that could be impacted. We need to protect and conserve, as well as decrease prod. of dangerous carbon levels. Thank you, LaVerne Frankie Zehrung.

Thank you for your comment, Silvia Hall.

The comment tracking number that has been assigned to your comment is SolarD11433.

Comment Date: April 13, 2011 19:33:33PM
Solar Energy Development PEIS
Comment ID: SolarD11433

First Name: Silvia
Middle Initial: A
Last Name: Hall
Organization: NA
Address: 349 NE 31st Street
Address 2:
Address 3:
City: Boca Raton
State: FL
Zip: 33431
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom It May Concern,

I live in Florida and I support solar power, but I also understand that even solar and other renewables energy will have their own issues that we will have to solve.

I understand that there are four proposed Solar Energy Zones (SEZ) that threaten our national parks. I would suggest the following:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I think that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

-

Thank you for your comment, Carolyn Clark.

The comment tracking number that has been assigned to your comment is SolarD11434.

Comment Date: April 13, 2011 19:33:35PM
Solar Energy Development PEIS
Comment ID: SolarD11434

First Name: Carolyn
Middle Initial:
Last Name: Clark
Organization:
Address: 573 12th Ave
Address 2:
Address 3:
City: SLC
State: UT
Zip: 84103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the development of solar, wind, and clean (NOT NUCLEAR) energies. Solar Enterprise Zones are a good idea IF they are carefully planned. Please do not sacrifice National Parks, wildlife, wilderness, and scenic areas.

Solar Zones should be at least 15 miles from wilderness, National Parks, and National Monuments.

I have particular concerns about locating an SEZ near Joshua Tree NP (Iron Mtn and Riverside East zones), Death Valley NP (Amargosa Valley), and White Sands NP (Red Sands).

Please review carefully these impacts. Just amend the initiative so that wildlife, parks, wilderness, and visitor peace & quiet will not be compromised.

Instead, use carefully planned solar zones.

Thank you for your comment, Frances Mackiewicz.

The comment tracking number that has been assigned to your comment is SolarD11435.

Comment Date: April 13, 2011 19:38:59PM
Solar Energy Development PEIS
Comment ID: SolarD11435

First Name: Frances
Middle Initial: J
Last Name: Mackiewicz
Organization:
Address: 708 Capstan Avenue
Address 2:
Address 3:
City: Beachwood
State: NJ
Zip: 08722
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As time goes on, we have to consider other sources of energy as the population grows. If one of our present sources of energy should be depleted or may not be enough to supply the demand, we should have available other sources to choose from to satisfy the needs of the people. I support solar energy development only within appropriately sited Solar Energy Zones. Therefore, we must consider the future of generations to come.

Thank you for your comment, Kristina Thorpe.

The comment tracking number that has been assigned to your comment is SolarD11436.

Comment Date: April 13, 2011 19:41:00PM
Solar Energy Development PEIS
Comment ID: SolarD11436

First Name: Kristina
Middle Initial:
Last Name: Thorpe
Organization:
Address: PO Box 3284
Address 2:
Address 3:
City: Redmond
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Paul Tarlowe.

The comment tracking number that has been assigned to your comment is SolarD11437.

Comment Date: April 13, 2011 19:42:29PM
Solar Energy Development PEIS
Comment ID: SolarD11437

First Name: Paul
Middle Initial:
Last Name: Tarlowe
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jake Wolfhart.

The comment tracking number that has been assigned to your comment is SolarD11438.

Comment Date: April 13, 2011 19:45:06PM
Solar Energy Development PEIS
Comment ID: SolarD11438

First Name: Jake
Middle Initial: C
Last Name: Wolfhart
Organization: Peace works
Address: P.O. Box 1193
Address 2:
Address 3:
City: capitan
State: NM
Zip: 88316
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

peace and use Solar Power Please. Let have more clean air.

Thank you for your comment, Patricia Montijo.

The comment tracking number that has been assigned to your comment is SolarD11439.

Comment Date: April 13, 2011 19:45:19PM

Solar Energy Development PEIS

Comment ID: SolarD11439

First Name: Patricia

Middle Initial: C

Last Name: Montijo

Organization:

Address: 357 8th Street

Address 2:

Address 3:

City: Springfield

State: OR

Zip: 97477

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Our National Parks are a priority and should be protected. Solar energy development should be away from our park boundaries.

Thank you for your comment, Richard Nix.

The comment tracking number that has been assigned to your comment is SolarD11440.

Comment Date: April 13, 2011 19:49:21PM
Solar Energy Development PEIS
Comment ID: SolarD11440

First Name: Richard
Middle Initial:
Last Name: Nix
Organization:
Address: 13200 SW 53rd St
Address 2:
Address 3:
City: Ocala
State: FL
Zip: 34481
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Thank you for your comment, Shauna Fuller.

The comment tracking number that has been assigned to your comment is SolarD11441.

Comment Date: April 13, 2011 19:58:12PM
Solar Energy Development PEIS
Comment ID: SolarD11441

First Name: Shauna
Middle Initial: K
Last Name: Fuller
Organization:
Address: 88042 Llama Lane
Address 2:
Address 3:
City: Veneta
State: OR
Zip: 97487
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I applaud the use of solar energy; however, only if it does no harm to our National Parks. We must protect them for our children and grandchildren.

Thank you for your comment, Reid Betz.

The comment tracking number that has been assigned to your comment is SolarD11442.

Comment Date: April 13, 2011 20:06:45PM
Solar Energy Development PEIS
Comment ID: SolarD11442

First Name: Reid
Middle Initial:
Last Name: Betz
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I have been interested in developing solar energy solutions most of my life. As one involved in the urban planning and construction industry, I cannot stress enough that I feel that, whatever energy production types we use, we have to aim toward a model of distributed generation. This model will provide a more robust infrastructure with less risk of major failure and will put energy generation closer to the end user, reducing transmission losses. This means that we should not sacrifice our parks and other lands and turn them into power plants, but look to build solar panel systems where it makes sense, such as on the roof of a building, a canopy over a parking lot to provide shade, or even over a highway. This not only puts energy generation near to the user, but will also provide shelter so that buildings have lower cooling needs, the heat island effect will be reduced, and the pavement will last longer.

Thank you for your comment, Noreen Weeden.

The comment tracking number that has been assigned to your comment is SolarD11443.

Comment Date: April 13, 2011 20:11:57PM
Solar Energy Development PEIS
Comment ID: SolarD11443

First Name: Noreen
Middle Initial:
Last Name: Weeden
Organization:
Address: 493 Vermont St
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 94107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should require a consultation with the National Park Service to determine whether the project has negative impacts or diminishes national park resources or visitor enjoyment. The BLM must include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, cherie townsend.

The comment tracking number that has been assigned to your comment is SolarD11444.

Comment Date: April 13, 2011 20:13:41PM
Solar Energy Development PEIS
Comment ID: SolarD11444

First Name: cherie
Middle Initial:
Last Name: townsend
Organization:
Address: 5600 largo lane
Address 2:
Address 3:
City: crestwood
State: KY
Zip: 40014
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

dont take our parks too

Thank you for your comment, Robert New.

The comment tracking number that has been assigned to your comment is SolarD11445.

Comment Date: April 13, 2011 20:21:27PM
Solar Energy Development PEIS
Comment ID: SolarD11445

First Name: Robert
Middle Initial:
Last Name: New
Organization:
Address: 2 Teenies Tiny Rd
Address 2:
Address 3:
City: Rutland
State: VT
Zip: 057019820
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please take care to locate solar farms in appropriate places.

Thank you for your comment, Joan Kramer.

The comment tracking number that has been assigned to your comment is SolarD11446.

Comment Date: April 13, 2011 20:27:53PM
Solar Energy Development PEIS
Comment ID: SolarD11446

First Name: Joan
Middle Initial: G
Last Name: Kramer
Organization:
Address: 1834 1/2 Lake Shore Ave.
Address 2:
Address 3: 1834 1/2 Lake Shore Ave.
City: Los Angeles
State: CA
Zip: 90026
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please consider where you put your solar development and do not locate them in areas that endanger animals and plants that are vital to national parks and our sensitive desert ecology. One such proposal in the Mojave requires the removal of tortoises and this would most surely kill them. Consult with the National Park Services to be sure it doesn't impact or diminish national park resources or visitor enjoyment. Preferably locate them outside of such areas.

Thank you for your comment, safiya balekian.

The comment tracking number that has been assigned to your comment is SolarD11447.

Comment Date: April 13, 2011 20:28:36PM
Solar Energy Development PEIS
Comment ID: SolarD11447

First Name: safiya
Middle Initial:
Last Name: balekian
Organization:
Address: po box 235
Address 2:
Address 3:
City: crestone
State: CO
Zip: 81131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am deeply concerned about the emphasis on Industrial Solar as a solution to our energy issues. This is a short-sighted, old fashioned paradigm that has proven to be unsustainable in oil, gas, coal, and nuclear energy production.

The Industrial-scale model will prove to be another drain on the economy, requiring huge subsidies and tax incentives. Large corporations will certainly benefit, but at an untenable cost to consumers, who will be required to live with the impact to the environment, the water, wildlife, and quality of living. In addition, unbelievably, the proposal does not take into account the vulnerabilities of such massive, centralized energy generation to our national security!

The science does not actually support the claims of Big Solar that net greenhouse gas emissions will be reduced. Just because the projects have the word "solar" in them, does not in any way imply that they are cost-effective, practical or sustainable. Why not utilize the thousands of acres of already existing rooftops for the more secure, low-impact, high returns of Distributed Generation?? This will also eliminate the need for expensive transmission line construction.

Please reconsider the strategy to provide yet another windfall for corporations without giving careful consideration to our environment and the citizens that rely on you to do the right thing.

Thank you for the opportunity to weigh-in on this important issue.

Thank you for your comment, Michael Toto.

The comment tracking number that has been assigned to your comment is SolarD11448.

Comment Date: April 13, 2011 20:38:32PM
Solar Energy Development PEIS
Comment ID: SolarD11448

First Name: Michael
Middle Initial: W
Last Name: Toto
Organization:
Address: 22 Great Pasture Rd
Address 2:
Address 3:
City: Redding
State: CT
Zip: 06896
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Support Solar Energy in every way possible.

Thank you for your comment, Sylvia Kaneko.

The comment tracking number that has been assigned to your comment is SolarD11449.

Comment Date: April 13, 2011 20:40:32PM
Solar Energy Development PEIS
Comment ID: SolarD11449

First Name: Sylvia
Middle Initial: Y
Last Name: Kaneko
Organization: NA
Address: 22 Pettee St
Address 2:
Address 3:
City: Newton
State: MA
Zip: 024641213
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development must be pursued only in those areas where the flora and fauna cannot be harmed. A Profesor at MIT has just discovered a means of storing solar energy which will ultimately make it an extraordinarily accessible, clean and inexpensive energy source. We have to keep the oil,gas and coal industries from blocking development of far cheaper, cleaner, safer solar power.

Thank you for your comment, Lisa Jacobson.

The comment tracking number that has been assigned to your comment is SolarD11450.

Comment Date: April 13, 2011 20:42:10PM
Solar Energy Development PEIS
Comment ID: SolarD11450

First Name: Lisa
Middle Initial:
Last Name: Jacobson
Organization:
Address: 3621 sw 21 street
Address 2:
Address 3:
City: Miami
State: FL
Zip: 33145
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please make the important decision of where to put solar energy zones with the public, wildlife and environment all in mind. There are still many pristine places and we have only one chance to get it right. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Frank Schneider.

The comment tracking number that has been assigned to your comment is SolarD11451.

Comment Date: April 13, 2011 20:46:56PM
Solar Energy Development PEIS
Comment ID: SolarD11451

First Name: Frank
Middle Initial: C
Last Name: Schneider
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We who live in the San Bernardino County Desert and southwest US Desert, know that the jobs politicians are talking about are not worth the price of Solar on Public Desert Land. First of all, the hundreds of jobs are all temporary except for maybe ten. Big foreign made tractors ripping up the desert-land are not permanent jobs. Second, the impact of the big scraper blades crushing the endanger Tortoise in their burrows, along with all the vegetation that going to be rip up, both common and rare that will be loss is mind bogging. And consider criminal to me. Have they thought of migrating birds looking for their food chain of life that they depended on that was in the flowering plants that will be lost because of ripping up the land vegetation during their migrations effect will be? The transmission lines and towers that will be necessary to carry solar energy will scar the desert for more years than my grandchildren?s children, children will ever see it as it is now. Third the price the desert has to pay for large cities, and metropolitan area to burn their flood light on all night is a joke. When I was young we did not burn light all night (I still do not) as some large city people do now days. Why does the desert have to be destroyed for light pollution abusers? Why not introduce a bill that would outlaw outside lights on after 9 PM. Please encourage roof-top solar and not miles and miles of rip up the living desert, just for light-polluters?

Thank you for your comment, Michelle Hoff.

The comment tracking number that has been assigned to your comment is SolarD11452.

Comment Date: April 13, 2011 20:48:08PM
Solar Energy Development PEIS
Comment ID: SolarD11452

First Name: Michelle
Middle Initial: L
Last Name: Hoff
Organization:
Address: 2413 Stony Garden Rd
Address 2:
Address 3:
City: Kintnersville
State: PA
Zip: 18930
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Michelle L. Hoff

Thank you for your comment, Renee Lillard.

The comment tracking number that has been assigned to your comment is SolarD11453.

Comment Date: April 13, 2011 20:52:35PM
Solar Energy Development PEIS
Comment ID: SolarD11453

First Name: Renee
Middle Initial:
Last Name: Lillard
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jeanne Deller.

The comment tracking number that has been assigned to your comment is SolarD11454.

Comment Date: April 13, 2011 20:55:56PM
Solar Energy Development PEIS
Comment ID: SolarD11454

First Name: Jeanne
Middle Initial: M
Last Name: Deller
Organization:
Address: 4235 164 Ave SE
Address 2:
Address 3:
City: Issaquah
State: WA
Zip: 98027
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We are in desperate need of solar energies to offset further destruction of our planet through drilling wells. No third world societies deserve to be destroyed for big oil profits. The public has to become stronger than the wasteful government/political farces we're facing.

Thank you for your comment, Peter Branch.

The comment tracking number that has been assigned to your comment is SolarD11455.

Comment Date: April 13, 2011 20:56:28PM
Solar Energy Development PEIS
Comment ID: SolarD11455

First Name: Peter
Middle Initial:
Last Name: Branch
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly encourage the administration to invest heavily in the research of D. Daniel Nocera and his team at MIT in the development of the so-called "Artificial Leaf" device for using solar energy to cheaply and effectively split water and produce hydrogen:

<http://www.climatecentral.org/blogs/nocera-takes-solar-energy-for-the-masses-one-step-further/>

The administration should further invest much capital into producing the resulting technology cheaply. It is simply unbelievable that the administration is supporting the failed nuclear industry and proposing to expand the use of nuclear power, when relatively green and infinitely safer technologies like that mentioned above are now possible, particularly in view of the ongoing nuclear disaster in Japan. No nukes!

Thank you,
Peter Branch

Thank you for your comment, Karen Erickson.

The comment tracking number that has been assigned to your comment is SolarD11456.

Comment Date: April 13, 2011 20:59:11PM
Solar Energy Development PEIS
Comment ID: SolarD11456

First Name: Karen
Middle Initial: J
Last Name: Erickson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, i support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks. (1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. (2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. (3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. (4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I love our national parks, and want to preserve them for our future generations. I think solar energy is so important! We just need to keep in mind policies that will protect our national parks. Thanks for reading my statement.

Sincerely,
K.J.S.E.

Thank you for your comment, Sharon Fetter.

The comment tracking number that has been assigned to your comment is SolarD11457.

Comment Date: April 13, 2011 21:11:52PM
Solar Energy Development PEIS
Comment ID: SolarD11457

First Name: Sharon
Middle Initial:
Last Name: Fetter
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Sharon Fetter

Thank you for your comment, Keeta Beaubien.

The comment tracking number that has been assigned to your comment is SolarD11458.

Comment Date: April 13, 2011 21:12:14PM
Solar Energy Development PEIS
Comment ID: SolarD11458

First Name: Keeta
Middle Initial:
Last Name: Beaubien
Organization:
Address: 4242 Betsie River
Address 2:
Address 3:
City: Interlochen
State: MI
Zip: 496439575
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is a great!

Thank you for your comment, Marc Draper.

The comment tracking number that has been assigned to your comment is SolarD11459.

Comment Date: April 13, 2011 21:18:33PM
Solar Energy Development PEIS
Comment ID: SolarD11459

First Name: Marc
Middle Initial: L
Last Name: Draper
Organization:
Address: 2589 E. 3020 So,
Address 2:
Address 3: 2589 E. 3020 So,
City: Millcreek
State: UT
Zip: 84109
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, abby schult.

The comment tracking number that has been assigned to your comment is SolarD11460.

Comment Date: April 13, 2011 21:20:28PM
Solar Energy Development PEIS
Comment ID: SolarD11460

First Name: abby
Middle Initial:
Last Name: schult
Organization:
Address: 7816 blackberry ave.
Address 2:
Address 3:
City: saint louis
State: MO
Zip: 631302706
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Jon Hager.

The comment tracking number that has been assigned to your comment is SolarD11461.

Comment Date: April 13, 2011 21:30:05PM
Solar Energy Development PEIS
Comment ID: SolarD11461

First Name: Jon
Middle Initial:
Last Name: Hager
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need wise and intelligent decisions for our energy future. These decisions should be aided by scientific study and field review. Please help this nation to become energy dependent by using truly renewable energy sources. But let us make the correct choices, so that we do not compromise our wild life, our wilderness or the natural beauty of this nation.

Thank you for your comment, Noah-D.M. Sanchez.

The comment tracking number that has been assigned to your comment is SolarD11462.

Comment Date: April 13, 2011 21:31:48PM
Solar Energy Development PEIS
Comment ID: SolarD11462

First Name: Noah-D.M.
Middle Initial:
Last Name: Sanchez
Organization: Sierra club Tampa Bay, Florida Voices For Animals,
Address: 1414 E 108th Ave Apt A
Address 2:
Address 3:
City: Tampa
State: FL
Zip: 336125494
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Sacred mother earth can't wait much longer. Make everything as basic simple as possible include all a.n.d. get it done asap. Strive diligently not to harm life & plants & elements.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11463.

Comment Date: April 13, 2011 21:35:06PM
Solar Energy Development PEIS
Comment ID: SolarD11463

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

While I whole heartily support solar energy, even in my own back yard (Please!), I do not support solar development in wilderness areas. Wilderness areas are just that, wild. They are essential for our spiritual well being and should remain as pristine and unaltered as is humanly possible.

Thank you for your comment, Timothy Schacht.

The comment tracking number that has been assigned to your comment is SolarD11464.

Comment Date: April 13, 2011 21:51:55PM
Solar Energy Development PEIS
Comment ID: SolarD11464

First Name: Timothy
Middle Initial:
Last Name: Schacht
Organization:
Address: 1330 Whittier Road
Address 2:
Address 3: 1330 Whittier Road
City: Grosse Pointe Park
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ann Wasgatt.

The comment tracking number that has been assigned to your comment is SolarD11465.

Comment Date: April 13, 2011 21:55:46PM
Solar Energy Development PEIS
Comment ID: SolarD11465

First Name: Ann
Middle Initial: E
Last Name: Wasgatt
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. Personally, I believe that refitting existing rooftops with solar panels would solve many of our problems with locations, costs, and environmental damage.

Thank you for considering my comments.

Thank you for your comment, Peter Eriksson.

The comment tracking number that has been assigned to your comment is SolarD11466.

Comment Date: April 13, 2011 21:56:22PM
Solar Energy Development PEIS
Comment ID: SolarD11466

First Name: Peter
Middle Initial:
Last Name: Eriksson
Organization:
Address: 5508 Dowgate Ct Apt T2
Address 2:
Address 3:
City: Rockville
State: MD
Zip: 208512020
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11467.

Comment Date: April 13, 2011 21:58:15PM
Solar Energy Development PEIS
Comment ID: SolarD11467

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy is a viable source of energy and should be used where possible; however, it should not affect the National Parks.

Please read these points below:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Evangelina Romero.

The comment tracking number that has been assigned to your comment is SolarD11468.

Comment Date: April 13, 2011 22:03:35PM
Solar Energy Development PEIS
Comment ID: SolarD11468

First Name: Evangelina
Middle Initial: V
Last Name: Romero
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar letter.docx

Comment Submitted:

To: Whom it May concern

I have lived in the Coachella valley all my life, have seen this valley grow. I know there are many decisions that need to be made people that oppose to the thought of having this new alternative solar panels, but others think it is a good idea for the solar system here in the valley, yes there are many questions not answered and the community is worried about the thought of this new addition. The community needs to know more on the advantages and disadvantages that this system will bring.

Taking a look at what the solar system can perform and how it will be run can make a difference here in the Coachella valley it would benefit everyone, first of all because of the abundant sunlight here in the valley, it would also give every one more options on where to acquire energy, we will not only have IID and Edison but the new alternative solar energy which will be more natural and better for our environment. But it is a decision that needs more thought to it, because it is hard to believe that something that enormous can come here to Riverside County. Another good thing is that it will benefit our local economy by bringing in new jobs and maybe lower electrical rates especially in the summer time.

One of the thoughts I had in taking a look at the new solar system is the maintenance the care for these panels will they resist the heat in the valley? I am hoping it is a material that can resist because at looking at the panels it made me think how it would be maintained will these panels be able to take the heat, and will they be a recyclable material, or maybe they have a specific place to dispose of them. 80% of the land in East Riverside is a huge area to cover.

Solar energy has its advantages and disadvantages and I think it is an advantage for the Coachella valley. Because it is an alternative source for our community and it is solar energy that we can benefit from, we have plenty of sunlight that can help with the new addition, jobs can also be available. The disadvantages will be the beauty of the desert and the animals that run across the vast area will not have the freedom that they ones had in the place where this large construction will take place, but I hope all is for the best of the community and our environment.

Sincerely
Evangelina Romero

To: Whom it May concern

I have lived in the Coachella valley all my life, have seen this valley grow. I know there are many decisions that need to be made people that oppose to the thought of having this new alternative solar panels but other think it is a good idea for the solar system here in the valley, yes there are many questions not answered and the community is worried about the thought of this new addition. The community needs to know more on the advantages and disadvantages that this system will bring.

Taking a look at what the solar system can perform and how it will be run can make a difference here in the Coachella valley it would benefit everyone, first of all because of the abundant sunlight here in the valley, it would also give every one more options on where to acquire energy, we will not only have IID and Edison but the new alternative solar energy which will be more natural and better for our environment. But it is a decision that needs more thought to it, because it is hard to believe that something that enormous can come here to Riverside County. Another good thing is that it will benefit our local economy by bringing in new jobs and maybe lower electrical rates especially in the summer time.

One of the thoughts I had in taking a look at the new solar system is the maintenance the care for these panels will they resist the heat in the valley? I am hoping it is a material that can resist because at looking at the panels it made me think how it would be maintained will these panels be able to take the heat, and will they be a recyclable material, or maybe they have a specific place to dispose of them. 80% of the land in East Riverside is a huge area to cover.

Solar energy has its advantages and disadvantages and I think it is an advantage for the Coachella valley. Because it is an alternative source for our community and it is solar energy that we can benefit from, we have plenty of sunlight that can help with the new addition, jobs can also

be available. The disadvantages will be the beauty of the desert and the animals that run across the vast area will not have the freedom that they ones had in the place where this large construction will take place, but I hope all is for the best of the community and our environment.

Sincerely

Evangelina Romero

Thank you for your comment, Evangelina Romero.

The comment tracking number that has been assigned to your comment is SolarD11469.

Comment Date: April 13, 2011 22:03:38PM
Solar Energy Development PEIS
Comment ID: SolarD11469

First Name: Evangelina
Middle Initial: V
Last Name: Romero
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar letter.docx

Comment Submitted:

To: Whom it May concern

I have lived in the Coachella valley all my life, have seen this valley grow. I know there are many decisions that need to be made people that oppose to the thought of having this new alternative solar panels, but others think it is a good idea for the solar system here in the valley, yes there are many questions not answered and the community is worried about the thought of this new addition. The community needs to know more on the advantages and disadvantages that this system will bring.

Taking a look at what the solar system can perform and how it will be run can make a difference here in the Coachella valley it would benefit everyone, first of all because of the abundant sunlight here in the valley, it would also give every one more options on where to acquire energy, we will not only have IID and Edison but the new alternative solar energy which will be more natural and better for our environment. But it is a decision that needs more thought to it, because it is hard to believe that something that enormous can come here to Riverside County. Another good thing is that it will benefit our local economy by bringing in new jobs and maybe lower electrical rates especially in the summer time.

One of the thoughts I had in taking a look at the new solar system is the maintenance the care for these panels will they resist the heat in the valley? I am hoping it is a material that can resist because at looking at the panels it made me think how it would be maintained will these panels be able to take the heat, and will they be a recyclable material, or maybe they have a specific place to dispose of them. 80% of the land in East Riverside is a huge area to cover.

Solar energy has its advantages and disadvantages and I think it is an advantage for the Coachella valley. Because it is an alternative source for our community and it is solar energy that we can benefit from, we have plenty of sunlight that can help with the new addition, jobs can also be available. The disadvantages will be the beauty of the desert and the animals that run across the vast area will not have the freedom that they ones had in the place where this large construction will take place, but I hope all is for the best of the community and our environment.

Sincerely
Evangelina Romero

To: Whom it May concern

I have lived in the Coachella valley all my life, have seen this valley grow. I know there are many decisions that need to be made people that oppose to the thought of having this new alternative solar panels but other think it is a good idea for the solar system here in the valley, yes there are many questions not answered and the community is worried about the thought of this new addition. The community needs to know more on the advantages and disadvantages that this system will bring.

Taking a look at what the solar system can perform and how it will be run can make a difference here in the Coachella valley it would benefit everyone, first of all because of the abundant sunlight here in the valley, it would also give every one more options on where to acquire energy, we will not only have IID and Edison but the new alternative solar energy which will be more natural and better for our environment. But it is a decision that needs more thought to it, because it is hard to believe that something that enormous can come here to Riverside County. Another good thing is that it will benefit our local economy by bringing in new jobs and maybe lower electrical rates especially in the summer time.

One of the thoughts I had in taking a look at the new solar system is the maintenance the care for these panels will they resist the heat in the valley? I am hoping it is a material that can resist because at looking at the panels it made me think how it would be maintained will these panels be able to take the heat, and will they be a recyclable material, or maybe they have a specific place to dispose of them. 80% of the land in East Riverside is a huge area to cover.

Solar energy has its advantages and disadvantages and I think it is an advantage for the Coachella valley. Because it is an alternative source for our community and it is solar energy that we can benefit from, we have plenty of sunlight that can help with the new addition, jobs can also

be available. The disadvantages will be the beauty of the desert and the animals that run across the vast area will not have the freedom that they ones had in the place where this large construction will take place, but I hope all is for the best of the community and our environment.

Sincerely

Evangelina Romero

Thank you for your comment, Mandi Adkins.

The comment tracking number that has been assigned to your comment is SolarD11470.

Comment Date: April 13, 2011 22:08:37PM
Solar Energy Development PEIS
Comment ID: SolarD11470

First Name: Mandi
Middle Initial:
Last Name: Adkins
Organization:
Address: 5216 Bougenville Dr
Address 2:
Address 3:
City: New Port Richey
State: FL
Zip: 34652
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development

Thank you for your comment, Marilyn Ritsky.

The comment tracking number that has been assigned to your comment is SolarD11471.

Comment Date: April 13, 2011 22:10:47PM
Solar Energy Development PEIS
Comment ID: SolarD11471

First Name: Marilyn
Middle Initial:
Last Name: Ritsky
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Points:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rebecca Goodrich.

The comment tracking number that has been assigned to your comment is SolarD11472.

Comment Date: April 13, 2011 22:20:05PM

Solar Energy Development PEIS

Comment ID: SolarD11472

First Name: Rebecca

Middle Initial:

Last Name: Goodrich

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

I support alternative energy, such as wind farms, if located outside of national parklands and monuments, and created using the best, up-to-date science, such as the use of purple paint, which dramatically reduces the number of bird deaths associated with wind farms.

Thank you for your comment, Lynette Hopkins.

The comment tracking number that has been assigned to your comment is SolarD11473.

Comment Date: April 13, 2011 22:48:05PM
Solar Energy Development PEIS
Comment ID: SolarD11473

First Name: Lynette
Middle Initial: L
Last Name: Hopkins
Organization:
Address:
Address 2:
Address 3:
City:
State: CA
Zip: 91405
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very much in favor of solar energy, which is natural, safe and always available. Please do whatever you can to achieve this goal.

Thank you for your comment, Steven Cook.

The comment tracking number that has been assigned to your comment is SolarD11474.

Comment Date: April 13, 2011 23:11:09PM
Solar Energy Development PEIS
Comment ID: SolarD11474

First Name: Steven
Middle Initial:
Last Name: Cook
Organization:
Address: P.O. Box 3037
Address 2:
Address 3:
City: Big Bear Lake
State: CA
Zip: 92315
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please be sure to take the environment into account when implementing new solar and other programs. We do not want newer green technologies to create a bigger problem than they are being used to solve!

Thank you for your comment, David McGlocklin.

The comment tracking number that has been assigned to your comment is SolarD11475.

Comment Date: April 13, 2011 23:17:50PM
Solar Energy Development PEIS
Comment ID: SolarD11475

First Name: David
Middle Initial: A
Last Name: McGlocklin
Organization:
Address: 2702 Cadiz Street
Address 2:
Address 3: 2702 Cadiz Street
City: Davis
State: CA
Zip: 95616
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

A new large solar project is going into the Sacramento, CA area. TThhe solar panel are from a Chinese company, not a USA company. This saddens me.

Thank you for your comment, G BartlettPalmer.

The comment tracking number that has been assigned to your comment is SolarD11476.

Comment Date: April 13, 2011 23:19:07PM
Solar Energy Development PEIS
Comment ID: SolarD11476

First Name: G
Middle Initial:
Last Name: BartlettPalmer
Organization:
Address: PO Box 5377
Address 2:
Address 3:
City: Clinton
State: NJ
Zip: 088095377
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Soar energy is clean energy and when need that kind of energy more than ever. Our plant is experiencing more and more drastic weather changes and species are dying because their natural habitats are vanishing. We are making the air we breath unbreathable and our future children will suffer in the long run.

Thank you for your comment, Michael Hester.

The comment tracking number that has been assigned to your comment is SolarD11477.

Comment Date: April 13, 2011 23:38:30PM
Solar Energy Development PEIS
Comment ID: SolarD11477

First Name: Michael
Middle Initial: D
Last Name: Hester
Organization:
Address:
Address 2:
Address 3:
City: Upper Lake
State: CA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

nooooo!

Thank you for your comment, Juliette Cunico.

The comment tracking number that has been assigned to your comment is SolarD11478.

Comment Date: April 13, 2011 23:40:44PM
Solar Energy Development PEIS
Comment ID: SolarD11478

First Name: Juliette
Middle Initial:
Last Name: Cunico
Organization:
Address: 414 Richmond Pl., NE
Address 2:
Address 3:
City: Albuquerque
State: NM
Zip: 87106
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy use but under the following conditions: the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11479.

Comment Date: April 13, 2011 23:47:07PM
Solar Energy Development PEIS
Comment ID: SolarD11479

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Be reasonable in designating solar to National Parks. We do not need more visual pollution in our pristine parks.

Thank you for your comment, Jacquie Hoggard.

The comment tracking number that has been assigned to your comment is SolarD11480.

Comment Date: April 13, 2011 23:56:42PM
Solar Energy Development PEIS
Comment ID: SolarD11480

First Name: Jacquie
Middle Initial: K
Last Name: Hoggard
Organization:
Address: 40 Ridgewood Pkwy
Address 2:
Address 3:
City: Newport News
State: VA
Zip: 236081925
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As we move toward renewable energy planning to help us change our reliance on foreign oil, help us protect the areas involved, and still keep our national security safe, we must make sure that solar areas are placed in where national parks are not changed.

The federal government has begun a review which includes California, Arizona, Nevada, New Mexico, Utah, and Colorado. I feel this is an area with which I am familiar, as I travelled here in the past, visiting nearly all of the parks which existed at that time. But now I realize that most of that travel was done in the 1960's, and I am sure they have changed in many ways since I had the privilege to visit!

There are both right and wrong ways that this development is done, but my biggest concern is that no "improvement" should occur in solar energy zones in national park areas, that would compromise the park wildlife, water resources, scenery, night sky viewing, archeological sites, and the opportunity to enjoy completely the heritage, beauty and sounds that are part of America's heritage in the parks.

Four proposed Solar Energy Zones (SEZ) that threaten our national parks, and would not be acceptable:

- (1) The Riverside East SEZ must be reconfigured to reduce the impact to Joshua Tree National Park's wilderness and wildlife areas;
- (2) Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife;
- (3) The Armargosa Valley SEZ (I am not familiar with this area) must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species like the Devil's Hold Pupfish;
- (4) And the same must be addressed in the Red Sands area (I remember so well the beauty of the red sands, and how much we enjoyed Bryce, Zion, Arches, is it Cathedral Peaks(?), & others and the glorious color of the soil, as we called it! I guess there is a lot to be said about a family remembering these things for over 50 years! It certainly doesn't seem so long ago - it was so memorable! And I am 80 years old, and there's a lot of newer things I don't remember as well!) The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any solar projects within 15 miles of a national park boundary should be changed and a consultation with the National Park Service should be begun to determine whether the project in any way impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital the Bureau of Land Management include proposed national parks, wilderness areas, and national forests or monuments as areas not to be used as high conflict areas or for industrial solar development.

Thank you for your time.

Sincerely,

Thank you for your comment, dogan ozkan.

The comment tracking number that has been assigned to your comment is SolarD11481.

Comment Date: April 14, 2011 00:07:17AM
Solar Energy Development PEIS
Comment ID: SolarD11481

First Name: dogan
Middle Initial:
Last Name: ozkan
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Daniel Woods.

The comment tracking number that has been assigned to your comment is SolarD11482.

Comment Date: April 14, 2011 00:16:29AM
Solar Energy Development PEIS
Comment ID: SolarD11482

First Name: Daniel
Middle Initial:
Last Name: Woods
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am all for saving Mother Earth and all her beautiful creatures while preserving a future for the next generation(s).Solar energy is paramount in finally getting away from dirty fossil fuels!!!!

Thank you for your comment, Peter Laughlin.

The comment tracking number that has been assigned to your comment is SolarD11483.

Comment Date: April 14, 2011 00:18:19AM
Solar Energy Development PEIS
Comment ID: SolarD11483

First Name: Peter
Middle Initial: G
Last Name: Laughlin
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Melissa Epple.

The comment tracking number that has been assigned to your comment is SolarD11484.

Comment Date: April 14, 2011 00:53:51AM
Solar Energy Development PEIS
Comment ID: SolarD11484

First Name: Melissa
Middle Initial:
Last Name: Epple
Organization:
Address: 20 Village Lane
Address 2:
Address 3:
City: Santa Fe
State: NM
Zip: 875059368
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is needed now! A practical plan that works with national parks wildlife, archeology, water resource, nightsky viewing, and scenery is doable! What is in our way of creating solar parks is only in our limited mind.

Thank you for your comment, Krishna Dangol.

The comment tracking number that has been assigned to your comment is SolarD11485.

Comment Date: April 14, 2011 01:16:25AM
Solar Energy Development PEIS
Comment ID: SolarD11485

First Name: Krishna
Middle Initial: M
Last Name: Dangol
Organization:
Address: 253/44,Ranidevi Marg, Lazimpat
Address 2: 253/44,Ranidevi Marg, Lazimpat
Address 3: 253/44,Ranidevi Marg, Lazimpat
City: Kathmandu
State:
Zip:
Country: NPL
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Be veg, Go Green, use Renewable Energy 2 save our Planet.

Thank you for your comment, Piotr Marczakiewicz.

The comment tracking number that has been assigned to your comment is SolarD11486.

Comment Date: April 14, 2011 01:19:59AM
Solar Energy Development PEIS
Comment ID: SolarD11486

First Name: Piotr
Middle Initial:
Last Name: Marczakiewicz
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Nancy Freedland.

The comment tracking number that has been assigned to your comment is SolarD11487.

Comment Date: April 14, 2011 01:29:11AM
Solar Energy Development PEIS
Comment ID: SolarD11487

First Name: Nancy
Middle Initial:
Last Name: Freedland
Organization:
Address: PO Box 2175
Address 2:
Address 3:
City: Big Bear City
State: CA
Zip: 92314
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I live in an area that has a large amount of sunshine days each year. Trying to collect solar energy in areas where there is not enough sunshine days per year wastes time and money. If we're going to do this in our country, we should be smart and do it correctly.

Thank you for your comment, Debbie Thorn.

The comment tracking number that has been assigned to your comment is SolarD11488.

Comment Date: April 14, 2011 01:49:34AM
Solar Energy Development PEIS
Comment ID: SolarD11488

First Name: Debbie
Middle Initial:
Last Name: Thorn
Organization:
Address: 710 18th Avenue West
Address 2:
Address 3:
City: Kirkland
State: WA
Zip: 98033
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

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--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and

Thank you for your comment, Parvez Zuberi.

The comment tracking number that has been assigned to your comment is SolarD11489.

Comment Date: April 14, 2011 02:33:48AM
Solar Energy Development PEIS
Comment ID: SolarD11489

First Name: Parvez
Middle Initial:
Last Name: Zuberi
Organization:
Address: 122/2 32nd street DHA 6
Address 2:
Address 3:
City: Karachi
State:
Zip:
Country: PAK
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Nothing could be better then using Solar Energy

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11490.

Comment Date: April 14, 2011 02:38:56AM
Solar Energy Development PEIS
Comment ID: SolarD11490

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lorinda Roland.

The comment tracking number that has been assigned to your comment is SolarD11491.

Comment Date: April 14, 2011 03:12:17AM
Solar Energy Development PEIS
Comment ID: SolarD11491

First Name: Lorinda
Middle Initial:
Last Name: Roland
Organization:
Address:
Address 2:
Address 3:
City: Olga
State: WA
Zip: 98279
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very much in favor of solar energy and other clean renewable energy sources. But I am very concerned that these energy sources - solar, wind and water not have a destructive impact on the ecosystems/environments where they are located. I've lived over 30 years of my life in California...I know and love the deserts...and am concerned about the negative impact solar panels, wind turbines and the pipelines may have on the native plants and wildlife as well as the aesthetic beauty of these environments. These deserts are fragile - their ecosystems must be protected.

Thank you for your comment, E. James Nedeau.

The comment tracking number that has been assigned to your comment is SolarD11492.

Comment Date: April 14, 2011 03:14:21AM
Solar Energy Development PEIS
Comment ID: SolarD11492

First Name: E. James
Middle Initial:
Last Name: Nedeau
Organization:
Address: 2278 Harding Ave.
Address 2:
Address 3:
City: Muskegon
State: MI
Zip: 494411322
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11493.

Comment Date: April 14, 2011 05:53:55AM

Solar Energy Development PEIS

Comment ID: SolarD11493

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Let's turn green without harming wildlife. We can do it, we have it all!

Thank you for your comment, Pauline Scott.

The comment tracking number that has been assigned to your comment is SolarD11494.

Comment Date: April 14, 2011 06:47:37AM
Solar Energy Development PEIS
Comment ID: SolarD11494

First Name: Pauline
Middle Initial:
Last Name: Scott
Organization:
Address: 93, Gilbey Road
Address 2:
Address 3:
City:
State:
Zip:
Country: GBR
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please consider wildlife when planning the utilisation of solar energy.

Thank you for your comment, Dennis Ledden.

The comment tracking number that has been assigned to your comment is SolarD11495.

Comment Date: April 14, 2011 07:11:00AM
Solar Energy Development PEIS
Comment ID: SolarD11495

First Name: Dennis
Middle Initial:
Last Name: Ledden
Organization:
Address: 14941 Trinidad Drive
Address 2:
Address 3:
City: Rancho Murieta
State: CA
Zip: 956839451
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Using Solar energy is a smart way to reduce costs and impact of carbon pollutants on the environment, but implementation of Solar must be based on its effectiveness and impact to the aesthetics of the National Park.

Thank you for your comment, Leslie Hall.

The comment tracking number that has been assigned to your comment is SolarD11496.

Comment Date: April 14, 2011 07:52:52AM
Solar Energy Development PEIS
Comment ID: SolarD11496

First Name: Leslie
Middle Initial: A
Last Name: Hall
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

To whom it may concern,
Please consider our wildlife, park aesthetics and impact on nature when selecting sites to use for solar energy and other sources.

Thank you for your comment, Ralph Famularo.

The comment tracking number that has been assigned to your comment is SolarD11497.

Comment Date: April 14, 2011 07:59:33AM
Solar Energy Development PEIS
Comment ID: SolarD11497

First Name: Ralph
Middle Initial: M
Last Name: Famularo
Organization:
Address:
Address 2:
Address 3:
City: Osaka-fu
State:
Zip:
Country: JPN
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As the recent natural disasters with the Gulf Oil spill and the Fukushima nuclear accident show, it is time to find more natural energy sources. Solar is one such technology.

Thank you for your comment, Gregory Esteve.

The comment tracking number that has been assigned to your comment is SolarD11498.

Comment Date: April 14, 2011 08:01:13AM
Solar Energy Development PEIS
Comment ID: SolarD11498

First Name: Gregory
Middle Initial:
Last Name: Esteve
Organization:
Address: 3655 North Scenic Highway
Address 2:
Address 3:
City: Lake Wales
State: FL
Zip: 33898
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to consider responsible solar development that protects our national parks.

Thank you for your comment, Vincent Da Forno.

The comment tracking number that has been assigned to your comment is SolarD11499.

Comment Date: April 14, 2011 08:05:56AM
Solar Energy Development PEIS
Comment ID: SolarD11499

First Name: Vincent
Middle Initial:
Last Name: Da Forno
Organization:
Address: 383 Old Russell St.
Address 2:
Address 3: 383 Old Russell St.
City: Woburn
State: MA
Zip: 01801
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's a no brainer, unless you have a vested interest in the status quo, that if we take away the oil companies subsidies, take away the pentagon funding for propping up oil producing countries with dictatorships and put that money into solar development that we could be energy independent and create more middle class American jobs to boot. This is the sensible, patriotic way.

Thank you for your comment, Janet Hudgins.

The comment tracking number that has been assigned to your comment is SolarD10500.

Comment Date: April 12, 2011 14:10:21PM
Solar Energy Development PEIS
Comment ID: SolarD10500

First Name: Janet
Middle Initial:
Last Name: Hudgins
Organization:
Address:
Address 2:
Address 3:
City: Vancouver
State: BC
Zip: V6J 2E4
Country: Canada
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We have never learned how to share the planet or to save it from ourselves, and we must.

This should be straight forward to any right thinking politician, that the push by humans against nature must stop before we destroy everything worthwhile saving. And solar energy is among the kinds of energy with which we can and must stop destroying the earth.

Thank you for your comment, Alex Vollmer.

The comment tracking number that has been assigned to your comment is SolarD10501.

Comment Date: April 12, 2011 14:10:43PM
Solar Energy Development PEIS
Comment ID: SolarD10501

First Name: Alex
Middle Initial: B
Last Name: Vollmer
Organization:
Address: 212 Delaware Ave.
Address 2:
Address 3:
City: Ithaca
State: NY
Zip: 14850
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

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Thank you for your comment, Bonnie Faith.

The comment tracking number that has been assigned to your comment is SolarD10502.

Comment Date: April 12, 2011 14:10:53PM
Solar Energy Development PEIS
Comment ID: SolarD10502

First Name: Bonnie
Middle Initial:
Last Name: Faith
Organization:
Address: 290A Washington Street
Address 2:
Address 3:
City: Cambridge
State: MA
Zip: 02139
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely, Bonnie Faith

Thank you for your comment, art godinez.

The comment tracking number that has been assigned to your comment is SolarD10503.

Comment Date: April 12, 2011 14:11:06PM
Solar Energy Development PEIS
Comment ID: SolarD10503

First Name: art
Middle Initial:
Last Name: godinez
Organization:
Address: 15751 country club dr.
Address 2:
Address 3:
City: chino hills
State: CA
Zip: 91709
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

YES to SOLAR ENERGY!!!

Thank you for your comment, Dave White.

The comment tracking number that has been assigned to your comment is SolarD10504.

Comment Date: April 12, 2011 14:11:14PM
Solar Energy Development PEIS
Comment ID: SolarD10504

First Name: Dave
Middle Initial:
Last Name: White
Organization: N/A
Address: 3540 Sky Haven Ln
Address 2:
Address 3:
City: Oceanside
State: CA
Zip: 920564802
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To me, it's pure insanity, in fact it would be considered planned failure to put solar panels in other than a solar zone. It's funny, but I don't hear much about utilizing the climate and vacant land in New Mexico for a solar farm. I think Arizona is another perfect place for a solar farm. On the contrary, I don't Washington, Oregon, and Minnesota as being suitable in any way shape or form.

Thank you for your comment, Steve Sears.

The comment tracking number that has been assigned to your comment is SolarD10505.

Comment Date: April 12, 2011 14:11:15PM
Solar Energy Development PEIS
Comment ID: SolarD10505

First Name: Steve
Middle Initial:
Last Name: Sears
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Greetings,

With the recent Political Economy Research Institute University of Massachusetts researchers identification that Renewable Energy GENERATES MORE jobs than Nuclear, why haven't you changed you stand on promoting Nuclear and moved to supporting Renewable???

http://www.alternet.org/story/150546/obama_team_is_oddly_quiet_about_evidence_that_renewable_energy_beats_nuclear_in_job_creation?page=e

We Economics recognize that the real Unemployment rate is more like 17% and the GENERATION of Jobs should be the Highest Priority - SO WHY ISN'T THIS HAPPENING????

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10506.

Comment Date: April 12, 2011 14:11:32PM
Solar Energy Development PEIS
Comment ID: SolarD10506

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization: retired
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I agree with the idea of reducing our dependence on foreign oil and creating renewable energy. We can use public land for generating solar energy, but we have to be very careful as how to plan such projects. We have to keep the integrity of our public lands and keep its use for the future generation. We can not afford to lose our natural resources.

Thank you for your comment, Tiffany Rapplean.

The comment tracking number that has been assigned to your comment is SolarD10507.

Comment Date: April 12, 2011 14:11:59PM
Solar Energy Development PEIS
Comment ID: SolarD10507

First Name: Tiffany
Middle Initial: M
Last Name: Rapplean
Organization:
Address: 4528 W 110th Cir
Address 2:
Address 3:
City: Westminster
State: CO
Zip: 800312021
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Greetings -

I understand the federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado. I applaud this initiative, but respectfully suggest there are right and wrong ways to implement such a plan. Please consider the points below in support of my argument.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks. :

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for taking the time to read and consider my comments. I look forward to your actions and response on this matter.

Kind regards,

Tiffany Rapplean

Thank you for your comment, Sandra Gamel.

The comment tracking number that has been assigned to your comment is SolarD10508.

Comment Date: April 12, 2011 14:12:02PM
Solar Energy Development PEIS
Comment ID: SolarD10508

First Name: Sandra
Middle Initial: L
Last Name: Gamel
Organization:
Address: PO Box 1073
Address 2: 406 NW Feedmill Ave.
Address 3:
City: Branford
State: FL
Zip: 32008
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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Thank you for your comment, Len Jacobs.

The comment tracking number that has been assigned to your comment is SolarD10509.

Comment Date: April 12, 2011 14:12:02PM
Solar Energy Development PEIS
Comment ID: SolarD10509

First Name: Len
Middle Initial:
Last Name: Jacobs
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that minimally compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Susan Hathaway.

The comment tracking number that has been assigned to your comment is SolarD10510.

Comment Date: April 12, 2011 14:12:06PM
Solar Energy Development PEIS
Comment ID: SolarD10510

First Name: Susan
Middle Initial:
Last Name: Hathaway
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elizabeth Reese.

The comment tracking number that has been assigned to your comment is SolarD10511.

Comment Date: April 12, 2011 14:12:12PM
Solar Energy Development PEIS
Comment ID: SolarD10511

First Name: Elizabeth
Middle Initial: S
Last Name: Reese
Organization:
Address: 406 Jeff Davis Ave
Address 2:
Address 3:
City: Waveland
State: MS
Zip: 39576
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This needs to be done thoughtfully, ensuring that as many needs as possible be considered. The Solar SEZ's will be a definite asset, but not at the expense of our wild areas.

Thank you for your comment, Celeste Shitama.

The comment tracking number that has been assigned to your comment is SolarD10512.

Comment Date: April 12, 2011 14:12:30PM
Solar Energy Development PEIS
Comment ID: SolarD10512

First Name: Celeste
Middle Initial:
Last Name: Shitama
Organization:
Address: 425 NE 9th St
Address 2: Gainesville
Address 3:
City: Shitama
State: FL
Zip: 32601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar development is critical to our present and future energy consumption. Now is the time to lay out a thoughtful, informed path toward a much brighter energy future. Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, John Pepple.

The comment tracking number that has been assigned to your comment is SolarD10513.

Comment Date: April 12, 2011 14:12:42PM
Solar Energy Development PEIS
Comment ID: SolarD10513

First Name: John
Middle Initial: S
Last Name: Pepple
Organization:
Address: 4501 Mineal Point Rd
Address 2:
Address 3:
City: Madison
State: WI
Zip: 53705
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Malcolm & Carol Faust.

The comment tracking number that has been assigned to your comment is SolarD10514.

Comment Date: April 12, 2011 14:13:34PM
Solar Energy Development PEIS
Comment ID: SolarD10514

First Name: Malcolm & Carol
Middle Initial:
Last Name: Faust
Organization:
Address:
Address 2:
Address 3:
City: Oakdale
State: CA
Zip: 95361
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Nothing should be allowed which detracts from the natural purity of the National Parks -- that includes impacting the silence, obstructions in the visual field, anything negative to the mission of the National Parks.

Thank you for your comment, John Dial.

The comment tracking number that has been assigned to your comment is SolarD10515.

Comment Date: April 12, 2011 14:13:36PM
Solar Energy Development PEIS
Comment ID: SolarD10515

First Name: John
Middle Initial:
Last Name: Dial
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Regards,

John Dial

Thank you for your comment, Kim Floyd.

The comment tracking number that has been assigned to your comment is SolarD10516.

Comment Date: April 12, 2011 14:13:41PM
Solar Energy Development PEIS
Comment ID: SolarD10516

First Name: Kim
Middle Initial: F
Last Name: Floyd
Organization:
Address: 5375 Shirley J. Lane
Address 2: P.O. Box 422
Address 3:
City: Wrightwood
State: CA
Zip: 92397
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a long term resident of the high desert near Victorville, CA and the low desert near Palm Desert, CA I am concerned about the Solar Energy Zones near our National Parks in our area. Specifically, The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. And finally, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for consideration of my comments.

Regards, Kim Floyd

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10517.

Comment Date: April 12, 2011 14:13:46PM
Solar Energy Development PEIS
Comment ID: SolarD10517

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Do not put solar panels on NPS lands or adjacent ones that will detract from the vistas

Thank you for your comment, Marilyn Voorhies.

The comment tracking number that has been assigned to your comment is SolarD10518.

Comment Date: April 12, 2011 14:14:28PM
Solar Energy Development PEIS
Comment ID: SolarD10518

First Name: Marilyn
Middle Initial:
Last Name: Voorhies
Organization: Private citizen
Address: 38 Clark Point Rd.
Address 2:
Address 3:
City: West Tremont
State: ME
Zip: 04612
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's perplexing and infuriating to me that development of solar energy has not taken off!! What's happened to the promises that solar energy would be the wave of the future? Time's a-wastin' as the old saying goes, and my life is playing out, as I'm now 83. I fully expected that solar would be burgeoning before now and am frightfully disappointed. I demand that there be no more foot dragging; let's light up the country with solar energy and then thumb our noses at the oil producing nations!

Thank you for your comment, Richard Booth.

The comment tracking number that has been assigned to your comment is SolarD10519.

Comment Date: April 12, 2011 14:14:44PM
Solar Energy Development PEIS
Comment ID: SolarD10519

First Name: Richard
Middle Initial: T
Last Name: Booth
Organization:
Address: 26250 Dreschfield
Address 2:
Address 3:
City: Grosse Ile
State: MI
Zip: 48138
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ should be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ should be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Anthony Montapert.

The comment tracking number that has been assigned to your comment is SolarD10520.

Comment Date: April 12, 2011 14:15:20PM
Solar Energy Development PEIS
Comment ID: SolarD10520

First Name: Anthony
Middle Initial:
Last Name: Montapert
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that don't harm our national parks.

Thank you for your comment, Grace Agnew.

The comment tracking number that has been assigned to your comment is SolarD10521.

Comment Date: April 12, 2011 14:15:29PM
Solar Energy Development PEIS
Comment ID: SolarD10521

First Name: Grace
Middle Initial:
Last Name: Agnew
Organization:
Address: 32-A Lincoln ave.
Address 2:
Address 3:
City: Highland Park
State: NJ
Zip: 08904
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support implementing solar energy in America's parks and think it would be wonderful if our parks could play an important role in building our sustainable energy future and in supporting green energy initiatives. That being said, we the people need to be good stewards of our national parks and remember that their purpose and heritage are to be "set aside" to support wildlife, plants, the ecosystem and the recreation of the American people. Great care must be taken in siting solar energy so that the ecosystem, particularly wildlife, are not harmed and so that people continue to enjoy natural spaces, since history tells us that people only preserve what they value.

Thank you for your comment, Grace Agnew.

The comment tracking number that has been assigned to your comment is SolarD10522.

Comment Date: April 12, 2011 14:16:03PM
Solar Energy Development PEIS
Comment ID: SolarD10522

First Name: Grace
Middle Initial:
Last Name: Agnew
Organization:
Address: 32-A Lincoln ave.
Address 2:
Address 3:
City: Highland Park
State: NJ
Zip: 08904
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support implementing solar energy in America's parks and think it would be wonderful if our parks could play an important role in building our sustainable energy future and in supporting green energy initiatives. That being said, we the people need to be good stewards of our national parks and remember that their purpose and heritage are to be "set aside" to support wildlife, plants, the ecosystem and the recreation of the American people. Great care must be taken in siting solar energy so that the ecosystem, particularly wildlife, are not harmed and so that people continue to enjoy natural spaces, since history tells us that people only preserve what they value.

Thank you for your comment, Stephen Sleeper.

The comment tracking number that has been assigned to your comment is SolarD10523.

Comment Date: April 12, 2011 14:18:27PM
Solar Energy Development PEIS
Comment ID: SolarD10523

First Name: Stephen
Middle Initial:
Last Name: Sleeper
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative. Please impliment it. Thank you.

Thank you for your comment, John Kesich.

The comment tracking number that has been assigned to your comment is SolarD10524.

Comment Date: April 12, 2011 14:18:40PM
Solar Energy Development PEIS
Comment ID: SolarD10524

First Name: John
Middle Initial:
Last Name: Kesich
Organization:
Address: 628 Bailey Creek Rd
Address 2:
Address 3:
City: Millerton
State: PA
Zip: 16936
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I'm all for solar energy, there is a right way and wrong way to go about generating it - the key issue being where collectors are located. National Parks, and other federal lands, should not be turned into mere collector farms. There is more than ample rooftop space across the US to locate solar collectors where they will not impact our national treasures and at the same time be located near demand for electricity thus reducing transmission losses. Please keep this in mind when you consider sites for solar collectors as well as the impact proposed collectors would have on wildlife, aesthetics, cultural and historic sites and the public's enjoyment of our lands.

Thank you for your comment, Adina Parsley.

The comment tracking number that has been assigned to your comment is SolarD10525.

Comment Date: April 12, 2011 14:19:37PM
Solar Energy Development PEIS
Comment ID: SolarD10525

First Name: Adina
Middle Initial:
Last Name: Parsley
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Patricia Ann Liske.

The comment tracking number that has been assigned to your comment is SolarD10526.

Comment Date: April 12, 2011 14:19:46PM
Solar Energy Development PEIS
Comment ID: SolarD10526

First Name: Patricia Ann
Middle Initial:
Last Name: Liske
Organization:
Address: 2200 Trinidad
Address 2:
Address 3: 2200 Trinidad
City: Falls Church
State: VA
Zip: 22043
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I totally support solar energy, but not at the price of our National Parks.
Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.
--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.
I request that you reconsider the placement or SEZ on their impact on our National Parks, and I recommend that all future SEZ be coordinate with the National Park Service.
Thank you

Thank you for your comment, MaryAnn Nichols.

The comment tracking number that has been assigned to your comment is SolarD10527.

Comment Date: April 12, 2011 14:20:06PM
Solar Energy Development PEIS
Comment ID: SolarD10527

First Name: MaryAnn
Middle Initial:
Last Name: Nichols
Organization:
Address:
Address 2:
Address 3:
City:
State: NY
Zip: 10011
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, stephen johnson.

The comment tracking number that has been assigned to your comment is SolarD10528.

Comment Date: April 12, 2011 14:20:20PM
Solar Energy Development PEIS
Comment ID: SolarD10528

First Name: stephen
Middle Initial: p
Last Name: johnson
Organization:
Address: 1239 N. Ogden Dr.
Address 2:
Address 3:
City: west Hollywood
State: CA
Zip: 90046
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, david sheets.

The comment tracking number that has been assigned to your comment is SolarD10529.

Comment Date: April 12, 2011 14:20:34PM
Solar Energy Development PEIS
Comment ID: SolarD10529

First Name: david
Middle Initial:
Last Name: sheets
Organization:
Address: 12708 kadel ave
Address 2:
Address 3:
City: cleveland
State: OH
Zip: 44135
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

i am proud my government is aggressively moving forward with alternative sustainable energies. I am also concerned that many in our government are pandering to special interests that are making the poor to suffer by ending union's ability to collective bargaining. The intelligent action is to place salary caps on union jobs which can be improved upon by education. The drug war is alcohol profit based which is abusive to the general public.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10530.

Comment Date: April 12, 2011 14:20:43PM
Solar Energy Development PEIS
Comment ID: SolarD10530

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization: ZGF
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, ROSEMARIE LOMBARDO.

The comment tracking number that has been assigned to your comment is SolarD10531.

Comment Date: April 12, 2011 14:21:18PM
Solar Energy Development PEIS
Comment ID: SolarD10531

First Name: ROSEMARIE
Middle Initial:
Last Name: LOMBARDO
Organization:
Address: 174 Westfall Dr.
Address 2:
Address 3:
City: DINGMANS FERRY
State: PA
Zip: 18328
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Sheryl Robert.

The comment tracking number that has been assigned to your comment is SolarD10532.

Comment Date: April 12, 2011 14:21:33PM
Solar Energy Development PEIS
Comment ID: SolarD10532

First Name: Sheryl
Middle Initial:
Last Name: Robert
Organization:
Address: 3834 SW Iowa St.
Address 2:
Address 3:
City: Portland
State: OR
Zip: 97221
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe in pursuing large-scale solar energy options, but not in our few national parks and monuments. National parks and monuments need to be protected!

Thank you for your comment, Caryn Graves.

The comment tracking number that has been assigned to your comment is SolarD10533.

Comment Date: April 12, 2011 14:22:10PM
Solar Energy Development PEIS
Comment ID: SolarD10533

First Name: Caryn
Middle Initial:
Last Name: Graves
Organization:
Address: 1642 Curtis St.
Address 2:
Address 3:
City: Berkeley
State: CA
Zip: 94702
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Susan, Tim, Scholl.

The comment tracking number that has been assigned to your comment is SolarD10534.

Comment Date: April 12, 2011 14:22:55PM
Solar Energy Development PEIS
Comment ID: SolarD10534

First Name: Susan, Tim,
Middle Initial: K
Last Name: Scholl
Organization: Sierra club
Address: 12 W 57th Terr
Address 2:
Address 3:
City: Kansas City
State: MO
Zip: 641131274
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Save our parks

Thank you for your comment, Mary Lyda.

The comment tracking number that has been assigned to your comment is SolarD10535.

Comment Date: April 12, 2011 14:23:00PM
Solar Energy Development PEIS
Comment ID: SolarD10535

First Name: Mary
Middle Initial: F
Last Name: Lyda
Organization:
Address: P.O.Box 1928
Address 2:
Address 3: P.O.Box 1928
City: Cave Junction
State: OR
Zip: 97523
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Enid Norruis.

The comment tracking number that has been assigned to your comment is SolarD10536.

Comment Date: April 12, 2011 14:23:02PM
Solar Energy Development PEIS
Comment ID: SolarD10536

First Name: Enid
Middle Initial:
Last Name: Norruis
Organization:
Address: 5 Briar Brae Road
Address 2:
Address 3:
City: Stamford
State: CT
Zip: 069031734
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Usen solar energy!

Thank you for your comment, Eileen McNamara.

The comment tracking number that has been assigned to your comment is SolarD10537.

Comment Date: April 12, 2011 14:23:36PM
Solar Energy Development PEIS
Comment ID: SolarD10537

First Name: Eileen
Middle Initial:
Last Name: McNamara
Organization:
Address: 515 Garden Street
Address 2:
Address 3:
City: Hoboken
State: NJ
Zip: 07030
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please think carefully about where you plan to use solar energy. Each National Park has unique needs that need to be considered before you move forward with your plans. These are our national treasures, so please defer to their stewards before you take action.

Thank you for your comment, joyce schwartz.

The comment tracking number that has been assigned to your comment is SolarD10538.

Comment Date: April 12, 2011 14:24:52PM
Solar Energy Development PEIS
Comment ID: SolarD10538

First Name: joyce
Middle Initial:
Last Name: schwartz
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

we need to develop solar energy for the future of our planet

Thank you for your comment, THOMAS KEEL.

The comment tracking number that has been assigned to your comment is SolarD10539.

Comment Date: April 12, 2011 14:25:12PM
Solar Energy Development PEIS
Comment ID: SolarD10539

First Name: THOMAS
Middle Initial: M
Last Name: KEEL
Organization:
Address: 11484 INGRAM PLACE RD
Address 2:
Address 3:
City: ROGERS
State: AR
Zip: 72756
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once it has been amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks that must be addressed:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

-Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank You

Thank you for your comment, Bob Rusk.

The comment tracking number that has been assigned to your comment is SolarD10540.

Comment Date: April 12, 2011 14:25:56PM
Solar Energy Development PEIS
Comment ID: SolarD10540

First Name: Bob
Middle Initial:
Last Name: Rusk
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I just read that breakthrough research at M.I.T. has found a way of storing collected solar energy, much in the way plants process and store sunlight via photosynthesis. This is FANTASTIC news and leaves little room for arguments against investing in solar energy. Please get behind this new technology in a smart and big way so green, renewable energy can replace dirty fossil fuels and our dependence on foreign oil. Thank you!

Thank you for your comment, Aimee Arnold.

The comment tracking number that has been assigned to your comment is SolarD10541.

Comment Date: April 12, 2011 14:26:10PM
Solar Energy Development PEIS
Comment ID: SolarD10541

First Name: Aimee
Middle Initial:
Last Name: Arnold
Organization:
Address:
Address 2:
Address 3:
City:
State: AZ
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for the opportunity to comment on the draft Solar Energy Development PEIS.

I strongly support the Solar Energy Zone alternative. However, I feel that it must be amended.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I feel that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

I also feel that it is of utmost importance for the BLM to include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,
Aimee Arnold
Solar Energy Supporter

Thank you for your comment, Eric Morris.

The comment tracking number that has been assigned to your comment is SolarD10542.

Comment Date: April 12, 2011 14:26:13PM
Solar Energy Development PEIS
Comment ID: SolarD10542

First Name: Eric
Middle Initial:
Last Name: Morris
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Patti Packer.

The comment tracking number that has been assigned to your comment is SolarD10543.

Comment Date: April 12, 2011 14:26:18PM
Solar Energy Development PEIS
Comment ID: SolarD10543

First Name: Patti
Middle Initial:
Last Name: Packer
Organization:
Address: 5 Jennifer Rd
Address 2:
Address 3:
City: Scotia
State: NY
Zip: 12302
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am writing to state that I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks. In addition, I believe any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment on this proposal.

Thank you for your comment, Boyer August.

The comment tracking number that has been assigned to your comment is SolarD10544.

Comment Date: April 12, 2011 14:26:30PM
Solar Energy Development PEIS
Comment ID: SolarD10544

First Name: Boyer
Middle Initial: c
Last Name: August
Organization:
Address: 1957 East Ave
Address 2:
Address 3:
City: Hayward
State: CA
Zip: 945415405
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please continue to support and give tax benefits to Individuals', families' and business' that invest in the action of using solar energy with in their business' daily relationship with customers and promote the action of using the Sun, as a reuseable engery source.

Thank you for your comment, Gary Carter.

The comment tracking number that has been assigned to your comment is SolarD10545.

Comment Date: April 12, 2011 14:26:37PM
Solar Energy Development PEIS
Comment ID: SolarD10545

First Name: Gary
Middle Initial: L
Last Name: Carter
Organization:
Address: 104 wesley street
Address 2:
Address 3:
City: walhalla
State: SC
Zip: 296912204
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly encourage you to go full force solar energy as well as other clean alternative energies. Fossil fuels are choking our planet. This must stop as we the people have had enough of greedy corporate empires!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10546.

Comment Date: April 12, 2011 14:26:44PM
Solar Energy Development PEIS
Comment ID: SolarD10546

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

We need more solar energy production in the USA.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10547.

Comment Date: April 12, 2011 14:26:45PM

Solar Energy Development PEIS

Comment ID: SolarD10547

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

We need more solar energy production in the USA.

Thank you for your comment, Regina Cappelletti.

The comment tracking number that has been assigned to your comment is SolarD10548.

Comment Date: April 12, 2011 14:26:57PM
Solar Energy Development PEIS
Comment ID: SolarD10548

First Name: Regina
Middle Initial:
Last Name: Cappelletti
Organization:
Address: Mulberry Bank
Address 2: 46041 Geddes Rd
Address 3: Mulberry Bank
City: Canton
State: MI
Zip: 48188
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10549.

Comment Date: April 12, 2011 14:27:35PM
Solar Energy Development PEIS
Comment ID: SolarD10549

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Joe Roy.

The comment tracking number that has been assigned to your comment is SolarD10550.

Comment Date: April 12, 2011 14:27:39PM
Solar Energy Development PEIS
Comment ID: SolarD10550

First Name: Joe
Middle Initial:
Last Name: Roy
Organization:
Address: One Rahway Road
Address 2:
Address 3:
City: Burlington
State: MA
Zip: 01803
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10551.

Comment Date: April 12, 2011 14:28:06PM
Solar Energy Development PEIS
Comment ID: SolarD10551

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Solar energy zones should not threaten our national parks scenery, wilderness, water resources, or wildlife.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Linda Morgan.

The comment tracking number that has been assigned to your comment is SolarD10552.

Comment Date: April 12, 2011 14:28:09PM
Solar Energy Development PEIS
Comment ID: SolarD10552

First Name: Linda
Middle Initial: M
Last Name: Morgan
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and draw down precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, Norman Smith Jr..

The comment tracking number that has been assigned to your comment is SolarD10553.

Comment Date: April 12, 2011 14:28:11PM
Solar Energy Development PEIS
Comment ID: SolarD10553

First Name: Norman
Middle Initial: W
Last Name: Smith Jr.
Organization:
Address: 19 Blanchard Road
Address 2:
Address 3:
City: Easton
State: CT
Zip: 066121903
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy Development requires careful planning diligent review & due diligence by government agencies involved. Strongly suggest citizen participation on committees that are involved.

Thank you for your comment, Phillip Kolter.

The comment tracking number that has been assigned to your comment is SolarD10554.

Comment Date: April 12, 2011 14:29:05PM
Solar Energy Development PEIS
Comment ID: SolarD10554

First Name: Phillip
Middle Initial: L
Last Name: Kolter
Organization:
Address: 8128 West Cascade Drive
Address 2:
Address 3:
City: Franklin
State: WI
Zip: 531328933
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks, but amend the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Sarah Stewart.

The comment tracking number that has been assigned to your comment is SolarD10555.

Comment Date: April 12, 2011 14:29:15PM
Solar Energy Development PEIS
Comment ID: SolarD10555

First Name: Sarah
Middle Initial: B
Last Name: Stewart
Organization:
Address: 207 Appleton Street
Address 2:
Address 3:
City: Cambridge
State: MA
Zip: 02138
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a strong supporter of our nations beautiful wild and historical national park lands and ask that they be protected and considered in all national projects.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10556.

Comment Date: April 12, 2011 14:29:40PM
Solar Energy Development PEIS
Comment ID: SolarD10556

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am in strong support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

The Red Sands SEZ should be relocated or resized so that it doesn't threaten water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you.

Thank you for your comment, Donald Margeson.

The comment tracking number that has been assigned to your comment is SolarD10557.

Comment Date: April 12, 2011 14:30:42PM
Solar Energy Development PEIS
Comment ID: SolarD10557

First Name: Donald
Middle Initial: W
Last Name: Margeson
Organization:
Address: 439 Tennessee Ave. NE
Address 2:
Address 3:
City: St. Petersburg
State: FL
Zip: 33702
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support Solar Energy, but it must be developed responsibly with special attention paid to endangered and threatened species and their habitats. But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Janet Grote.

The comment tracking number that has been assigned to your comment is SolarD10558.

Comment Date: April 12, 2011 14:30:45PM
Solar Energy Development PEIS
Comment ID: SolarD10558

First Name: Janet
Middle Initial: E
Last Name: Grote
Organization:
Address: 728 Holly Street
Address 2:
Address 3:
City: Denver
State: CO
Zip: 80220
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our nation proceeds to develop alternative solar energy resources, all care must be taken not to negatively impact any of our parks or public land. Wildlife should be the first concern and aesthetics next.
We can, and must, do this in a responsible way so that our beautiful national parks are preserved for future generations and for the wildlife that depends on them being pristine and capable of supporting life with clean water available.

Thank you for your comment, Kevin Macdonald.

The comment tracking number that has been assigned to your comment is SolarD10559.

Comment Date: April 12, 2011 14:30:51PM
Solar Energy Development PEIS
Comment ID: SolarD10559

First Name: Kevin
Middle Initial:
Last Name: Macdonald
Organization:
Address: P. O. Box 198
Address 2:
Address 3:
City: Belgrade Lakes
State: ME
Zip: 04918
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10560.

Comment Date: April 12, 2011 14:31:31PM
Solar Energy Development PEIS
Comment ID: SolarD10560

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Jennifer Palmer.

The comment tracking number that has been assigned to your comment is SolarD10561.

Comment Date: April 12, 2011 14:31:42PM
Solar Energy Development PEIS
Comment ID: SolarD10561

First Name: Jennifer
Middle Initial:
Last Name: Palmer
Organization:
Address: 2613 Spreckels Lane
Address 2:
Address 3:
City: Redondo Beach
State: CA
Zip: 90278
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

please help our national parks, they need it :)

Thank you for your comment, Gailen Keeling.

The comment tracking number that has been assigned to your comment is SolarD10562.

Comment Date: April 12, 2011 14:31:57PM
Solar Energy Development PEIS
Comment ID: SolarD10562

First Name: Gailen
Middle Initial: L
Last Name: Keeling
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please do responsible solar management. Do not permit solar installations close to parks and monuments.

Thank you for your comment, Elizabeth Ungar.

The comment tracking number that has been assigned to your comment is SolarD10563.

Comment Date: April 12, 2011 14:32:38PM
Solar Energy Development PEIS
Comment ID: SolarD10563

First Name: Elizabeth
Middle Initial:
Last Name: Ungar
Organization: National Park Conservation Association
Address: 420 Riverside Drive
Address 2: 7H
Address 3:
City: NEW YORK
State: NY
Zip: 100257782
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support solar energy. I would even support solar panels on the roof of my apartment building, if the board approves. But all energy generation and transmission involve risks, including environmental harm, which must be taken into account when considering potential sites, and that includes the location of solar panels. Fragile biota must be protected, and the areas containing them avoided.

Thank you for your comment, Barbara Buell.

The comment tracking number that has been assigned to your comment is SolarD10564.

Comment Date: April 12, 2011 14:32:45PM
Solar Energy Development PEIS
Comment ID: SolarD10564

First Name: Barbara
Middle Initial: B
Last Name: Buell
Organization:
Address: 24670 Spring Ln
Address 2:
Address 3:
City: Harrison Township
State: MI
Zip: 480452313
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please consider not destroying natural resources and historic areas when setting up solar energy sites. Thank you.

Thank you for your comment, Katherine Roberts.

The comment tracking number that has been assigned to your comment is SolarD10565.

Comment Date: April 12, 2011 14:33:11PM
Solar Energy Development PEIS
Comment ID: SolarD10565

First Name: Katherine
Middle Initial:
Last Name: Roberts
Organization:
Address: 132 Beulah
Address 2:
Address 3: 132 Beulah
City: San Francisco
State: CA
Zip: 94117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's very simple: don't site large solar projects in sensitive environmental areas, where they will arguably do more harm than good. Let's get solar power right from the start. We need to re-think our failed models of large-scale, de-centralized energy distribution networks, in favor of smaller, more centralized systems that can still serve the same numbers of people. The problems of distributing energy across long distances from large "solar farms" must be taken into account. If it is not a realistic way of generating energy, then other models must be developed. Smaller-scaled, more local projects will not be that hard to build if corporate profits aren't your #1 priority. If you take corporate benefits out of it, then the smaller-scaled local solar projects become a much more obvious choice. Don't sacrifice the environment for corporate profits. If that's going to be the end result of solar power, then developing solar is not even worth it.

Thank you for your comment, gaile carr.

The comment tracking number that has been assigned to your comment is SolarD10566.

Comment Date: April 12, 2011 14:33:16PM
Solar Energy Development PEIS
Comment ID: SolarD10566

First Name: gaile
Middle Initial:
Last Name: carr
Organization:
Address: 1821 eddy dr
Address 2:
Address 3: 1821 eddy dr
City: mtshasta
State: CA
Zip: 96067
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

we love our national heritage. please preserve it. thank you

Thank you for your comment, Beth Angel.

The comment tracking number that has been assigned to your comment is SolarD10567.

Comment Date: April 12, 2011 14:33:34PM
Solar Energy Development PEIS
Comment ID: SolarD10567

First Name: Beth
Middle Initial:
Last Name: Angel
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar development within parcels of land must avoid conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to not impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Dan Walker.

The comment tracking number that has been assigned to your comment is SolarD10568.

Comment Date: April 12, 2011 14:33:43PM
Solar Energy Development PEIS
Comment ID: SolarD10568

First Name: Dan
Middle Initial:
Last Name: Walker
Organization:
Address:
Address 2:
Address 3:
City:
State: PA
Zip: 15825
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

GO SOLAR!

Thank you for your comment, anna blumen.

The comment tracking number that has been assigned to your comment is SolarD10569.

Comment Date: April 12, 2011 14:34:10PM
Solar Energy Development PEIS
Comment ID: SolarD10569

First Name: anna
Middle Initial:
Last Name: blumen
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Carole DePould-Newmark.

The comment tracking number that has been assigned to your comment is SolarD10570.

Comment Date: April 12, 2011 14:35:06PM
Solar Energy Development PEIS
Comment ID: SolarD10570

First Name: Carole
Middle Initial: E
Last Name: DePould-Newmark
Organization:
Address:
Address 2:
Address 3:
City: Pacific Palisades
State: CA
Zip: 90272
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please be sure to consult the National Parks in the development of solar or wind power within 15 miles of a park. We need to make sure that we do not create another environmental problem while trying to clean up an existing one, namely global warming from the burning of fossil fuels. There are 4 existing facilities that need to be reworked because they threaten our national parks. One is at Iron Mountain, another at Joshua Tree, and two more. Please see and respond to The National Parks Conservation Associations concerns. Sincerely,
Carole DePould-Newmark

Thank you for your comment, Peter Schultz.

The comment tracking number that has been assigned to your comment is SolarD10571.

Comment Date: April 12, 2011 14:35:12PM
Solar Energy Development PEIS
Comment ID: SolarD10571

First Name: Peter
Middle Initial: F
Last Name: Schultz
Organization:
Address: 501 Andrus Rd
Address 2:
Address 3:
City: Downers Grove
State: IL
Zip: 60516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the use of solar power as a means to reduce our dependency on foreign oil and promote a cleaner atmosphere by reducing pollutants from coal and petroleum based energy production. But solar energy production must be done in an environmentally safe way because that is one of the goals of solar and renewable energy.

The southwestern part of the United States is a prime place for solar energy production but there are many areas there that are sensitive to creating and running solar energy facilities and these areas should not be utilized unless very strong requirements are invoked to preserve national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for us the next generations to also enjoy America's heritage.

Among the proposed Solar Energy Zones are four that would seriously damage national parks:

Development in the Red Sands zone would threaten water resources that are important and vital to wildlife and also impact sand dune formation in The White Sands National Monument;

The Amargosa Valley zone should be changed, i.e., reconfigured, altered or reduced, so as not to negatively impact the Death Valley wilderness and scarce water resources that are vital to endangered species;

The Riverside East zone must not impact the Joshua Tree National Park; its wilderness and wildlife corridors are important for the environment there;

The Iron Mountain zone would severely impact the Joshua Tree National Park and should not be implemented.

It is vitally necessary that the National Park Service be consulted to determine if any project would hurt resources or visitor enjoyment. The Bureau of Land Management must declare any national park, wilderness area, archeological site, and national monument as high conflict areas for solar power development.

I have recently visited the Southwest and found the area to be beautiful and inspiring but it is also very fragile. Unregulated development will seriously damage the environment in ways that recovery will take decades if not centuries.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10572.

Comment Date: April 12, 2011 14:35:35PM
Solar Energy Development PEIS
Comment ID: SolarD10572

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Diana Jaeger.

The comment tracking number that has been assigned to your comment is SolarD10573.

Comment Date: April 12, 2011 14:35:59PM
Solar Energy Development PEIS
Comment ID: SolarD10573

First Name: Diana
Middle Initial:
Last Name: Jaeger
Organization:
Address: 1710 Windward Ave.
Address 2:
Address 3:
City: Naperville
State: IL
Zip: 60563
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10574.

Comment Date: April 12, 2011 14:38:59PM
Solar Energy Development PEIS
Comment ID: SolarD10574

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There is no excuse for every nation on Earth not to maximize product development using energy from the sun, our greatest nuclear reactor with abundant energy and no dangerous waste.

Please support the wisdom and freedom this technology can provide to all people's under the sun.

Thank you for your comment, Sherry Olson, Ph.D..

The comment tracking number that has been assigned to your comment is SolarD10575.

Comment Date: April 12, 2011 14:39:03PM
Solar Energy Development PEIS
Comment ID: SolarD10575

First Name: Sherry
Middle Initial: L
Last Name: Olson, Ph.D.
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects we have an opportunity to ensure that solar facilities are installed responsibly.

The federal government has initiated an environmental review to identify where solar development should occur on public lands. However, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Mark Tolley.

The comment tracking number that has been assigned to your comment is SolarD10576.

Comment Date: April 12, 2011 14:39:04PM
Solar Energy Development PEIS
Comment ID: SolarD10576

First Name: Mark
Middle Initial: M
Last Name: Tolley
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is the only way to go, but our Parks and our wildlife must not be compromised!

Thank you for your comment, Lynne Harkins.

The comment tracking number that has been assigned to your comment is SolarD10577.

Comment Date: April 12, 2011 14:39:42PM
Solar Energy Development PEIS
Comment ID: SolarD10577

First Name: Lynne
Middle Initial:
Last Name: Harkins
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

To All Whom It May Concern:

Having experienced and enjoyed the wonder of many National Parks-especially in the Southwest, I am a strong advocate for these special places. In my view, the sanctity of our National Parks absolutely must not be violated by any ill-conceived, misplaced solar energy developments. You would do well not to squander this opportunity to avoid possible problems now. Our desert National Parks are treasures which feature highly sensitive areas of incomparable beauty and irreplaceable value. Consequently, the Solar Energy Zone needs some vitally important amendments.

--Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Additionally, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for including my comments in your process.

Thank you for your comment, David Berkshire.

The comment tracking number that has been assigned to your comment is SolarD10578.

Comment Date: April 12, 2011 14:40:20PM
Solar Energy Development PEIS
Comment ID: SolarD10578

First Name: David
Middle Initial: C
Last Name: Berkshire
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I feel we must protect the scenic beauty and ecological integrity of public lands.

Thank you for your comment, Peter Schultz.

The comment tracking number that has been assigned to your comment is SolarD10579.

Comment Date: April 12, 2011 14:41:07PM
Solar Energy Development PEIS
Comment ID: SolarD10579

First Name: Peter
Middle Initial: F
Last Name: Schultz
Organization:
Address: 501 Andrus Rd
Address 2:
Address 3:
City: Downers Grove
State: IL
Zip: 60516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the use of solar power as a means to reduce our dependency on foreign oil and promote a cleaner atmosphere by reducing pollutants from coal and petroleum based energy production. But solar energy production must be done in an environmentally safe way because that is one of the goals of solar and renewable energy.

The southwestern part of the United States is a prime place for solar energy production but there are many areas there that are sensitive to creating and running solar energy facilities and these areas should not be utilized unless very strong requirements are invoked to preserve national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for us the next generations to also enjoy America's heritage.

Among the proposed Solar Energy Zones are four that would seriously damage national parks:

Development in the Red Sands zone would threaten water resources that are important and vital to wildlife and also impact sand dune formation in The White Sands National Monument;

The Amargosa Valley zone should be changed, i.e., reconfigured, altered or reduced, so as not to negatively impact the Death Valley wilderness and scarce water resources that are vital to endangered species;

The Riverside East zone must not impact the Joshua Tree National Park; its wilderness and wildlife corridors are important for the environment there;

The Iron Mountain zone would severely impact the Joshua Tree National Park and should not be implemented.

It is vitally necessary that the National Park Service be consulted to determine if any project would hurt resources or visitor enjoyment. The Bureau of Land Management must declare any national park, wilderness area, archeological site, and national monument as high conflict areas for solar power development.

I have recently visited the Southwest and found the area to be beautiful and inspiring but it is also very fragile. Unregulated development will seriously damage the environment in ways that recovery will take decades if not centuries.

Thank you for your comment, Joyce Burk.

The comment tracking number that has been assigned to your comment is SolarD10580.

Comment Date: April 12, 2011 14:42:01PM
Solar Energy Development PEIS
Comment ID: SolarD10580

First Name: Joyce
Middle Initial:
Last Name: Burk
Organization:
Address: P.O. Box 106
Address 2:
Address 3:
City: Barstow
State: CA
Zip: 92312
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While alternative energy generation sites are quite important to our country, the need to protect our wild areas and national parks is equally important. Solar generating facilities should be sited in appropriate energy sites.

Thank you for your comment, Paul Bechtel.

The comment tracking number that has been assigned to your comment is SolarD10581.

Comment Date: April 12, 2011 14:42:26PM
Solar Energy Development PEIS
Comment ID: SolarD10581

First Name: Paul
Middle Initial:
Last Name: Bechtel
Organization:
Address: 734 Cajon Street
Address 2:
Address 3:
City: Redlands
State: CA
Zip: 92373
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My family are frequent visitors to Joshua Tree and environs. We are concern about the plans in progress.

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.
The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10582.

Comment Date: April 12, 2011 14:42:30PM
Solar Energy Development PEIS
Comment ID: SolarD10582

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I have strong support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- *The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- *The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- *The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- *Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Betsy Leonard.

The comment tracking number that has been assigned to your comment is SolarD10583.

Comment Date: April 12, 2011 14:42:43PM
Solar Energy Development PEIS
Comment ID: SolarD10583

First Name: Betsy
Middle Initial: A
Last Name: Leonard
Organization:
Address: 71 River View Place
Address 2:
Address 3:
City: Parachute
State: CO
Zip: 81635
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Please preserve our National Parks, but don't give up on Alternative Energy Projects.

Thank you for your comment, Marlene Tendler.

The comment tracking number that has been assigned to your comment is SolarD10584.

Comment Date: April 12, 2011 14:43:06PM
Solar Energy Development PEIS
Comment ID: SolarD10584

First Name: Marlene
Middle Initial: R
Last Name: Tendler
Organization:
Address: 105 Walnut Hill Road
Address 2:
Address 3:
City: Bethel
State: CT
Zip: 06801
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Dr. James Livingston.

The comment tracking number that has been assigned to your comment is SolarD10585.

Comment Date: April 12, 2011 14:43:39PM
Solar Energy Development PEIS
Comment ID: SolarD10585

First Name: Dr. James
Middle Initial:
Last Name: Livingston
Organization: Holy Inocents Episcopal Church, Little Lake, Michi
Address: 5147 Highway M35
Address 2:
Address 3:
City: Little Lake
State: MI
Zip: 49833
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am writing in support of recently-proposed, first-ever national standards for mercury and other toxic air pollution for power plants.

These rules will protect us from many airborne toxins - including arsenic, lead, dioxins, acid gas and six dozen other harmful pollutants -- and will save as many as 17,000 American lives annually by 2015, as well as preventing up to 120,000 cases of childhood asthma and up to 11,000 cases of acute bronchitis in children.

Thank you for your comment, Shawn Sargent.

The comment tracking number that has been assigned to your comment is SolarD10586.

Comment Date: April 12, 2011 14:44:22PM
Solar Energy Development PEIS
Comment ID: SolarD10586

First Name: Shawn
Middle Initial: R
Last Name: Sargent
Organization: n/a
Address: 26 Rosemary Lane
Address 2:
Address 3: 26 Rosemary Lane
City: West Yarmouth
State: MA
Zip: 02673
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Richard Peterson.

The comment tracking number that has been assigned to your comment is SolarD10587.

Comment Date: April 12, 2011 14:45:11PM
Solar Energy Development PEIS
Comment ID: SolarD10587

First Name: Richard
Middle Initial: I
Last Name: Peterson
Organization:
Address: 1275 S. Monaco Pkwy
Address 2:
Address 3:
City: Denver
State: CO
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Do not put solar farms in any national parks except for the use of the park buildings themselves.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10588.

Comment Date: April 12, 2011 14:45:29PM

Solar Energy Development PEIS

Comment ID: SolarD10588

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Do it.

Thank you for your comment, Dallas Moore.

The comment tracking number that has been assigned to your comment is SolarD10589.

Comment Date: April 12, 2011 14:45:52PM
Solar Energy Development PEIS
Comment ID: SolarD10589

First Name: Dallas
Middle Initial: L
Last Name: Moore
Organization:
Address: 192 Mddle country rd
Address 2:
Address 3:
City: Middle island
State: NY
Zip: 11953
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Go solar and save the planet.

Thank you for your comment, wyn Gilbert.

The comment tracking number that has been assigned to your comment is SolarD10590.

Comment Date: April 12, 2011 14:46:20PM
Solar Energy Development PEIS
Comment ID: SolarD10590

First Name: wyn
Middle Initial: M
Last Name: Gilbert
Organization:
Address: 1247 Heatherfield Lane
Address 2:
Address 3:
City: Glenview
State: IL
Zip: 60025
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is too much at stake to rush into quick decisions. I sincerely hope that a moderate and well thought out approach will be used. We do not want to compromise our beautiful heritaged public lands. Please don't forget that they are owned by the American peoples.

Thank you for your comment, Brandon M BEAN.

The comment tracking number that has been assigned to your comment is SolarD10591.

Comment Date: April 12, 2011 14:46:30PM
Solar Energy Development PEIS
Comment ID: SolarD10591

First Name: Brandon M
Middle Initial: m
Last Name: BEAN
Organization:
Address: 2019 Los Feliz Dr Apt 8
Address 2:
Address 3:
City: Thousand Oaks
State: CA
Zip: 913623030
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, kathleen q.

The comment tracking number that has been assigned to your comment is SolarD10592.

Comment Date: April 12, 2011 14:46:43PM
Solar Energy Development PEIS
Comment ID: SolarD10592

First Name: kathleen
Middle Initial:
Last Name: q
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe solar is fantastic, but lets do this well. We should not let this disrupt wildlife corridors or current natural resources. Put solar on every new home, tax breaks for older homes, places where the energy will not disrupt nature and its goings on any more than needed

Thank you for your comment, steven goldman.

The comment tracking number that has been assigned to your comment is SolarD10593.

Comment Date: April 12, 2011 14:46:50PM
Solar Energy Development PEIS
Comment ID: SolarD10593

First Name: steven
Middle Initial:
Last Name: goldman
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, i strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Alayn Meeks.

The comment tracking number that has been assigned to your comment is SolarD10594.

Comment Date: April 12, 2011 14:47:50PM
Solar Energy Development PEIS
Comment ID: SolarD10594

First Name: Alayn
Middle Initial:
Last Name: Meeks
Organization:
Address: 2621 N Rodeo Gulch Rd
Address 2:
Address 3:
City: Soquel
State: CA
Zip: 950739421
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm commenting on the proposal to put solar collectors on BLM lands. Creating one area of solar collectors looks impressive and is good for the company doing the delivery of power, but it's a negative impact on the land and promotes an area large enough to draw attention to terrorist attacks. There is also a large loss of power in the delivery since the areas served are far from the collection point, meaning more collectors must be placed to allow for this loss. Placing collectors on garage roofs or any already developed land creates the energy needed, with less of a focal point for terrorism, gets the power closer to those served, and isn't an ecological blight on sensitive areas. We should be learning in the 21st century that managing smaller systems is less wasteful and creates more jobs in the long run. We must look long and hard at the return we get for the energy spent and large 20th century projects are now out-dated. Thank you, Alayne Meeks

Thank you for your comment, Donna Jensen.

The comment tracking number that has been assigned to your comment is SolarD10595.

Comment Date: April 12, 2011 14:48:37PM
Solar Energy Development PEIS
Comment ID: SolarD10595

First Name: Donna
Middle Initial:
Last Name: Jensen
Organization:
Address: 13163 Fountain Park Drive # 107
Address 2:
Address 3: 13163 Fountain Park Drive # 107
City: Playa Vista
State: CA
Zip: 90094
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, JAKE HODIE.

The comment tracking number that has been assigned to your comment is SolarD10596.

Comment Date: April 12, 2011 14:49:13PM
Solar Energy Development PEIS
Comment ID: SolarD10596

First Name: JAKE
Middle Initial:
Last Name: HODIE
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Clean, alternative energy is the future!
We have already wasted too much time on dirty fuel. Oil and coal are the past and present. But oil and coal are NOT the future!!!
PLEASE think of the future of all of us. Solar energy is clean and unlimited.
What better choice is there!!!!

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Eugene Gorrin.

The comment tracking number that has been assigned to your comment is SolarD10597.

Comment Date: April 12, 2011 14:49:31PM
Solar Energy Development PEIS
Comment ID: SolarD10597

First Name: Eugene
Middle Initial:
Last Name: Gorrin
Organization:
Address: 2607 Frederick Terrace
Address 2:
Address 3:
City: Union
State: NJ
Zip: 07083
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones ("SEZ") that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Likewise, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

The BLM should include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Thank you for your comment, Karen Vasily.

The comment tracking number that has been assigned to your comment is SolarD10598.

Comment Date: April 12, 2011 14:49:40PM
Solar Energy Development PEIS
Comment ID: SolarD10598

First Name: Karen
Middle Initial:
Last Name: Vasily
Organization:
Address: 306 Rogers Road
Address 2:
Address 3:
City: Norristown
State: PA
Zip: 194031648
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, GLORIA HOWARD.

The comment tracking number that has been assigned to your comment is SolarD10599.

Comment Date: April 12, 2011 14:50:11PM
Solar Energy Development PEIS
Comment ID: SolarD10599

First Name: GLORIA
Middle Initial: J
Last Name: HOWARD
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ann Cordero.

The comment tracking number that has been assigned to your comment is SolarD10600.

Comment Date: April 12, 2011 14:51:05PM
Solar Energy Development PEIS
Comment ID: SolarD10600

First Name: Ann
Middle Initial: K
Last Name: Cordero
Organization:
Address: 2814 Lilac Street
Address 2:
Address 3:
City: Longview
State: WA
Zip: 98632
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is in regard to Solar Energy development in the California Desert.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jeff Lyles.

The comment tracking number that has been assigned to your comment is SolarD10601.

Comment Date: April 12, 2011 14:51:18PM
Solar Energy Development PEIS
Comment ID: SolarD10601

First Name: Jeff
Middle Initial:
Last Name: Lyles
Organization:
Address: 17300 NE Hooper Wollam Rd.
Address 2:
Address 3:
City: Yacolt
State: WA
Zip: 986755002
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We don't need to make solar energy the same eyesore as a chimney spewing black smoke would be.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10602.

Comment Date: April 12, 2011 14:53:29PM
Solar Energy Development PEIS
Comment ID: SolarD10602

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

we must protect the earth and it's resources even as we develop useful technology for humans. we all live on the planet, it's the only home we have!!!!!!

Thank you for your comment, Lauri Provencher.

The comment tracking number that has been assigned to your comment is SolarD10603.

Comment Date: April 12, 2011 14:53:38PM
Solar Energy Development PEIS
Comment ID: SolarD10603

First Name: Lauri
Middle Initial:
Last Name: Provencher
Organization:
Address: 10440 Seabury Lane
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90077
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar, instead of gasoline!

Thank you for your comment, Mary Boone.

The comment tracking number that has been assigned to your comment is SolarD10604.

Comment Date: April 12, 2011 14:54:40PM
Solar Energy Development PEIS
Comment ID: SolarD10604

First Name: Mary
Middle Initial:
Last Name: Boone
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Marcia Robinson.

The comment tracking number that has been assigned to your comment is SolarD10605.

Comment Date: April 12, 2011 14:54:46PM
Solar Energy Development PEIS
Comment ID: SolarD10605

First Name: Marcia
Middle Initial:
Last Name: Robinson
Organization:
Address: 3 Peter Cooper Road
Address 2: #11H
Address 3:
City: New York
State: NY
Zip: 10010
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We must give up our idea that gas will be here forever. Solar energy is the way to go. Check Israel and see their use.

Thank you for your comment, John MacDonald.

The comment tracking number that has been assigned to your comment is SolarD10606.

Comment Date: April 12, 2011 14:55:38PM
Solar Energy Development PEIS
Comment ID: SolarD10606

First Name: John
Middle Initial: A
Last Name: MacDonald
Organization: National Parks Conserveation
Address: 751 Newcastle Drive
Address 2:
Address 3:
City: Akron
State: OH
Zip: 443135727
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is good and necessary that the human race pursue ways (solar, wind, water, etc.) to generate energy without using fossil fuels, but it must be done in ways that are compatible with the areas in which they are installed (e.g., national parks).

Thank you for your comment, Isaac Wollman.

The comment tracking number that has been assigned to your comment is SolarD10607.

Comment Date: April 12, 2011 14:55:40PM
Solar Energy Development PEIS
Comment ID: SolarD10607

First Name: Isaac
Middle Initial: S
Last Name: Wollman
Organization:
Address: 1028 Pacific Street #B
Address 2:
Address 3:
City: San Luis Obispo
State: CA
Zip: 93401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please desperately draft solar power ammendments. It is extremely crucial and important to us all.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10608.

Comment Date: April 12, 2011 14:56:43PM
Solar Energy Development PEIS
Comment ID: SolarD10608

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Obviously, increasing use of renewable forms of energy is important and a long overdue goal. However, it is critical that one environmental goal not have profound collateral effects which undermine another important public policy goal. Our parks are a vital national treasure and must be protected.

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you very much for your consideration.

Thank you for your comment, David Fiedler.

The comment tracking number that has been assigned to your comment is SolarD10609.

Comment Date: April 12, 2011 14:57:03PM
Solar Energy Development PEIS
Comment ID: SolarD10609

First Name: David
Middle Initial: M
Last Name: Fiedler
Organization:
Address: 5188 Judson Dr
Address 2:
Address 3: 5188 Judson Dr
City: Bensalem
State: PA
Zip: 190203849
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linda Smith.

The comment tracking number that has been assigned to your comment is SolarD10610.

Comment Date: April 12, 2011 14:57:09PM
Solar Energy Development PEIS
Comment ID: SolarD10610

First Name: Linda
Middle Initial: L
Last Name: Smith
Organization:
Address: PO Box 422
Address 2:
Address 3:
City: Carmel
State: CA
Zip: 93921
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,
Linda L. Smith

Thank you for your comment, Richard Chamberlain.

The comment tracking number that has been assigned to your comment is SolarD10611.

Comment Date: April 12, 2011 14:57:54PM
Solar Energy Development PEIS
Comment ID: SolarD10611

First Name: Richard
Middle Initial: H
Last Name: Chamberlain
Organization:
Address: 1036 Oak Grove Road #129
Address 2:
Address 3:
City: Concord
State: CA
Zip: 945183251
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar and wind power and geothermal power; however, the placement of these power generating facilities must not compromise the scenic beauty or archeological resources of our National Parks or National Monuments. The locations for these power generation projects within our parks must be carefully studied and restricted to areas with no impact on the natural wonders, which need to be preserved for all future citizens.

Thank you for your comment, john Gasperoni, Ph.D..

The comment tracking number that has been assigned to your comment is SolarD10612.

Comment Date: April 12, 2011 14:57:57PM
Solar Energy Development PEIS
Comment ID: SolarD10612

First Name: john
Middle Initial: L
Last Name: Gasperoni, Ph.D.
Organization:
Address: 1830 francisco
Address 2:
Address 3:
City: berkeley
State: CA
Zip: 947031313
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I laud the effort to utilize open land for the production of solar electricity, I would strongly and in no uncertain terms request that national monuments such as Death Valley and Joshua Tree be left untouched by this effort. They, and other places like them, are too rare and exquisite to be destroyed by short-sighted planning.

Thank you for your comment, Linda Jennings.

The comment tracking number that has been assigned to your comment is SolarD10613.

Comment Date: April 12, 2011 14:58:29PM
Solar Energy Development PEIS
Comment ID: SolarD10613

First Name: Linda
Middle Initial: A
Last Name: Jennings
Organization:
Address: 4833 Maury Lane
Address 2:
Address 3:
City: Alexandria
State: VA
Zip: 22304
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Linda A. Jennings

Thank you for your comment, Geoffrey Gluckman.

The comment tracking number that has been assigned to your comment is SolarD10614.

Comment Date: April 12, 2011 14:58:32PM
Solar Energy Development PEIS
Comment ID: SolarD10614

First Name: Geoffrey
Middle Initial:
Last Name: Gluckman
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The cost we pay for dependence on foreign energy sources is readily apparent. I encourage you to move forward with renewable energy sources, including solar. More important, the updating of the power grid is essential, as well.
Thank you for your time and consideration
geoffrey

Thank you for your comment, Steve Iverson.

The comment tracking number that has been assigned to your comment is SolarD10615.

Comment Date: April 12, 2011 14:59:06PM
Solar Energy Development PEIS
Comment ID: SolarD10615

First Name: Steve
Middle Initial:
Last Name: Iverson
Organization:
Address:
Address 2:
Address 3:
City: Newport Beach
State: CA
Zip: 926604709
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,

Steven Iverson

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10616.

Comment Date: April 12, 2011 14:59:10PM
Solar Energy Development PEIS
Comment ID: SolarD10616

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy, wisely sited, is a wonderful resource for the U.S.

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as potential high conflict areas, and plan/consult accordingly.

Thank you for your consideration.

Thank you for your comment, Jim Smith.

The comment tracking number that has been assigned to your comment is SolarD10617.

Comment Date: April 12, 2011 14:59:47PM
Solar Energy Development PEIS
Comment ID: SolarD10617

First Name: Jim
Middle Initial:
Last Name: Smith
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please save our parks.

Thank you

Thank you for your comment, Richard Titley.

The comment tracking number that has been assigned to your comment is SolarD10618.

Comment Date: April 12, 2011 15:00:18PM
Solar Energy Development PEIS
Comment ID: SolarD10618

First Name: Richard
Middle Initial:
Last Name: Titley
Organization:
Address: 318 Highland Terrace
Address 2:
Address 3:
City: Pitman
State: NJ
Zip: 080711551
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, darynne jessler.

The comment tracking number that has been assigned to your comment is SolarD10619.

Comment Date: April 12, 2011 15:01:22PM
Solar Energy Development PEIS
Comment ID: SolarD10619

First Name: darynne
Middle Initial:
Last Name: jessler
Organization:
Address: 4408 gentry ave
Address 2:
Address 3:
City: valley village
State: CA
Zip: 91607
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

NPCA strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10620.

Comment Date: April 12, 2011 15:01:22PM
Solar Energy Development PEIS
Comment ID: SolarD10620

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Presly Hollingsworth.

The comment tracking number that has been assigned to your comment is SolarD10621.

Comment Date: April 12, 2011 15:01:46PM
Solar Energy Development PEIS
Comment ID: SolarD10621

First Name: Presly
Middle Initial: D
Last Name: Hollingsworth
Organization:
Address: 4724 Doyle Cemetery Road
Address 2:
Address 3:
City: Starks
State: LA
Zip: 706613808
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. Read more about what's at stake.

Thank you for your comment, Steven Davies-Sigmund.

The comment tracking number that has been assigned to your comment is SolarD10622.

Comment Date: April 12, 2011 15:02:45PM
Solar Energy Development PEIS
Comment ID: SolarD10622

First Name: Steven
Middle Initial:
Last Name: Davies-Sigmund
Organization:
Address: 1214 Folger Ave
Address 2:
Address 3:
City: Kirkwood
State: MO
Zip: 631221233
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Christopher Walsh.

The comment tracking number that has been assigned to your comment is SolarD10623.

Comment Date: April 12, 2011 15:04:07PM
Solar Energy Development PEIS
Comment ID: SolarD10623

First Name: Christopher
Middle Initial:
Last Name: Walsh
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need solar, but keep it safe for wildlife!

Thank you for your comment, Elizabeth Watts.

The comment tracking number that has been assigned to your comment is SolarD10624.

Comment Date: April 12, 2011 15:04:52PM
Solar Energy Development PEIS
Comment ID: SolarD10624

First Name: Elizabeth
Middle Initial:
Last Name: Watts
Organization:
Address: 16 Starks Place
Address 2:
Address 3:
City: Lynbrook
State: NY
Zip: 11563
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, David Modarelli.

The comment tracking number that has been assigned to your comment is SolarD10625.

Comment Date: April 12, 2011 15:05:59PM
Solar Energy Development PEIS
Comment ID: SolarD10625

First Name: David
Middle Initial:
Last Name: Modarelli
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is quite clear that the US, and the world, must develop new sources of energy as alternatives to fossil fuels. Solar energy is probably the most viable long-term sustainable form of energy. Please consider substantial funding for research in this promising area. Thanks!

Thank you for your comment, nancy carter.

The comment tracking number that has been assigned to your comment is SolarD10626.

Comment Date: April 12, 2011 15:07:01PM
Solar Energy Development PEIS
Comment ID: SolarD10626

First Name: nancy
Middle Initial: e
Last Name: carter
Organization:
Address: 383 rio grande way
Address 2:
Address 3:
City: bullhead city
State: AZ
Zip: 86442
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

LETS GET SMARTER!!

Thank you for your comment, Brandon M Bean.

The comment tracking number that has been assigned to your comment is SolarD10627.

Comment Date: April 12, 2011 15:07:02PM
Solar Energy Development PEIS
Comment ID: SolarD10627

First Name: Brandon M
Middle Initial: m
Last Name: Bean
Organization:
Address: 2019 Los Feliz Dr Apt 8
Address 2:
Address 3:
City:
State: CA
Zip: 913623030
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Death-Valley-1.pdf

Comment Submitted:

we need to have re mean to have it open space for the Wildlife AND FOR OUR KIDS LIVE & THEY FUTURE TO. like this pic

P.S. I Love Wildlife love Brandon M Bean. AND FOR OUR KIDS LIVE & THEY FUTURE TO.

“In this great future, you can't forget your past...” Bob Marley

P.S. I Love Wildlife love Brandon M Bean.

Thank you for helping to save these executives why saving the Western Gray Whale important.

Thank you for considering my comments. I look forward to your swift action to ensure a complete ban on whaling in Iceland.

Sincerely,

Thank you for your consideration of this issue.

Thank you for considering my views on this issue. I look forward to your reply.

Sincerely, Thank you for considering my views on this issue. I look forward to your reply.

Yours truly, Thank you for considering my comments. Thank you for taking my concerns into consideration. Sincerely, Thank you for considering my comments. P.S. I Love Wildlife love Brandon M Bean. Thank you for receiving my comments. Sincerely, Brandon M Bean 2019 Los Feliz dr Apt 8 Thousand Oaks CA 91362-3030 Brandonmbean@yahoo.com I love 8stops7 They Rock. <http://www.8stops7.com> ? Thank you for considering and conveying my message to your government. Sincerely, Brandon M Bean 805.657.7565

I love 8stops7 They Rock. <http://www.8stops7.com>

<http://www.facebook.com/brandon.m.bean>

Sincerely,

Brandon M BEAN
805-657-7565



Thank you for your comment, Joyce Womack.

The comment tracking number that has been assigned to your comment is SolarD10628.

Comment Date: April 12, 2011 15:07:11PM
Solar Energy Development PEIS
Comment ID: SolarD10628

First Name: Joyce
Middle Initial:
Last Name: Womack
Organization:
Address: 606 Baltusrol Circle
Address 2:
Address 3:
City: Garland
State: TX
Zip: 75044
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please do not sacrifice our sacred national parks to energy tracks. Use tax incentives to encourage citizens & businesses to provide rooftop solar energy. The new conservatives in power seem to want to undo every advancement the country has achieved all the while protecting the rich & powerful.
Do the RIGHT thing!

Thank you for your comment, A.S. Evans.

The comment tracking number that has been assigned to your comment is SolarD10629.

Comment Date: April 12, 2011 15:07:43PM
Solar Energy Development PEIS
Comment ID: SolarD10629

First Name: A.S.
Middle Initial:
Last Name: Evans
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones and shouldn't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and to protect this heritage for present and future generations. Thank you.

Thank you for your comment, Kathy Bentley.

The comment tracking number that has been assigned to your comment is SolarD10630.

Comment Date: April 12, 2011 15:07:53PM
Solar Energy Development PEIS
Comment ID: SolarD10630

First Name: Kathy
Middle Initial:
Last Name: Bentley
Organization:
Address: 9502 Ridgely Ave
Address 2:
Address 3:
City: Baltimore
State: MD
Zip: 21234
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The talking points below are provided by NPCA, however, I fully agree with them. I am a Nat'l Park enthusiast & would hate to see any industrial complex mar the beautiful vistas at any Nat'l Park. I believe that any Nat'l Park should be part of any plan to implement a Solar Energy Zone near them. That is not to say that I oppose solar energy. On the contrary, I am a huge proponent of any renewable energy source.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Mary Mutch.

The comment tracking number that has been assigned to your comment is SolarD10631.

Comment Date: April 12, 2011 15:09:16PM
Solar Energy Development PEIS
Comment ID: SolarD10631

First Name: Mary
Middle Initial: L
Last Name: Mutch
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, MIKE LINK.

The comment tracking number that has been assigned to your comment is SolarD10632.

Comment Date: April 12, 2011 15:09:31PM
Solar Energy Development PEIS
Comment ID: SolarD10632

First Name: MIKE
Middle Initial: H
Last Name: LINK
Organization:
Address: 82119 Bennett Road
Address 2:
Address 3:
City: Willow River
State: MN
Zip: 55795
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As an advocate of alternative energy and the need to move from oil to sustainability I must caution the potential poor siting of energy production on wild lands.

Energy needs to be near the consumer, dispersed energy where energy consumption is greatest is the best policy.

Remote siting on land designated for scenic, cultural, and biological protection is not the proper place for energy farms.

Lets make decisions that represent the best for both these issues.

Thank you for your comment, Corinne Livesay.

The comment tracking number that has been assigned to your comment is SolarD10633.

Comment Date: April 12, 2011 15:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10633

First Name: Corinne
Middle Initial: B
Last Name: Livesay
Organization:
Address: 3955 East County Line N
Address 2:
Address 3:
City: White Bear Lake
State: MN
Zip: 551104552
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Rather than using up more land, why not take the subsidy money intended for 20 new U.S. nuclear plants and install solar panels on residences and buildings. Could be done according to state populations. Plenty available space and would increase jobs and save energy.

Thank you for your comment, Anthony Kurland.

The comment tracking number that has been assigned to your comment is SolarD10634.

Comment Date: April 12, 2011 15:10:08PM
Solar Energy Development PEIS
Comment ID: SolarD10634

First Name: Anthony
Middle Initial:
Last Name: Kurland
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I hope the solar energy program will be undertaken only after a thorough review of the environmental considerations in national parks, and that solar energy arrays will be restricted to those areas with no impact on the surrounding ecology. Most important, a program like this must be the recommended result of a thorough and cautious scientific review.

Thank you for your comment, Jennifer Lake.

The comment tracking number that has been assigned to your comment is SolarD10635.

Comment Date: April 12, 2011 15:10:09PM
Solar Energy Development PEIS
Comment ID: SolarD10635

First Name: Jennifer
Middle Initial:
Last Name: Lake
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Margery Oberheide.

The comment tracking number that has been assigned to your comment is SolarD10636.

Comment Date: April 12, 2011 15:10:25PM
Solar Energy Development PEIS
Comment ID: SolarD10636

First Name: Margery
Middle Initial:
Last Name: Oberheide
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10637.

Comment Date: April 12, 2011 15:11:04PM
Solar Energy Development PEIS
Comment ID: SolarD10637

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Using our national parks for renewal energy is a wonderful idea, but there should be careful thought to how to do this without interfering with other important functions of our park lands, including wildlife habitats and migration paths, light pollution, etc.

Thank you for your comment, Chuck Graver.

The comment tracking number that has been assigned to your comment is SolarD10638.

Comment Date: April 12, 2011 15:11:32PM
Solar Energy Development PEIS
Comment ID: SolarD10638

First Name: Chuck
Middle Initial: E
Last Name: Graver
Organization:
Address: 32 Cotherstone Dr.
Address 2:
Address 3:
City: Southampton
State: NJ
Zip: 080881002
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Cindy Hoffer.

The comment tracking number that has been assigned to your comment is SolarD10639.

Comment Date: April 12, 2011 15:11:38PM
Solar Energy Development PEIS
Comment ID: SolarD10639

First Name: Cindy
Middle Initial:
Last Name: Hoffer
Organization:
Address: 15132 Kutztown Rd #54C1
Address 2:
Address 3:
City: Kutztown
State: PA
Zip: 19530
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks and they are as follows:

Riverside East SEZ - reconfigure to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

Iron Mountain SEZ - remove to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

Amargosa Valley SEZ - reduce or reconfigure to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Red Sands SEZ - threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

All proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Hartson Doak.

The comment tracking number that has been assigned to your comment is SolarD10640.

Comment Date: April 12, 2011 15:11:46PM
Solar Energy Development PEIS
Comment ID: SolarD10640

First Name: Hartson
Middle Initial:
Last Name: Doak
Organization:
Address: 96226 Waiawa Rd #43
Address 2:
Address 3:
City: Pearl City
State: HI
Zip: 96782
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar arrays must be located with minimal disruption to the environment.

Thank you for your comment, Anne Valdez.

The comment tracking number that has been assigned to your comment is SolarD10641.

Comment Date: April 12, 2011 15:12:03PM
Solar Energy Development PEIS
Comment ID: SolarD10641

First Name: Anne
Middle Initial:
Last Name: Valdez
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

In the development of solar energy we should not sacrifice our wild land or wildlife and that includes wild horses. While I am a strong supporter of green energy, I oppose the moving of horses for the purpose of development of private solar energy plants. Since these plants aren't going to give me a break on my energy costs, why should they be allowed to develop on public lands? They should be made to purchase their own property and environmental studies should be done. In the end, there is little purpose to green energy if it endangers wild areas and animals.

Thank you for your comment, Joel Kay.

The comment tracking number that has been assigned to your comment is SolarD10642.

Comment Date: April 12, 2011 15:12:10PM
Solar Energy Development PEIS
Comment ID: SolarD10642

First Name: Joel
Middle Initial:
Last Name: Kay
Organization:
Address: 10707 SE Stanley Ave
Address 2: none
Address 3:
City: Milwaukie
State: OR
Zip: 972224362
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended,I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sharon Hunt.

The comment tracking number that has been assigned to your comment is SolarD10643.

Comment Date: April 12, 2011 15:12:18PM
Solar Energy Development PEIS
Comment ID: SolarD10643

First Name: Sharon
Middle Initial: A
Last Name: Hunt
Organization:
Address: 17227 SW Loma Vista St.
Address 2:
Address 3:
City: Aloha
State: OR
Zip: 970075795
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There must be a stop to fracking, and dirty coal ! We need more solar energy.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10644.

Comment Date: April 12, 2011 15:12:36PM
Solar Energy Development PEIS
Comment ID: SolarD10644

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10645.

Comment Date: April 12, 2011 15:13:46PM
Solar Energy Development PEIS
Comment ID: SolarD10645

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Viviann Choate.

The comment tracking number that has been assigned to your comment is SolarD10646.

Comment Date: April 12, 2011 15:14:15PM
Solar Energy Development PEIS
Comment ID: SolarD10646

First Name: Viviann
Middle Initial: L
Last Name: Choate
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support developing solar energy as a part of a clean energy package, but please do not place solar energy farms where they would be harmful to the flora and fauna in our state and national parks. Thankyou,
Viviann Choate

Thank you for your comment, Van Collinsworth.

The comment tracking number that has been assigned to your comment is SolarD10647.

Comment Date: April 12, 2011 15:14:46PM
Solar Energy Development PEIS
Comment ID: SolarD10647

First Name: Van
Middle Initial:
Last Name: Collinsworth
Organization:
Address: 9222 Lake Canyon Road
Address 2:
Address 3:
City: Santee
State: CA
Zip: 92071
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Your Solar Energy Zone model is based upon centralized power - that's backward and must change to decentralized solar power produced at the locations where it is consumed! Design an alternative that is based upon decentralized power production that eliminates or significantly reduces the need for any Solar Energy Zones!
Thank You!

Thank you for your comment, Earl Grove.

The comment tracking number that has been assigned to your comment is SolarD10648.

Comment Date: April 12, 2011 15:15:05PM
Solar Energy Development PEIS
Comment ID: SolarD10648

First Name: Earl
Middle Initial: L
Last Name: Grove
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for development of solar and wind energy, we need to find ways to break our dependance on fossil fuels and use earth friendly sources as much as we can. As much as we need the wind and solar farms though, we absolutely must plan and build them in places and to such standards that do the least harm to our environment. We must protect wildlife and habitat and be ever mindful of the visual impact a field of 400 foot tall towers or acres and acres of solar panels would have.

Thank you for your comment, robert luke.

The comment tracking number that has been assigned to your comment is SolarD10649.

Comment Date: April 12, 2011 15:16:33PM
Solar Energy Development PEIS
Comment ID: SolarD10649

First Name: robert
Middle Initial: 0
Last Name: luke
Organization: CTA/NEA
Address: 18038 jayhawk drive
Address 2:
Address 3:
City: penn valley
State: CA
Zip: 95946
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

renewables renewables

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10650.

Comment Date: April 12, 2011 15:16:34PM
Solar Energy Development PEIS
Comment ID: SolarD10650

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am very much for solar and green solutions to the energy needs in our country. However, I believe solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. This is very important to the future as well.

Thank you for your comment, Necia Refes.

The comment tracking number that has been assigned to your comment is SolarD10651.

Comment Date: April 12, 2011 15:16:39PM
Solar Energy Development PEIS
Comment ID: SolarD10651

First Name: Necia
Middle Initial:
Last Name: Refes
Organization:
Address: 67 E 2 St
Address 2:
Address 3:
City: NYC
State: NY
Zip: 10003
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is of paramount importance that we begin to implement alternative energy sources and eliminate the use of fossil fuels if we intend to survive as a species.

However, smart placement of solar panels is key. They should be installed in desert areas where they will not impact the land or the animals living there. They should NOT be installed within our National Parks.

Thank you for your comment, MaryAnn Shirkey.

The comment tracking number that has been assigned to your comment is SolarD10652.

Comment Date: April 12, 2011 15:16:52PM
Solar Energy Development PEIS
Comment ID: SolarD10652

First Name: MaryAnn
Middle Initial:
Last Name: Shirkey
Organization:
Address: 10220 bushman Drive #8203
Address 2:
Address 3:
City: Oakton
State: VA
Zip: 22124
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I trust you will take these facts into consideration.

Sincerely, MaryAnn Shirkey

Thank you for your comment, Anne Fogleman.

The comment tracking number that has been assigned to your comment is SolarD10653.

Comment Date: April 12, 2011 15:16:55PM
Solar Energy Development PEIS
Comment ID: SolarD10653

First Name: Anne
Middle Initial: D
Last Name: Fogleman
Organization:
Address: 5 St. James Place
Address 2:
Address 3:
City: Chapel Hill
State: NC
Zip: 27514
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While we need to employ more solar energy, it must be done in a responsible, environmentally correct manner, leaving our national parks as pristine as they were prior to any energy production construction.

Thank you for your comment, Lee Frank.

The comment tracking number that has been assigned to your comment is SolarD10654.

Comment Date: April 12, 2011 15:17:12PM
Solar Energy Development PEIS
Comment ID: SolarD10654

First Name: Lee
Middle Initial:
Last Name: Frank
Organization:
Address: 14648 Tustin St.
Address 2:
Address 3:
City: Sherman Oaks
State: CA
Zip: 914034103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Why isn't our government subsidizing solar installments on private homes? I believe every home should have panels, not the open spaces so precious to us.

Thank you for your comment, Bonnie Margay Burke.

The comment tracking number that has been assigned to your comment is SolarD10655.

Comment Date: April 12, 2011 15:17:31PM
Solar Energy Development PEIS
Comment ID: SolarD10655

First Name: Bonnie Margay
Middle Initial:
Last Name: Burke
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thanks so much for doing the right thing!

Thank you for your comment, James Bell.

The comment tracking number that has been assigned to your comment is SolarD10656.

Comment Date: April 12, 2011 15:18:10PM
Solar Energy Development PEIS
Comment ID: SolarD10656

First Name: James
Middle Initial: T
Last Name: Bell
Organization:
Address: 23035 Forest Way
Address 2:
Address 3:
City: California
State: MD
Zip: 20619
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Paulette Whitcomb.

The comment tracking number that has been assigned to your comment is SolarD10657.

Comment Date: April 12, 2011 15:18:15PM
Solar Energy Development PEIS
Comment ID: SolarD10657

First Name: Paulette
Middle Initial: S
Last Name: Whitcomb
Organization:
Address: 9085 W. 95th Avenue
Address 2:
Address 3:
City: Westminster
State: CO
Zip: 800214313
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is an excellent initiative to hold an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado. This review needs to occur, and one of the criteria has to be, First Do No Harm.

Thank you for your comment, Ronald Kestler.

The comment tracking number that has been assigned to your comment is SolarD10658.

Comment Date: April 12, 2011 15:18:20PM
Solar Energy Development PEIS
Comment ID: SolarD10658

First Name: Ronald
Middle Initial:
Last Name: Kestler
Organization:
Address: 2101 Challedon Way
Address 2:
Address 3:
City: Louisville
State: KY
Zip: 402231236
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Janelle Ford.

The comment tracking number that has been assigned to your comment is SolarD10659.

Comment Date: April 12, 2011 15:19:27PM
Solar Energy Development PEIS
Comment ID: SolarD10659

First Name: Janelle
Middle Initial:
Last Name: Ford
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I'm all for solar energy. I do think we should be careful where we put the arrays. Don't put one in a migration track. Or take out forests to put in solar. Please be very sensible about WHERE the solar panels are placed. thank you.

Thank you for your comment, Gerry and Genny Foley.

The comment tracking number that has been assigned to your comment is SolarD10660.

Comment Date: April 12, 2011 15:20:02PM
Solar Energy Development PEIS
Comment ID: SolarD10660

First Name: Gerry and Genny
Middle Initial:
Last Name: Foley
Organization:
Address: 8503 44th St W
Address 2:
Address 3:
City: University Place
State: WA
Zip: 98466
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy makes more sense than wind farms at this point in time. Places like Death Valley would be ideal for use of solar energy. Please consider the most cost effective way to harness the sun's free gift daily to fill energy needs.

Thank you for your comment, Andrew Politzer.

The comment tracking number that has been assigned to your comment is SolarD10661.

Comment Date: April 12, 2011 15:20:30PM
Solar Energy Development PEIS
Comment ID: SolarD10661

First Name: Andrew
Middle Initial:
Last Name: Politzer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

woves are our past present and future.

Thank you for your comment, Laura Wilder.

The comment tracking number that has been assigned to your comment is SolarD10662.

Comment Date: April 12, 2011 15:21:22PM
Solar Energy Development PEIS
Comment ID: SolarD10662

First Name: Laura
Middle Initial:
Last Name: Wilder
Organization:
Address: 4905 Rollingwood Court
Address 2:
Address 3:
City: Garland
State: TX
Zip: 75043
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of solar development in these states except where this development would destroy the beauty and enjoyment of national parks. So I recommend the following:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Eric Chipman.

The comment tracking number that has been assigned to your comment is SolarD10663.

Comment Date: April 12, 2011 15:22:18PM
Solar Energy Development PEIS
Comment ID: SolarD10663

First Name: Eric
Middle Initial: H
Last Name: Chipman
Organization: INDIVIDUAL ACTIVIST
Address: 239 Watertown Stret
Address 2: Apartment # 210
Address 3:
City: Newton
State: MA
Zip: 024581354
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

IT IS TIME TO DEVELOP SOLAR ENERGY WHEN THE COST OF OIL IS SOARING!

Thank you for your comment, Katherine Cooper.

The comment tracking number that has been assigned to your comment is SolarD10664.

Comment Date: April 12, 2011 15:22:38PM
Solar Energy Development PEIS
Comment ID: SolarD10664

First Name: Katherine
Middle Initial: C
Last Name: Cooper
Organization:
Address: 2046 Winding Brook Way
Address 2:
Address 3:
City: Xenia
State: OH
Zip: 45385
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Patrick Vingo.

The comment tracking number that has been assigned to your comment is SolarD10665.

Comment Date: April 12, 2011 15:22:56PM
Solar Energy Development PEIS
Comment ID: SolarD10665

First Name: Patrick
Middle Initial:
Last Name: Vingo
Organization:
Address: 70 Taylor Ave
Address 2:
Address 3:
City: Norwalk
State: CT
Zip: 06854
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for solar energy zones. I would expect that any such areas be considered with sound environmental impact studies. Having a SEZ in the far distance of national park viewing areas is acceptable but effects on water tables and usage and wild life impacts must be minimized otherwise we jeopardise one benefit to gain another. We can have the benefits of both natural open areas and energy independence through careful measures and considerations.

Thank you for your comment, Ryan Reid.

The comment tracking number that has been assigned to your comment is SolarD10666.

Comment Date: April 12, 2011 15:23:02PM
Solar Energy Development PEIS
Comment ID: SolarD10666

First Name: Ryan
Middle Initial:
Last Name: Reid
Organization:
Address: 6285 Muddy Creek Rd
Address 2:
Address 3:
City: Pueblo
State: CO
Zip: 81004
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Patricia Abbott.

The comment tracking number that has been assigned to your comment is SolarD10667.

Comment Date: April 12, 2011 15:23:17PM
Solar Energy Development PEIS
Comment ID: SolarD10667

First Name: Patricia
Middle Initial: M
Last Name: Abbott
Organization:
Address: 264 Ponce de Leon St.
Address 2:
Address 3: 264 Ponce de Leon St.
City: Royal Palm Beach
State: FL
Zip: 334111158
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The development of solar energy resources is very important and the use of public lands is certainly a consideration. However, it should be done judiciously and in a manner that does not destroy or disturb valuable wildlife and/or the environment.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10668.

Comment Date: April 12, 2011 15:23:33PM
Solar Energy Development PEIS
Comment ID: SolarD10668

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Debra Cunningham.

The comment tracking number that has been assigned to your comment is SolarD10669.

Comment Date: April 12, 2011 15:23:50PM
Solar Energy Development PEIS
Comment ID: SolarD10669

First Name: Debra
Middle Initial:
Last Name: Cunningham
Organization:
Address: 908 Bonita Drive
Address 2:
Address 3:
City: Encinitas
State: CA
Zip: 92024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Carol Steinhart.

The comment tracking number that has been assigned to your comment is SolarD10670.

Comment Date: April 12, 2011 15:24:38PM
Solar Energy Development PEIS
Comment ID: SolarD10670

First Name: Carol
Middle Initial:
Last Name: Steinhart
Organization:
Address:
Address 2:
Address 3:
City: Madison
State: WI
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, four proposed Solar Energy Zones (SEZ) that threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce negative effects on Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent harm to Joshua Tree National Park's scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce harm to Death Valley's wilderness and water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ must be modified so as not to threaten water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

We need to develop large-scale solar energy projects, but we also need to do it right, from the planning stage on.

Thank you for your comment, Kelly Epstein.

The comment tracking number that has been assigned to your comment is SolarD10671.

Comment Date: April 12, 2011 15:24:53PM
Solar Energy Development PEIS
Comment ID: SolarD10671

First Name: Kelly
Middle Initial:
Last Name: Epstein
Organization:
Address: 18319 Champion Forest Dr.
Address 2:
Address 3:
City: Spring
State: TX
Zip: 77379
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the development of solar energy, but believe that solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.
Sincerely,

Kelly Epstein

Thank you for your comment, Paula Stober.

The comment tracking number that has been assigned to your comment is SolarD10672.

Comment Date: April 12, 2011 15:25:46PM
Solar Energy Development PEIS
Comment ID: SolarD10672

First Name: Paula
Middle Initial:
Last Name: Stober
Organization:
Address: 3607 Timberoak Drive
Address 2:
Address 3:
City: Greensboro
State: NC
Zip: 274102124
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support solar energy but do want the installations to be within zones that will not hurt any of our National Parks.

Thank you.

Thank you for your comment, Trish Ralph.

The comment tracking number that has been assigned to your comment is SolarD10673.

Comment Date: April 12, 2011 15:25:48PM
Solar Energy Development PEIS
Comment ID: SolarD10673

First Name: Trish
Middle Initial:
Last Name: Ralph
Organization:
Address: 308 Laburnam Cres
Address 2:
Address 3:
City: Rochester
State: NY
Zip: 14620
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the concept of Solar Energy Zones however some proposed zones appear to have a negative affect on the National Park in which the zone is to be located, specifically Joshua Tree which already endures considerable traffic. I treasure the nights I spent wilderness camping there. I believe location in Joshua Tree should be reconsidered

Thank you for your comment, delia gerhard.

The comment tracking number that has been assigned to your comment is SolarD10674.

Comment Date: April 12, 2011 15:26:31PM
Solar Energy Development PEIS
Comment ID: SolarD10674

First Name: delia
Middle Initial: j
Last Name: gerhard
Organization:
Address: 117 nw 80
Address 2:
Address 3:
City: seattle
State: WA
Zip: 98117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the development of solar energy but only in areas that do not threaten the environments of our national parks, I especially urge you to honor the pristine areas of Joshua Tree and Amargossa, thank you, Delia Gerhard

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10675.

Comment Date: April 12, 2011 15:27:23PM
Solar Energy Development PEIS
Comment ID: SolarD10675

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I truly want solar energy instead of us wasting our lands for fuel but we definitely need to preserve our natural wildlife and environment. Let's make sure that this is done where it won't affect nature in any way.

Thank you for your comment, Glen Benjamin.

The comment tracking number that has been assigned to your comment is SolarD10676.

Comment Date: April 12, 2011 15:27:25PM
Solar Energy Development PEIS
Comment ID: SolarD10676

First Name: Glen
Middle Initial: S
Last Name: Benjamin
Organization:
Address: 140 Court Street apt 209
Address 2:
Address 3:
City: Portsmouth
State: NH
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is the public's last chance preserve nature for future generations1

Thank you for your comment, Jerry Ross.

The comment tracking number that has been assigned to your comment is SolarD10677.

Comment Date: April 12, 2011 15:28:03PM
Solar Energy Development PEIS
Comment ID: SolarD10677

First Name: Jerry
Middle Initial:
Last Name: Ross
Organization:
Address: 708 East D Street
Address 2:
Address 3:
City: Belleville
State: IL
Zip: 62220
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, janet herbruck.

The comment tracking number that has been assigned to your comment is SolarD10678.

Comment Date: April 12, 2011 15:28:36PM
Solar Energy Development PEIS
Comment ID: SolarD10678

First Name: janet
Middle Initial:
Last Name: herbruck
Organization:
Address: 3098 Rue d'Orleans #221
Address 2:
Address 3:
City: san Diego
State: CA
Zip: 92110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Don't screw up the national parks and scenic areas now or in the future. Protect these environments NOW

Thank you for your comment, henri andre Fourroux III.

The comment tracking number that has been assigned to your comment is SolarD10679.

Comment Date: April 12, 2011 15:29:09PM
Solar Energy Development PEIS
Comment ID: SolarD10679

First Name: henri andre
Middle Initial:
Last Name: Fourroux III
Organization:
Address: 1494 Athis st.
Address 2:
Address 3:
City: NEW ORLEANS
State: LA
Zip: 70122
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I havet to agree with what's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

For instance and with all the following examples I have to agree: NPCA strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10680.

Comment Date: April 12, 2011 15:29:15PM
Solar Energy Development PEIS
Comment ID: SolarD10680

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ann Domski.

The comment tracking number that has been assigned to your comment is SolarD10681.

Comment Date: April 12, 2011 15:29:17PM
Solar Energy Development PEIS
Comment ID: SolarD10681

First Name: Ann
Middle Initial:
Last Name: Domski
Organization:
Address: 277 Front St.
Address 2:
Address 3:
City: Atco
State: NJ
Zip: 08004
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Esther Williams.

The comment tracking number that has been assigned to your comment is SolarD10682.

Comment Date: April 12, 2011 15:29:21PM
Solar Energy Development PEIS
Comment ID: SolarD10682

First Name: Esther
Middle Initial:
Last Name: Williams
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Esther Williams

Thank you for your comment, Abigail Gindele.

The comment tracking number that has been assigned to your comment is SolarD10683.

Comment Date: April 12, 2011 15:29:22PM
Solar Energy Development PEIS
Comment ID: SolarD10683

First Name: Abigail
Middle Initial:
Last Name: Gindele
Organization:
Address: 77 Old South Rd
Address 2:
Address 3:
City: South Berwick
State: ME
Zip: 03908
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We should be putting solar panels on households and commercial buildings instead of building solar farms. They are already in the grid, the electricity is where it's used, and we're not destroying ecosystems in the process. Take the \$ subsidizing petroleum and nuclear. But the energy companies don't want to loose their control, power, money.

And there's the new potential of solar using the processes a leaf does.

Thank you for your comment, Dennis Battrick.

The comment tracking number that has been assigned to your comment is SolarD10684.

Comment Date: April 12, 2011 15:30:04PM
Solar Energy Development PEIS
Comment ID: SolarD10684

First Name: Dennis
Middle Initial: T
Last Name: Battrick
Organization:
Address: 754 Sheringham Ct.
Address 2:
Address 3:
City: Folsom
State: CA
Zip: 95630
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Carol Millette.

The comment tracking number that has been assigned to your comment is SolarD10685.

Comment Date: April 12, 2011 15:30:24PM
Solar Energy Development PEIS
Comment ID: SolarD10685

First Name: Carol
Middle Initial: A
Last Name: Millette
Organization: Friends of Saddle Mountain
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The Friends of Saddle Mountain (FoSM) would like to express it's deepest concern about construction or even the proposal of constructing solar sites on public lands. As an organization dedicated to the environment, we do agree that renewable energy would be advantageous to us all and we applaud the approach and time the Bureau of Land Management has spent to identify the potential "Solar Energy Zones" as options for future solar development. Several of the locations (i.e. Gillespie, and Brenda in Arizona) do suggest that the BLM shares some of our concern in that they have chosen areas that at face value seem to represent potentially minimal impact to the environment, flora and fauna that still reside there. A few of these study sites also seem to be areas where historic grazing or other activities have damaged the land. With that said however, these areas may be worthy candidates for natural restoration and/or are already used by the general public for numerous types of recreational activities. Surely those same recreational activities would be impacted and most likely halted if solar development was permitted to move forward.

In addition, we recognize that public land where people may experience the great outdoors is becoming harder to come by. With all of the private land holdings now being offered, it would seem that other privately held land purchase and/or lease options are more plausible and publicly acceptable. Fallow farm land is an example of land that should in our opinion be considered by solar developers over pristine or even damaged public land.

In an effort to hold onto the few public use and wild places that are remaining, we would encourage the Bureau of Land Management to manage lands under it's control in ways favourable to long term protection. For us at FoSM, construction just doesn't make sense. Once built upon, recovery is near impossible and the land's natural treasures are forever lost. Let's continue to work together and save what's left!

Sincerely, FoSM

Thank you for your comment, Maki Murakami.

The comment tracking number that has been assigned to your comment is SolarD10686.

Comment Date: April 12, 2011 15:30:42PM
Solar Energy Development PEIS
Comment ID: SolarD10686

First Name: Maki
Middle Initial:
Last Name: Murakami
Organization:
Address: 3 Pheasant Ln
Address 2:
Address 3:
City: Monroe
State: NJ
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Lori Miller.

The comment tracking number that has been assigned to your comment is SolarD10687.

Comment Date: April 12, 2011 15:31:18PM
Solar Energy Development PEIS
Comment ID: SolarD10687

First Name: Lori
Middle Initial: P
Last Name: Miller
Organization:
Address: 2519 Brandt Court
Address 2:
Address 3:
City: Pinole
State: CA
Zip: 94564
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in places that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. There are four solar energy zones (SEZ) that threaten our national parks. Specifically, the SEZ at Joshua Tree, Amargosa Valley, Death Valley, and Red Sands must be reconfigured or removed to protect those parks.

Thank you for your comment, Sally Lunn.

The comment tracking number that has been assigned to your comment is SolarD10688.

Comment Date: April 12, 2011 15:32:50PM
Solar Energy Development PEIS
Comment ID: SolarD10688

First Name: Sally
Middle Initial:
Last Name: Lunn
Organization:
Address:
Address 2:
Address 3:
City:
State: MI
Zip: 48198
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for solar power in national parks when the integrity of the park is not violated.

Thank you for your comment, Michael Nutini.

The comment tracking number that has been assigned to your comment is SolarD10689.

Comment Date: April 12, 2011 15:33:46PM
Solar Energy Development PEIS
Comment ID: SolarD10689

First Name: Michael
Middle Initial: D
Last Name: Nutini
Organization:
Address: 3561 Pine Needle Dr. - D2
Address 2:
Address 3:
City: Greenacres
State: FL
Zip: 334633139
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Clayton Griffith.

The comment tracking number that has been assigned to your comment is SolarD10690.

Comment Date: April 12, 2011 15:33:51PM
Solar Energy Development PEIS
Comment ID: SolarD10690

First Name: Clayton
Middle Initial: V
Last Name: Griffith
Organization:
Address: 17660 E. Aspen Cir.
Address 2:
Address 3: 17660 E. Aspen Cir.
City: Reno
State: NV
Zip: 89508
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Why is it so hard to understand that the earth is here tshelter and assist humankind, not to destroy?

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10691.

Comment Date: April 12, 2011 15:33:54PM
Solar Energy Development PEIS
Comment ID: SolarD10691

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank You for you consideration of our national treasures. They need not be destroyed to positively effect power change with solar.

Thank you for your comment, Robert von Giebel.

The comment tracking number that has been assigned to your comment is SolarD10692.

Comment Date: April 12, 2011 15:34:24PM
Solar Energy Development PEIS
Comment ID: SolarD10692

First Name: Robert
Middle Initial: G
Last Name: von Giebel
Organization:
Address: 26 Windtryst way
Address 2:
Address 3:
City: Belvidere
State: NJ
Zip: 07823
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks. Kindly setup a perimeter that doesnt encroach on our national parks, etc. Thank you

Thank you for your comment, Toby Reese.

The comment tracking number that has been assigned to your comment is SolarD10693.

Comment Date: April 12, 2011 15:34:33PM
Solar Energy Development PEIS
Comment ID: SolarD10693

First Name: Toby
Middle Initial:
Last Name: Reese
Organization:
Address: 1117 West River Rd.
Address 2:
Address 3: 1117 West River Rd.
City: Valley City
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy and Wind Power is the way to go in this country. No more oil barons to buy off congress. No more subsidies to the big oil companies with our tax dollars. No more Arab countries telling how much they will charge for the OIL that fuels our cars. We can kiss them all a fond farewell and never look back. Invest in this country for a change and see what happens. New jobs, maybe even a growing economy!! How nice would that be for all of us in the middle class!! For once do the right thing for this country. Actually listen to the people who pay your salaries!!

Thank you for your comment, Joe Moyer.

The comment tracking number that has been assigned to your comment is SolarD10694.

Comment Date: April 12, 2011 15:35:52PM
Solar Energy Development PEIS
Comment ID: SolarD10694

First Name: Joe
Middle Initial:
Last Name: Moyer
Organization:
Address: 4522 Moore Cir #C3
Address 2:
Address 3: 4522 Moore Cir #C3
City: Tallahassee
State: FL
Zip: 32304
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Yea Solar Energy Development!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10695.

Comment Date: April 12, 2011 15:36:07PM
Solar Energy Development PEIS
Comment ID: SolarD10695

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support solar energy development ONLY within appropriately sited Solar Energy Zones that do not harm our national parks. If amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

I ask that these be amended: The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10696.

Comment Date: April 12, 2011 15:36:26PM
Solar Energy Development PEIS
Comment ID: SolarD10696

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am all in favor of solar energy, and of developing it as quickly and efficiently as possible. I do hope, though, that it can be developed without infringing on the national parks and their wildlife. It would be preferable to inconvenience human constructions before impacting the parks and wildlife. After all, it is mainly humans who will be using the energy generated.

Thank you for your comment, Deja Lizer.

The comment tracking number that has been assigned to your comment is SolarD10697.

Comment Date: April 12, 2011 15:36:55PM
Solar Energy Development PEIS
Comment ID: SolarD10697

First Name: Deja
Middle Initial:
Last Name: Lizer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Stephan Donovan.

The comment tracking number that has been assigned to your comment is SolarD10698.

Comment Date: April 12, 2011 15:37:10PM
Solar Energy Development PEIS
Comment ID: SolarD10698

First Name: Stephan
Middle Initial: M
Last Name: Donovan
Organization:
Address: 4851 North Bernard Street
Address 2:
Address 3:
City: Chicago
State: IL
Zip: 606255107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10699.

Comment Date: April 12, 2011 15:38:39PM
Solar Energy Development PEIS
Comment ID: SolarD10699

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I wholeheartedly support Solar Energy Development, but wish to express my concern about proposed developments near Joshua Tree and Death Valley National Parks. I want to see the proposal amended in order to keep wildlife, waterways, and plant life protected from any impact that these solar zones might cause, especially around our national parks. Our parks are for the enjoyment of all people, to see nature the way that God intended, in as pristine a condition as possible. I've lived in Southern California, and I know there is plenty of wide open desert space that is far away from our beautiful national parks. Please include an amendment that keeps the development of these zones outside a 15-mile radius around national park lands! Thanks for your time.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10700.

Comment Date: April 12, 2011 15:38:56PM
Solar Energy Development PEIS
Comment ID: SolarD10700

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I realize Solar Energy is a viable resource, but the placement of the zones must be thoroughly considered so that our national parks, wilderness areas and national monuments are not impacted in a negative manner. I am writing to request that the National Park Service be consulted to protect these areas before the placement of these zones is implemented.

Thank you for your comment, Polly Wilson.

The comment tracking number that has been assigned to your comment is SolarD10701.

Comment Date: April 12, 2011 15:39:54PM
Solar Energy Development PEIS
Comment ID: SolarD10701

First Name: Polly
Middle Initial:
Last Name: Wilson
Organization:
Address: 2488 Bridle Circle
Address 2:
Address 3:
City: Round Lake Beach
State: IL
Zip: 60073
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hello, I am writing to comment on the Draft Solar Energy Development PEIS. Although I now live in IL, I used to live in Idaho. I hope to put forth my perspective that although the West may seem vast, it is not without limits. Mountain, deserts, and all wilderness areas have delicate ecosystems which can easily and quickly be "screwed up royally". All it takes is one match, or an off-road vehicle, or even heavy hiking boots. How much worse would be a large installation poorly placed or constructed.

This draft does not take into account several key factors and if put into effect would result in significant and needless loss to our country and the earth.

As it stands now the Joshua Tree National Monument will be badly effected by the Riverside East SEZ. It would interrupt wildlife corridors and disrupt the Wilderness area. It definitely needs revision. The Iron Mountain SEZ must be removed altogether for the same reason.

If the Amargosa Valley SEZ isn't reduced or reconfigured it will have a horrible effect on the water resources and rare desert wetlands. We would probably have to say good-bye to several desert species.

The Red Sands SEZ also badly effects water resources, but for the White Sands National Monument. Wildlife would be put in peril. Sand dune formation threatened.

Any proposed development within 15 miles of a national park boundary should require a consultation with the National Park to determine if there will be an unacceptable change brought to the park resources or the enjoyment of the park.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, molly brewer.

The comment tracking number that has been assigned to your comment is SolarD10702.

Comment Date: April 12, 2011 15:39:55PM
Solar Energy Development PEIS
Comment ID: SolarD10702

First Name: molly
Middle Initial:
Last Name: brewer
Organization:
Address: 6439 north 40th st
Address 2:
Address 3:
City: milwaukee
State:
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

hi

Thank you for your comment, Nancy Hediger.

The comment tracking number that has been assigned to your comment is SolarD10703.

Comment Date: April 12, 2011 15:41:11PM
Solar Energy Development PEIS
Comment ID: SolarD10703

First Name: Nancy
Middle Initial: L
Last Name: Hediger
Organization:
Address:
Address 2:
Address 3:
City:
State: IL
Zip: 62249
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Tom Stanks.

The comment tracking number that has been assigned to your comment is SolarD10704.

Comment Date: April 12, 2011 15:41:15PM
Solar Energy Development PEIS
Comment ID: SolarD10704

First Name: Tom
Middle Initial: J
Last Name: Stanks
Organization: Retired
Address: 3912 Branchwood Dr
Address 2:
Address 3:
City: North Las Vegas
State: NV
Zip: 890320191
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you

Thank you for your comment, MR. & MRS. BRUCE REVESZ.

The comment tracking number that has been assigned to your comment is SolarD10705.

Comment Date: April 12, 2011 15:42:03PM
Solar Energy Development PEIS
Comment ID: SolarD10705

First Name: MR. & MRS. BRUCE
Middle Initial:
Last Name: REVESZ
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We support solar energy however only if it
does not infringe and harm our National Parks

Thank you for your comment, Patricia Lommel.

The comment tracking number that has been assigned to your comment is SolarD10706.

Comment Date: April 12, 2011 15:44:23PM
Solar Energy Development PEIS
Comment ID: SolarD10706

First Name: Patricia
Middle Initial: J
Last Name: Lommel
Organization:
Address: 10093 Arnold Drive
Address 2:
Address 3: 10093 Arnold Drive
City: DEXTER
State: MI
Zip: 48130
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very supportive of clean energy including solar and wind. We need to use care that in building these energy producers we do not harm our beautiful national parks, monuments, and wilderness areas.

Thank you for your comment, Michelle Palladine.

The comment tracking number that has been assigned to your comment is SolarD10707.

Comment Date: April 12, 2011 15:45:37PM
Solar Energy Development PEIS
Comment ID: SolarD10707

First Name: Michelle
Middle Initial:
Last Name: Palladine
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Wind and solar energy are vital to the future of this planet. I would hope that they are not available for the price of our national parks and treasures.

Thank you for your comment, Carmel de Bertaut.

The comment tracking number that has been assigned to your comment is SolarD10708.

Comment Date: April 12, 2011 15:46:24PM
Solar Energy Development PEIS
Comment ID: SolarD10708

First Name: Carmel
Middle Initial:
Last Name: de Bertaut
Organization:
Address: 220 Ogier Ave
Address 2:
Address 3:
City: Morgan Hill
State: CA
Zip: 95037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources

Thank you for your comment, Donald Wallace.

The comment tracking number that has been assigned to your comment is SolarD10709.

Comment Date: April 12, 2011 15:46:29PM
Solar Energy Development PEIS
Comment ID: SolarD10709

First Name: Donald
Middle Initial: W
Last Name: Wallace
Organization: ETI, Corral 63
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--The four proposed Solar Energy Zones (SEZ) that threaten our national parks need to be sited to avoid park interference.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joe Meyer.

The comment tracking number that has been assigned to your comment is SolarD10710.

Comment Date: April 12, 2011 15:47:20PM

Solar Energy Development PEIS

Comment ID: SolarD10710

First Name: Joe

Middle Initial:

Last Name: Meyer

Organization:

Address: PO Box 337

Address 2:

Address 3:

City: Amery

State: WI

Zip: 54001

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Time to invest in clean energy!

Thank you for your comment, Andreas Ohland.

The comment tracking number that has been assigned to your comment is SolarD10711.

Comment Date: April 12, 2011 15:48:17PM
Solar Energy Development PEIS
Comment ID: SolarD10711

First Name: Andreas
Middle Initial:
Last Name: Ohland
Organization:
Address: 642 WoodlandAve
Address 2:
Address 3:
City: Cheltenham
State: PA
Zip: 19012
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

So far, much to little has been done, profitability has come before common sense and human future. Unsustainable extractions of most or all resources, and the list of failures and lack of commitment is astonishing. Political decisions before scientific findings and recommendations.....Act accordingly and be part of the future solutions.

Thank you for your comment, Marguery Zucker.

The comment tracking number that has been assigned to your comment is SolarD10712.

Comment Date: April 12, 2011 15:48:48PM
Solar Energy Development PEIS
Comment ID: SolarD10712

First Name: Marguery
Middle Initial: L
Last Name: Zucker
Organization:
Address: 1966 Orchard St.
Address 2:
Address 3:
City: Eugene
State: OR
Zip: 97403
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy these wonders.

Thank you for your comment, Patricia Wilkinson.

The comment tracking number that has been assigned to your comment is SolarD10713.

Comment Date: April 12, 2011 15:50:59PM
Solar Energy Development PEIS
Comment ID: SolarD10713

First Name: Patricia
Middle Initial:
Last Name: Wilkinson
Organization:
Address: 1107 Myrtle St
Address 2:
Address 3:
City: Charlottesville
State: VA
Zip: 22902
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

An idea with merit must still be developed the right way. Wild lands and wild life should be protected at all costs.

Thank you for your comment, Nancy Stewart.

The comment tracking number that has been assigned to your comment is SolarD10714.

Comment Date: April 12, 2011 15:51:10PM
Solar Energy Development PEIS
Comment ID: SolarD10714

First Name: Nancy
Middle Initial: C
Last Name: Stewart
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The proper use of solar cells should definitely be used in our vast open lands. Please keep the national Parks and their vicinities in mind while furthering this industry.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10715.

Comment Date: April 12, 2011 15:51:19PM
Solar Energy Development PEIS
Comment ID: SolarD10715

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar Panels

The idea of putting Solar Panels in our California desert may sound appealing to those who do not live in the desert. I have been a California resident for the past 27 years, well my whole life and this desert is amazing. The idea that the desert is just a waste land because its all dirt and rocks is completely untrue. Beauty is in the eye of the beholder. The fact of the matter is that if this desert was just a wasteland then we would not have that many snowbirds come in every season to stay in their vacation homes here in palm springs. You do not fix one problem by creating another, for example yes we find ways to creat energy by not digging soo much in the ground this is true! But what do you say about all the desert animals we will be affecting? Have we thought about all the desert turtles we will be taking from their homes? You cannot fix one problem by creating another!!

Jessica D-

Thank you for your comment, Ruth Stambaugh.

The comment tracking number that has been assigned to your comment is SolarD10716.

Comment Date: April 12, 2011 15:51:31PM
Solar Energy Development PEIS
Comment ID: SolarD10716

First Name: Ruth
Middle Initial:
Last Name: Stambaugh
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Going solar is a very important step in getting our country off of our dependence on fossil fuels, but we must be sure that these facilities are not placed where they will harm or detract in any way our national parks and other public lands.

Thank you for your comment, Larry Watson.

The comment tracking number that has been assigned to your comment is SolarD10717.

Comment Date: April 12, 2011 15:51:43PM
Solar Energy Development PEIS
Comment ID: SolarD10717

First Name: Larry
Middle Initial: L
Last Name: Watson
Organization:
Address: 1430 McCoy Ave NE
Address 2:
Address 3:
City: Salem
State: OR
Zip: 97301
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We MUST NOT sacrifice the beauty and sanctity of our parks!!! They MUST be pristine as they are now for our Grandchildren!

Thank you for your comment, Rozanne Levine.

The comment tracking number that has been assigned to your comment is SolarD10718.

Comment Date: April 12, 2011 15:52:39PM
Solar Energy Development PEIS
Comment ID: SolarD10718

First Name: Rozanne
Middle Initial:
Last Name: Levine
Organization:
Address: 110 Revere Court
Address 2:
Address 3:
City: Montville
State: NJ
Zip: 070459011
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My comments are those that the National Parks Conservation Association has outlined in an email to me on this issue, and I support their position:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,
Rozanne Levine

Thank you for your comment, Robert Kaplan.

The comment tracking number that has been assigned to your comment is SolarD10719.

Comment Date: April 12, 2011 15:53:09PM
Solar Energy Development PEIS
Comment ID: SolarD10719

First Name: Robert
Middle Initial: B
Last Name: Kaplan
Organization:
Address: P. O. Box 577
Address 2:
Address 3:
City: Port Angeles
State: WA
Zip: 98362
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As the nation moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks. Solar energy should be developed only in solar energy zones that do not compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10720.

Comment Date: April 12, 2011 15:54:26PM
Solar Energy Development PEIS
Comment ID: SolarD10720

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

To Whom it may Concern,

My name is Brittney Canty, I have been a resident here in the Coachella Valley for all of my life of twenty-two years. I have seen this place change so much in the recent years, it is now gorgeous and a wonderful place that many love to come and visit as well as make a home here. Just recently have my eyes been opened up to what is about to change this area forever. The solar energy I feel is a wonderful idea. However my only concern is for the Valley fever that this obstruction may cause. Allergies are my worst enemy and many other peoples as well. With the construction that is going to be happening in order to develop the panels all the dirt is going to be kicked up along with the dirt the fungus and spores are going to be whirled around in the air that we breath in. When this happens many people can then receive a common thing called Coccidioidomycosis or Valley Fever. This horrible thing could cause some people to die. This is one thing that we need to prevent from happening even if it means no Solar energy. I know many of the people that live closer to Arizona towards Desert Center and even some located here in the valley are more concerned about their heriatge being whiped away such as their hyroglyphics and their land. However that is what happenes in time, nothing is forever. In order to advance in the world and make it better some things need to change. I am in no way saying that it is okay, it is a sad thing. The Indian culture will always have their songs and stories that they can pass on to their children. As far as the Desert Tortoise that is another sad thing. I do feel we need to make sure we do leave some land for them. They are an innocent animal in all of this chaos. Even if we choose to do this somewhere else there is always going to be people who are oppossed to it happeneing for whatever reason. I conclusion I just want to restate the harm we will cause to some people with the dirt and fungus being disturbed. Please look at all aspects of this situation and how we can prevent this from happeneing.

Thank You,
Brittney Canty

Thank you for your comment, Barbara Rosenzweig.

The comment tracking number that has been assigned to your comment is SolarD10721.

Comment Date: April 12, 2011 15:55:28PM
Solar Energy Development PEIS
Comment ID: SolarD10721

First Name: Barbara
Middle Initial:
Last Name: Rosenzweig
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Eric Rose.

The comment tracking number that has been assigned to your comment is SolarD10722.

Comment Date: April 12, 2011 15:55:35PM
Solar Energy Development PEIS
Comment ID: SolarD10722

First Name: Eric
Middle Initial:
Last Name: Rose
Organization:
Address: 221 10th St
Address 2: Troy
Address 3:
City: Troy
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed on a local basis. There are plenty of building tops which could house solar panels, and the battery storage could be fit into the building. This would not put as much of a burden on our wild and undeveloped spaces, which should all be protected, regardless of whether they are in a national park. Spurring this sort of development strategy would result in fewer centralized power stations, but that means fewer widespread outages and more jobs at the local level as people will be necessary to install and maintain them.

The best thing we can do is utilize the finite space we have on this planet in a manner which will preserve our natural settings and reduce sprawl. More impermeable surfaces covering the planet will not do us any good in the long run, nor will loss of habitat and open space.

Thank you for your comment, Tim Troutner.

The comment tracking number that has been assigned to your comment is SolarD10723.

Comment Date: April 12, 2011 15:55:40PM
Solar Energy Development PEIS
Comment ID: SolarD10723

First Name: Tim
Middle Initial:
Last Name: Troutner
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I have personally visited Death Valley National Park, along with many of our other wonderful national parks, and thank you for allowing me to share my comments on the future uses of the places. Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. There are four Solar Energy Zones that threaten the purpose of nearby national parks, these include: The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank You,
Tim

Thank you for your comment, Joan Leppla.

The comment tracking number that has been assigned to your comment is SolarD10724.

Comment Date: April 12, 2011 15:55:49PM
Solar Energy Development PEIS
Comment ID: SolarD10724

First Name: Joan
Middle Initial: L
Last Name: Leppla
Organization:
Address: 2706 Duquesne Drive
Address 2:
Address 3:
City: Stow
State: OH
Zip: 44224
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is definitely a direction to move in. We cannot continue to rely on dirty and unsustainable technologies.

Thank you for your comment, Mark Larson.

The comment tracking number that has been assigned to your comment is SolarD10725.

Comment Date: April 12, 2011 15:56:56PM
Solar Energy Development PEIS
Comment ID: SolarD10725

First Name: Mark
Middle Initial: C
Last Name: Larson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Simply put: any construction of solar energy grids within the national park system is detrimental. There are other places that are not of as sensitive ecologically and beautiful that can be utilized with no detrimental effects to these national treasures. In previous homes I have utilized solar panels, artesian wells, composting, collection of rain water and similar efficient means to protect the environment, but denigrating our national parks beauty is not justified in any way!

Thank you for your comment, Jennifer Stafford.

The comment tracking number that has been assigned to your comment is SolarD10726.

Comment Date: April 12, 2011 15:57:03PM
Solar Energy Development PEIS
Comment ID: SolarD10726

First Name: Jennifer
Middle Initial: D
Last Name: Stafford
Organization:
Address: 4004 Liberty Trail
Address 2:
Address 3:
City: Heartland
State: TX
Zip: 75126
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for solar energy in our National Parks. However, I believe solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.
Thank You! Jennifer

Thank you for your comment, Renee Burkhead.

The comment tracking number that has been assigned to your comment is SolarD10727.

Comment Date: April 12, 2011 15:58:36PM
Solar Energy Development PEIS
Comment ID: SolarD10727

First Name: Renee
Middle Initial:
Last Name: Burkhead
Organization:
Address: 450 S Lewis St.
Address 2:
Address 3:
City: Monroe
State: WA
Zip: 98272
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Start worrying about the earth more!

Thank you for your comment, Thomas Carlino.

The comment tracking number that has been assigned to your comment is SolarD10728.

Comment Date: April 12, 2011 16:00:18PM
Solar Energy Development PEIS
Comment ID: SolarD10728

First Name: Thomas
Middle Initial:
Last Name: Carlino
Organization:
Address:
Address 2:
Address 3:
City:
State: CA
Zip: 95117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the Solar Energy Zone alternative with amendments which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

Riverside East SEZ: must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

Iron Mountain SEZ: must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

Amargosa Valley SEZ: must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Red Sands SEZ: threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Those areas aren't just spare parts to be ravaged and consumed by whatever the personal profit or political whim of the day may be. Immense amounts of effort and care have been given in the past to preserve them in their natural splendor, and that's the only way they must be treated indefinitely.

Thank you for your comment, Geraldine Brylski.

The comment tracking number that has been assigned to your comment is SolarD10729.

Comment Date: April 12, 2011 16:00:24PM
Solar Energy Development PEIS
Comment ID: SolarD10729

First Name: Geraldine
Middle Initial: E
Last Name: Brylski
Organization: retired
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I sincerely believe that solar energy is and has been the future. If we were given tax credits to go solar so many people would do it and also wind farms. We have to get off of oil and they keep saying it will take decades well more reason to get it started now.

Thank you for your comment, Helmut Mueller.

The comment tracking number that has been assigned to your comment is SolarD10730.

Comment Date: April 12, 2011 16:00:38PM
Solar Energy Development PEIS
Comment ID: SolarD10730

First Name: Helmut
Middle Initial: C
Last Name: Mueller
Organization:
Address: 409 Moonridge Road
Address 2:
Address 3:
City: Chapel Hill
State: NC
Zip: 27516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Take care in looking for renewable energy, Wind turbines kill birds and bats. I do not believe that migrating birds and bat populations can survive this mortality in addition to the kills at cell & TV towers, collisions with windows, distractions by bright lights at night, & other anthropomorphic mortality.

Thank you for your comment, Jean Naples.

The comment tracking number that has been assigned to your comment is SolarD10731.

Comment Date: April 12, 2011 16:01:44PM
Solar Energy Development PEIS
Comment ID: SolarD10731

First Name: Jean
Middle Initial: M
Last Name: Naples
Organization: Johns Hopkins Bloomberg School of Public Health
Address: 9 Benson Street
Address 2:
Address 3:
City: West Haverstraw
State: NY
Zip: 10993
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy projects in US National Parks are very welcomed. However, they should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Tim Collingwood.

The comment tracking number that has been assigned to your comment is SolarD10732.

Comment Date: April 12, 2011 16:02:28PM
Solar Energy Development PEIS
Comment ID: SolarD10732

First Name: Tim
Middle Initial:
Last Name: Collingwood
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sara Farneth.

The comment tracking number that has been assigned to your comment is SolarD10733.

Comment Date: April 12, 2011 16:03:59PM
Solar Energy Development PEIS
Comment ID: SolarD10733

First Name: Sara
Middle Initial: W
Last Name: Farneth
Organization:
Address:
Address 2:
Address 3:
City: Yardley
State: PA
Zip: 19067
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I would very much like to see our country become a leader in safe alternative energy sources. Solar and wind come to mind. Gas could be a source IF the disposal of the chemicals that are used to fracture the formation did not pollute the environment. It is clear, after the situation in Japan, that nuclear energy plants are not built safely enough. We really need to develop good energy alternatives that don't put our environment and people's lives at risk.

Thank you for your comment, Chelsea Bennett.

The comment tracking number that has been assigned to your comment is SolarD10734.

Comment Date: April 12, 2011 16:05:25PM
Solar Energy Development PEIS
Comment ID: SolarD10734

First Name: Chelsea
Middle Initial:
Last Name: Bennett
Organization:
Address:
Address 2:
Address 3:
City: Nashville
State: TN
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Wayne Dumont.

The comment tracking number that has been assigned to your comment is SolarD10735.

Comment Date: April 12, 2011 16:05:28PM
Solar Energy Development PEIS
Comment ID: SolarD10735

First Name: Wayne
Middle Initial: R
Last Name: Dumont
Organization: NPCS
Address: 408A Heritage Hills
Address 2:
Address 3:
City: Somers
State: NY
Zip: 10589
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a NPCS member since 2004 I agree with them that solar panel farms should not be put where it will have an effect on our parks beauty.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10736.

Comment Date: April 12, 2011 16:07:24PM
Solar Energy Development PEIS
Comment ID: SolarD10736

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Please be diligent in determining where to place solar energy panels. They should NOT impact in any way, shape, or form on national parks wildlife, beauty, views, survivability, or detriment.

If this is NOT possible, then it should not be done to retain and maintain the parks for their beauty and all to enjoy.

Thanks for your attention.

Thank you for your comment, Lawrence Clark.

The comment tracking number that has been assigned to your comment is SolarD10737.

Comment Date: April 12, 2011 16:08:48PM
Solar Energy Development PEIS
Comment ID: SolarD10737

First Name: Lawrence
Middle Initial: D
Last Name: Clark
Organization:
Address: 107 Bordeaux Court
Address 2:
Address 3:
City: Smyrna
State: TN
Zip: 371674606
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Every solar panel is another important step in ending dependence of fossil fuels. If ever Federal land is used in any aspect, utmost and exceptional care needs to be practiced. Do this for all the future generations of Americans. Thank you!

Thank you for your comment, Michael Logue.

The comment tracking number that has been assigned to your comment is SolarD10738.

Comment Date: April 12, 2011 16:09:09PM
Solar Energy Development PEIS
Comment ID: SolarD10738

First Name: Michael
Middle Initial:
Last Name: Logue
Organization:
Address: 13149 Ridge Road
Address 2:
Address 3:
City: Grass Valley
State: CA
Zip: 95945
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

I strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, Lorraine Akiba .

The comment tracking number that has been assigned to your comment is SolarD10739.

Comment Date: April 12, 2011 16:11:56PM
Solar Energy Development PEIS
Comment ID: SolarD10739

First Name: Lorraine
Middle Initial: H
Last Name: Akiba
Organization:
Address: PO Box 974
Address 2:
Address 3:
City: Honolulu
State: HI
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Fred Goebel.

The comment tracking number that has been assigned to your comment is SolarD10740.

Comment Date: April 12, 2011 16:13:15PM
Solar Energy Development PEIS
Comment ID: SolarD10740

First Name: Fred
Middle Initial: J
Last Name: Goebel
Organization:
Address: 5728 S 12th ST
Address 2:
Address 3:
City: Sheboygan
State: WI
Zip: 530819448
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for allowing me to comment.

Thank you for your comment, Marsha Becker.

The comment tracking number that has been assigned to your comment is SolarD10741.

Comment Date: April 12, 2011 16:13:28PM
Solar Energy Development PEIS
Comment ID: SolarD10741

First Name: Marsha
Middle Initial:
Last Name: Becker
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please address this issue with care. Things are quite precarious in our nation, but now is not the time to give up on our national parks either. Solar energy is a fantastic idea and should be pursued whenever and wherever viable, as long as the land is not being preserved for posterity and the survival of plant and animal species.

Thank you for your comment, Joan Grishman.

The comment tracking number that has been assigned to your comment is SolarD10742.

Comment Date: April 12, 2011 16:13:52PM
Solar Energy Development PEIS
Comment ID: SolarD10742

First Name: Joan
Middle Initial: L
Last Name: Grishman
Organization:
Address: Kyle Ct
Address 2:
Address 3:
City: Hyde Park
State: NY
Zip: 12538
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am against using public lands for solar or wind energy production. These lands were designated for wildlife and the natural way of animal survival. As it is, these lands have been invaded by cattle, controlled by illegal roundups of horses, by aerial shooting of wolves and who knows what else! The BLM is not to be trusted.

Also, the transmission of 'green energy' doesn't work efficiently and should be produced locally on every roof and backyard in America. Each town can manage the electric grid and adjust according to need.

Thank you.

Thank you for your comment, glenn temple.

The comment tracking number that has been assigned to your comment is SolarD10743.

Comment Date: April 12, 2011 16:14:59PM
Solar Energy Development PEIS
Comment ID: SolarD10743

First Name: glenn
Middle Initial: a
Last Name: temple
Organization:
Address: 435 kyfields
Address 2:
Address 3:
City: weaverville
State: NC
Zip: 28787
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

we need to put forth the action and backing in developing this clean energy. let's put together a plan of action combining a host of green energy and number one greening our power grid to stop wasting so much energy to before it meets it location of use.
sincerley, glenn a temple

Thank you for your comment, Janet Holly Romine.

The comment tracking number that has been assigned to your comment is SolarD10744.

Comment Date: April 12, 2011 16:15:02PM
Solar Energy Development PEIS
Comment ID: SolarD10744

First Name: Janet Holly
Middle Initial:
Last Name: Romine
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely,
Janet Holly Romine
Tulsa, OK

Thank you for your comment, Mary Mathews.

The comment tracking number that has been assigned to your comment is SolarD10745.

Comment Date: April 12, 2011 16:16:02PM
Solar Energy Development PEIS
Comment ID: SolarD10745

First Name: Mary
Middle Initial:
Last Name: Mathews
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

My family and I love the national parks and have visited many of them. We believe the development of solar energy is very important for the country and will actually help the national parks by decreasing harmful ozone and air pollution. However, we do not want the solar panels placed just anywhere and harming the integrity of the parks.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I look forward to some great developments that will take us into the future while preserving our past.

Thank you for your comment, Godfrey Little.

The comment tracking number that has been assigned to your comment is SolarD10746.

Comment Date: April 12, 2011 16:16:12PM
Solar Energy Development PEIS
Comment ID: SolarD10746

First Name: Godfrey
Middle Initial: L
Last Name: Little
Organization:
Address: 25782 Holly View Dr. #4
Address 2:
Address 3:
City: Seaford
State: DE
Zip: 19973
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Faith Conroy.

The comment tracking number that has been assigned to your comment is SolarD10747.

Comment Date: April 12, 2011 16:17:16PM
Solar Energy Development PEIS
Comment ID: SolarD10747

First Name: Faith
Middle Initial:
Last Name: Conroy
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Clearly, America needs to work toward a renewable energy future to buffer us from climate change, help us kick our reliance on foreign oil and enhance our national security. But there's a right way and a wrong way to embark on this mission. Solar energy should be developed in areas that don't compromise our national parks. America should develop renewable energy resources in a smart, ecologically sound manner that protects our national treasures.

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

I strongly believe that four SEZs threaten our national parks. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Sincerely,
Faith Conroy

Thank you for your comment, JANICE BURGI.

The comment tracking number that has been assigned to your comment is SolarD10748.

Comment Date: April 12, 2011 16:19:50PM
Solar Energy Development PEIS
Comment ID: SolarD10748

First Name: JANICE
Middle Initial:
Last Name: BURGI
Organization:
Address: 950 DANIEL ST
Address 2:
Address 3:
City: SUN PRAIRIE
State: WI
Zip: 53590
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

PLEASE DO NOT PUT SOLAR ENERGY IN ZONES THAT ARE NOT AREAS FOR SOLAR POWER! IT WILL UNDOUBTINGLY HURT OUR PARKS AND OTHER AREAS!!
PLEASE USE THE CORRECT AREA (ZONES) TO PUT IN SOLAR ENERGY! PLEASE, PLEASE CONSIDER WHAT I AM SAYING TO YOU.
JANICE BURGI
PS I PRAY THAT YOU WILL DO THE RIGHT THING!

Thank you for your comment, Loreen Silvarahawk.

The comment tracking number that has been assigned to your comment is SolarD10749.

Comment Date: April 12, 2011 16:21:28PM
Solar Energy Development PEIS
Comment ID: SolarD10749

First Name: Loreen
Middle Initial: a
Last Name: Silvarahawk
Organization: N.A.C.K.
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once this is amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10750.

Comment Date: April 12, 2011 16:23:24PM
Solar Energy Development PEIS
Comment ID: SolarD10750

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lori Rendina.

The comment tracking number that has been assigned to your comment is SolarD10751.

Comment Date: April 12, 2011 16:24:37PM
Solar Energy Development PEIS
Comment ID: SolarD10751

First Name: Lori
Middle Initial: L
Last Name: Rendina
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Steven Handwerker.

The comment tracking number that has been assigned to your comment is SolarD10752.

Comment Date: April 12, 2011 16:25:01PM
Solar Energy Development PEIS
Comment ID: SolarD10752

First Name: Steven
Middle Initial: E
Last Name: Handwerker
Organization:
Address:
Address 2:
Address 3:
City:
State: FL
Zip: 33433
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The need for alternative energies is inevitable and inexorable...or we shall perish in our own inertia and complacency. PLEASE
lets work together to survive and thrive for the 21st century.

Thank you for your comment, Ted Gress.

The comment tracking number that has been assigned to your comment is SolarD10753.

Comment Date: April 12, 2011 16:25:12PM
Solar Energy Development PEIS
Comment ID: SolarD10753

First Name: Ted
Middle Initial:
Last Name: Gress
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Ronald Harden.

The comment tracking number that has been assigned to your comment is SolarD10754.

Comment Date: April 12, 2011 16:25:22PM
Solar Energy Development PEIS
Comment ID: SolarD10754

First Name: Ronald
Middle Initial: D
Last Name: Harden
Organization:
Address: 3125 Elevado Court
Address 2:
Address 3:
City: Loveland
State: CO
Zip: 80538
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development sites, like wind energy sites, need to be located appropriately. That means where they do not conflict with significant public lands such as National Parks, wildlife habitats, National Wildlife Refuges and wildlife migratory routes.

Thank you for your comment, Janet Carper.

The comment tracking number that has been assigned to your comment is SolarD10755.

Comment Date: April 12, 2011 16:25:32PM
Solar Energy Development PEIS
Comment ID: SolarD10755

First Name: Janet
Middle Initial:
Last Name: Carper
Organization:
Address: 7200 Hollywood Blvd., Apt. 205
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90046
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Let's please be smart about how we make progress in our energy policy by--increasing our solar energy power, an essential, long-overdue step--without, however, introducing other serious problems, that would we can easily and completely avoid by acting correctly from the beginning, that is now. With the necessary amendments, I am emphatically in favor of the the Solar Energy Zone alternative, which would strategically concentrate solar development within tracts of land that intelligently avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Katie Chess.

The comment tracking number that has been assigned to your comment is SolarD10756.

Comment Date: April 12, 2011 16:25:45PM
Solar Energy Development PEIS
Comment ID: SolarD10756

First Name: Katie
Middle Initial:
Last Name: Chess
Organization:
Address: 765 Humboldt Ave
Address 2: Apt 6
Address 3:
City: Chico
State: CA
Zip: 95928
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be decentralized in my opinion. Rather than having huge swaths of land covered by solar panels, and then having to transport the energy to towns and cities, we should promote and plan smaller, more localized solar arrays with significantly more solar panels on homes and in parking lots in municipalities. We should not cover up land that forms habitat for plants and animals that depend on these lands. There is already too much habitat destruction and threats to biodiversity. Please adapt the plan according to my suggestions.

Thank you for your comment, Stacey Ward.

The comment tracking number that has been assigned to your comment is SolarD10757.

Comment Date: April 12, 2011 16:27:52PM
Solar Energy Development PEIS
Comment ID: SolarD10757

First Name: Stacey
Middle Initial: A
Last Name: Ward
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, as it stands currently, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- (1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- (2) The Iron Mountain SEZ must be removed altogether to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- (3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- (4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Finally, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Richard Jarvis.

The comment tracking number that has been assigned to your comment is SolarD10758.

Comment Date: April 12, 2011 16:27:54PM
Solar Energy Development PEIS
Comment ID: SolarD10758

First Name: Richard
Middle Initial: D
Last Name: Jarvis
Organization:
Address: 25 Norman Ridge Rd
Address 2:
Address 3:
City: VERMONTVILLE
State: NY
Zip: 12989
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is an opportunity to ensure that solar facilities are installed responsibly without harming our national parks and helping our country develop clean renewal energy sources. As a continuing user of our national parks, I am concerned about the siting of solar energy zones.

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

HOWEVER, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- 1-The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2-The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3-The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4-Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park and/or wilderness boundary should trigger a consultation with the National Park Service and appropriate federal agency to determine whether the project unacceptably impacts or diminishes national park and wilderness resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment for responsible and balanced solar development in and adjacent to our precious federal land resources.

Thank you for your comment, Christine Engel.

The comment tracking number that has been assigned to your comment is SolarD10759.

Comment Date: April 12, 2011 16:27:54PM
Solar Energy Development PEIS
Comment ID: SolarD10759

First Name: Christine
Middle Initial: M
Last Name: Engel
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Our solar energy push should be aimed at housing and commercial developments with rebates for existing homes. If large solar plants are still needed, they should be placed in existing commercial areas. Please let's not threaten the few remaining grasslands or displace any animals or plants in the desert. Humans have already made huge impacts on every square inch of the planet. Let's not substitute polluting industries for destructive ones. Thanks.

Thank you for your comment, Nicholas Zizelis.

The comment tracking number that has been assigned to your comment is SolarD10760.

Comment Date: April 12, 2011 16:28:51PM
Solar Energy Development PEIS
Comment ID: SolarD10760

First Name: Nicholas
Middle Initial:
Last Name: Zizelis
Organization:
Address:
Address 2:
Address 3:
City: Bayside
State: NY
Zip: 11361
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

If there is any one thing that will stifle the expansion of reusable alternate forms a reusable energy such as sun and wind is the NIMBY factor. Not I My Backyard is the brick wall hindering such expansion. The National Parks must be preserved but they must also chip in on the effort to wean us of petrol which is devastating to our world. Perhaps certain set aside areas could accomodate a solar field.

Thank you for your comment, William Messenger.

The comment tracking number that has been assigned to your comment is SolarD10761.

Comment Date: April 12, 2011 16:29:12PM
Solar Energy Development PEIS
Comment ID: SolarD10761

First Name: William
Middle Initial:
Last Name: Messenger
Organization:
Address: 637 S Kingsley Dr
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

No one can doubt the importance of alternative energy sources, solar being one of the most significant.

At the same time, we must take serious steps not to degrade the landscape and the national park system that so many Americans enjoy and that is so much a part of our heritage.

Thank you for your comment, Nancy Gottesman.

The comment tracking number that has been assigned to your comment is SolarD10762.

Comment Date: April 12, 2011 16:29:53PM
Solar Energy Development PEIS
Comment ID: SolarD10762

First Name: Nancy
Middle Initial:
Last Name: Gottesman
Organization:
Address: 2019 3rd st
Address 2:
Address 3:
City: santa monica
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Veronica Jantzen.

The comment tracking number that has been assigned to your comment is SolarD10763.

Comment Date: April 12, 2011 16:30:43PM
Solar Energy Development PEIS
Comment ID: SolarD10763

First Name: Veronica
Middle Initial:
Last Name: Jantzen
Organization:
Address: 7400 Phelps Court
Address 2:
Address 3:
City: Greensboro
State: NC
Zip: 27409
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to take steps as a nation to begin to change over to alternative forms of energy. Solar energy is a proven and highly accepted form to use. If we start, only if in baby steps, it is a step in the right direction

Thank you for your comment, David Weinzimmer.

The comment tracking number that has been assigned to your comment is SolarD10764.

Comment Date: April 12, 2011 16:31:18PM
Solar Energy Development PEIS
Comment ID: SolarD10764

First Name: David
Middle Initial: P
Last Name: Weinzimmer
Organization:
Address: 6101 Imperata St NE
Address 2: Apt 1713
Address 3:
City: Albuquerque
State: NM
Zip: 87111
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Shirley Schue.

The comment tracking number that has been assigned to your comment is SolarD10765.

Comment Date: April 12, 2011 16:32:52PM
Solar Energy Development PEIS
Comment ID: SolarD10765

First Name: Shirley
Middle Initial: G
Last Name: Schue
Organization:
Address: 9 Maple Ave
Address 2:
Address 3:
City: Cherry Valley
State: NY
Zip: 13320
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a frequent visitor to our National Parks, I do not believe that any solar energy zones should be located directly within a National Park.

If a solar energy zone is located within 15 miles of a National Park, the National Park service should be consulted to minimize any negative impacts on water quality, wildlife corridors, night sky, etc.

Thank you.

Thank you for your comment, Elizabeth Hestnes.

The comment tracking number that has been assigned to your comment is SolarD10766.

Comment Date: April 12, 2011 16:33:49PM
Solar Energy Development PEIS
Comment ID: SolarD10766

First Name: Elizabeth
Middle Initial:
Last Name: Hestnes
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Please protect our heritage - our National Parks!

Thank you for your comment, Deborah Brooks.

The comment tracking number that has been assigned to your comment is SolarD10767.

Comment Date: April 12, 2011 16:34:15PM
Solar Energy Development PEIS
Comment ID: SolarD10767

First Name: Deborah
Middle Initial: J
Last Name: Brooks
Organization:
Address: 453 Holly Park Circle
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 94110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support the development of solar energy. But there's a right way. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity to fully enjoy America's heritage.

Thank you for your comment, Janet Carper.

The comment tracking number that has been assigned to your comment is SolarD10768.

Comment Date: April 12, 2011 16:36:03PM
Solar Energy Development PEIS
Comment ID: SolarD10768

First Name: Janet
Middle Initial:
Last Name: Carper
Organization:
Address: 7200 Hollywood Blvd., Apt. 205
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90046
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The following comments are to replace my earlier comment SEDD10755. Thank you.

- Let's please be smart about how we make progress in our energy policy--by increasing our solar energy power--without introducing other serious problems, that we would easily and completely avoid, by deciding on the proper course of action from this point.

Toward this end, with the necessary amendments, I am emphatically in favor of the the Solar Energy Zone alternative, which would strategically concentrate solar development within tracts of land that intelligently avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Let's act as intelligently as is possible. THANK YOU!

Thank you for your comment, Kenna Scott.

The comment tracking number that has been assigned to your comment is SolarD10769.

Comment Date: April 12, 2011 16:36:06PM
Solar Energy Development PEIS
Comment ID: SolarD10769

First Name: Kenna
Middle Initial: N
Last Name: Scott
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you,
Kenna

Thank you for your comment, Donna Selquist.

The comment tracking number that has been assigned to your comment is SolarD10770.

Comment Date: April 12, 2011 16:36:50PM
Solar Energy Development PEIS
Comment ID: SolarD10770

First Name: Donna
Middle Initial: J
Last Name: Selquist
Organization:
Address: 10530 SW Waterway Lane
Address 2:
Address 3:
City: Port St Lucie
State: FL
Zip: 349871913
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kyri Freeman.

The comment tracking number that has been assigned to your comment is SolarD10771.

Comment Date: April 12, 2011 16:38:09PM
Solar Energy Development PEIS
Comment ID: SolarD10771

First Name: Kyri
Middle Initial:
Last Name: Freeman
Organization:
Address: 1251 Sunshine Dr.
Address 2:
Address 3:
City: Barstow
State: CA
Zip: 92311
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are several proposed solar arrays that are poorly situated and will cause harm to our national parks. Three of them are close to me and will have an impact on areas that I personally visit frequently:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments. I very much support solar power development but am concerned that it should be done right so as not to cause damage or have a negative impact on people's quality of life.

Thank you for your comment, ANGIE WILLIAMS.

The comment tracking number that has been assigned to your comment is SolarD10772.

Comment Date: April 12, 2011 16:38:50PM
Solar Energy Development PEIS
Comment ID: SolarD10772

First Name: ANGIE
Middle Initial: L
Last Name: WILLIAMS
Organization:
Address: P. O. bOX 281
Address 2:
Address 3:
City: QUINCY
State: CA
Zip: 95971
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

PLEASE PURSUE CLEAN ENERGY IN ALL GOVERNMENT FACILITIES.

Thank you for your comment, Sheila Roddy.

The comment tracking number that has been assigned to your comment is SolarD10773.

Comment Date: April 12, 2011 16:39:09PM
Solar Energy Development PEIS
Comment ID: SolarD10773

First Name: Sheila
Middle Initial:
Last Name: Roddy
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Riverside East SEZ, Iron Mountain SEZ, Amargosa Valley SEZ, and Red Sands SEZ must be preserved for scenery, wildlife, endangered species and water resources.

Thank you for your comment, Karl Volk.

The comment tracking number that has been assigned to your comment is SolarD10774.

Comment Date: April 12, 2011 16:39:25PM
Solar Energy Development PEIS
Comment ID: SolarD10774

First Name: Karl
Middle Initial: J
Last Name: Volk
Organization:
Address: 43 Whittier Blvd
Address 2:
Address 3:
City: Poughkeepsie
State: NY
Zip: 12603
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

lets use solar energy. The more the better but let us use it responsibly with care for parks ,animals and vegetation and people

Thank you for your comment, Rebecca McDonough.

The comment tracking number that has been assigned to your comment is SolarD10775.

Comment Date: April 12, 2011 16:40:05PM
Solar Energy Development PEIS
Comment ID: SolarD10775

First Name: Rebecca
Middle Initial:
Last Name: McDonough
Organization:
Address: 455 San Mateo Dr
Address 2:
Address 3:
City: Menlo Park
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10776.

Comment Date: April 12, 2011 16:42:34PM
Solar Energy Development PEIS
Comment ID: SolarD10776

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Please protect the natural resources and the national parks. There is a need for solar energy development, but not at the expense of our national parks and their ecosystems. All proposed project sites should have consultations with the NPS if they are within 15-20 miles of the park boundary.

Thank you for your comment, Joan Bresko.

The comment tracking number that has been assigned to your comment is SolarD10777.

Comment Date: April 12, 2011 16:43:34PM
Solar Energy Development PEIS
Comment ID: SolarD10777

First Name: Joan
Middle Initial:
Last Name: Bresko
Organization:
Address: 96281 Marsh Hen Road
Address 2:
Address 3:
City: Fernandina Beach
State: FL
Zip: 32034
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- 1- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I believe that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lu Conklin.

The comment tracking number that has been assigned to your comment is SolarD10778.

Comment Date: April 12, 2011 16:44:51PM
Solar Energy Development PEIS
Comment ID: SolarD10778

First Name: Lu
Middle Initial: M
Last Name: Conklin
Organization:
Address: 3114 Loma Vista Dr.
Address 2:
Address 3:
City: Flagstaff
State: AZ
Zip: 86004
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is an intelligent way to proceed with solar energy, which is one of the best ways to secure energy. It is non-invasive to our environment and protects citizens from dangerous outcomes, such as, nuclear energy that has proven results taking place today in Japan. Setting proper distances and planning are the key to future satisfaction and success. Let's move on quickly to this natural resource.

Thank you for your comment, James Franklin.

The comment tracking number that has been assigned to your comment is SolarD10779.

Comment Date: April 12, 2011 16:45:03PM
Solar Energy Development PEIS
Comment ID: SolarD10779

First Name: James
Middle Initial: R
Last Name: Franklin
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need solar energy but let us be smart about where we site the windpower.

Thank you for your comment, Sharon Switzer.

The comment tracking number that has been assigned to your comment is SolarD10780.

Comment Date: April 12, 2011 16:46:15PM
Solar Energy Development PEIS
Comment ID: SolarD10780

First Name: Sharon
Middle Initial: L
Last Name: Switzer
Organization:
Address: 1885 Morris Ct.
Address 2:
Address 3:
City: Erie
State: CO
Zip: 80516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I want to switch to all green energy sources in my home and car. I would like to have a smaller carbon footprint on this planet and not contribute to global warming, pollution, and leave a mess for future generations.

I plan on going completely off of dirty energy ASAP and would love to have solar, wind geothermal, biomass, hydrogen fuel cells,...all available. This is the way of our future and the ONLY way we should be investing in our energy future. Colorado gets more than 300 days of sunshine every year. It should be criminal that we DON'T use that as an energy source.

Thank you for your comment, ted porter.

The comment tracking number that has been assigned to your comment is SolarD10781.

Comment Date: April 12, 2011 16:46:56PM
Solar Energy Development PEIS
Comment ID: SolarD10781

First Name: ted
Middle Initial:
Last Name: porter
Organization:
Address: 10834 hartsook street
Address 2:
Address 3:
City: north hollywood
State: CA
Zip: 91601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

dont compromise sensitive cultural, archaeological, or wildlife sights when considering where to put solar zones. thanks.
bernie smithers

Thank you for your comment, Linda winkler.

The comment tracking number that has been assigned to your comment is SolarD10782.

Comment Date: April 12, 2011 16:47:20PM
Solar Energy Development PEIS
Comment ID: SolarD10782

First Name: Linda
Middle Initial: b
Last Name: winkler
Organization:
Address: 4953 N. Hoyne
Address 2:
Address 3:
City:
State: IL
Zip: 60625
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michele Tusinac.

The comment tracking number that has been assigned to your comment is SolarD10783.

Comment Date: April 12, 2011 16:47:35PM
Solar Energy Development PEIS
Comment ID: SolarD10783

First Name: Michele
Middle Initial:
Last Name: Tusinac
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need clean solar energy right now.

Thank you.

Thank you for your comment, roy adsit.

The comment tracking number that has been assigned to your comment is SolarD10784.

Comment Date: April 12, 2011 16:48:07PM
Solar Energy Development PEIS
Comment ID: SolarD10784

First Name: roy
Middle Initial:
Last Name: adsit
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

put solar on every roof top, owned by people not companies. leave our parks open.

Thank you for your comment, William Rogers.

The comment tracking number that has been assigned to your comment is SolarD10785.

Comment Date: April 12, 2011 16:48:39PM
Solar Energy Development PEIS
Comment ID: SolarD10785

First Name: William
Middle Initial:
Last Name: Rogers
Organization:
Address: 814 Humboldt St.
Address 2:
Address 3:
City: Santa Rosa
State: CA
Zip: 95404
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The building of renewable energy facilities should not degrade any aspect of our national park system or the plants and animals that live within or around them. If these projects are built in inappropriate areas they are no better than the operations that they are supposed to replace. The reason for clean energy is to make our country better, not to shift the burden to a new area.

Thank you for your comment, Juliet Defarge.

The comment tracking number that has been assigned to your comment is SolarD10786.

Comment Date: April 12, 2011 16:48:40PM
Solar Energy Development PEIS
Comment ID: SolarD10786

First Name: Juliet
Middle Initial:
Last Name: Defarge
Organization:
Address: 42 Goldcup Drive
Address 2:
Address 3:
City: Fredericksburg
State: VA
Zip: 22406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We can harvest all the solar energy we need without using an inch of wilderness-
just look at all the urban and suburban roof-tops!

Thank you for your comment, Julie Dawson.

The comment tracking number that has been assigned to your comment is SolarD10787.

Comment Date: April 12, 2011 16:48:52PM
Solar Energy Development PEIS
Comment ID: SolarD10787

First Name: Julie
Middle Initial: A
Last Name: Dawson
Organization:
Address: 5787 College Avenue
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 92120
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We are all in support of cleaner greener energy, but we must take care that it will be put into place in a way that does not harm our National Parks. These natural treasures are a heritage we must preserve for our own and future generations and we must take care that no harm or destruction comes to them or the wildlife they contain.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10788.

Comment Date: April 12, 2011 16:49:42PM
Solar Energy Development PEIS
Comment ID: SolarD10788

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

we should be using clean easy energy like solar which doesnt effect the beauty of our great natural areas

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10789.

Comment Date: April 12, 2011 16:52:12PM
Solar Energy Development PEIS
Comment ID: SolarD10789

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Sincerely, Millicent Sims

Thank you for your comment, Chris Weeks.

The comment tracking number that has been assigned to your comment is SolarD10790.

Comment Date: April 12, 2011 16:52:38PM
Solar Energy Development PEIS
Comment ID: SolarD10790

First Name: Chris
Middle Initial: E
Last Name: Weeks
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Everything should be done to pursue solar power for the United States. It and wind can do so much more than big oil to help us get off the oil binge that American citizens crave.

Thank you for your comment, Roswell Coles.

The comment tracking number that has been assigned to your comment is SolarD10791.

Comment Date: April 12, 2011 16:53:45PM
Solar Energy Development PEIS
Comment ID: SolarD10791

First Name: Roswell
Middle Initial: S
Last Name: Coles
Organization:
Address: 411 Richmond Ave
Address 2:
Address 3:
City: South Orange
State: NJ
Zip: 07079
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are plenty of spaces for Solar Energy Development that will not impinge upon wildlife and natural beauty. One does not need to put panels in places that would cause trouble for someone or some animals or plants. Do it right

Thank you for your comment, Chet Hepburn.

The comment tracking number that has been assigned to your comment is SolarD10792.

Comment Date: April 12, 2011 16:54:09PM
Solar Energy Development PEIS
Comment ID: SolarD10792

First Name: Chet
Middle Initial:
Last Name: Hepburn
Organization:
Address: 1445 N. Longfellow St.
Address 2:
Address 3:
City: Arlington
State: VA
Zip: 22205
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to conduct an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Please keep this in mind when making a final decision.

Thank you for your comment, Scott Barlow.

The comment tracking number that has been assigned to your comment is SolarD10793.

Comment Date: April 12, 2011 16:55:38PM
Solar Energy Development PEIS
Comment ID: SolarD10793

First Name: Scott
Middle Initial:
Last Name: Barlow
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Renewable energy is to protect nature, and so are our parks. lets not sacrifice one to create the other. The parks reinvigorate our spirits, and renewable energy will give us something to do with that new drive.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10794.

Comment Date: April 12, 2011 16:55:49PM
Solar Energy Development PEIS
Comment ID: SolarD10794

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I'm in favor of solar energy development as long as it doesn't harm or destroy and pollute our streams and rivers or wildlife and Nat'l Parks. We need to do all we can to cut back on pollution and global warming. Thank you.

Thank you for your comment, Diane Rechner.

The comment tracking number that has been assigned to your comment is SolarD10795.

Comment Date: April 12, 2011 16:58:31PM
Solar Energy Development PEIS
Comment ID: SolarD10795

First Name: Diane
Middle Initial: L
Last Name: Rechner
Organization:
Address: 5968 NW 55 Lane
Address 2:
Address 3:
City: Tamarac
State: FL
Zip: 333192419
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to really move on solar and other energy forms other than oil.

Thank you for your comment, Julie Potisk.

The comment tracking number that has been assigned to your comment is SolarD10796.

Comment Date: April 12, 2011 16:59:56PM
Solar Energy Development PEIS
Comment ID: SolarD10796

First Name: Julie
Middle Initial:
Last Name: Potisk
Organization:
Address: 403 N Ash St
Address 2:
Address 3:
City: Cortez
State: CO
Zip: 81321
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Larry Hovekamp.

The comment tracking number that has been assigned to your comment is SolarD10797.

Comment Date: April 12, 2011 17:00:06PM
Solar Energy Development PEIS
Comment ID: SolarD10797

First Name: Larry
Middle Initial: S
Last Name: Hovekamp
Organization:
Address: 3433 Newburg Rd. #5
Address 2:
Address 3:
City: Louisville
State: KY
Zip: 40218
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Invest and expand all solar power generation! NOW!!!

Ditto wind power!

Ditto mass transit and rail!

Ditto all energy conservation!

Ditto all alternatives to the financially, environmentally and morally destructive fossil fuel corporate racket!

NOW!!!

Thank you for your comment, Raphael Sidelman.

The comment tracking number that has been assigned to your comment is SolarD10798.

Comment Date: April 12, 2011 17:00:30PM
Solar Energy Development PEIS
Comment ID: SolarD10798

First Name: Raphael
Middle Initial:
Last Name: Sidelman
Organization:
Address: 78 Hartwell place
Address 2:
Address 3:
City: Woodmere
State: NY
Zip: 115981234
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'll keep it brief: for once just do the right thing in regard to the People rather than the private interests that are directing you to lead us down the path to destruction.

Thank you for your comment, Harley Winfrey.

The comment tracking number that has been assigned to your comment is SolarD10799.

Comment Date: April 12, 2011 17:01:13PM
Solar Energy Development PEIS
Comment ID: SolarD10799

First Name: Harley
Middle Initial:
Last Name: Winfrey
Organization:
Address: RR 1 Box 1221 D
Address 2:
Address 3:
City: Wheatland
State: MO
Zip: 65779
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar development should be carefully planned on public lands to avoid damaging important wildlife habitat or unique geologic features.

Thank you for your comment, Jane Wilson.

The comment tracking number that has been assigned to your comment is SolarD10800.

Comment Date: April 12, 2011 17:01:42PM
Solar Energy Development PEIS
Comment ID: SolarD10800

First Name: Jane
Middle Initial:
Last Name: Wilson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support development of solar energy to get us off our addiction to fossil fuels, but it must be done responsibly. Solar energy should be developed only in solar energy zones that don't compromise our national parks' wildlife, scenery, archaeological sites, water resources, night sky viewing and the opportunity for present and future generations to fully enjoy America's heritage. It should not be developed in areas where endangered species live or that would disrupt desert ecosystems. Rather, solar power should be sited on already-disturbed lands that don't support healthy ecosystems. Better yet - why not do rooftop solar on a massive scale? Then we wouldn't have to use our open lands. Thank you for considering my comments.

Thank you for your comment, camille buck.

The comment tracking number that has been assigned to your comment is SolarD10801.

Comment Date: April 12, 2011 17:02:14PM
Solar Energy Development PEIS
Comment ID: SolarD10801

First Name: camille
Middle Initial: s
Last Name: buck
Organization:
Address: 39 country club drive
Address 2:
Address 3:
City: greenville
State: SC
Zip: 29605
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development

Thank you for your comment, Erik Wood.

The comment tracking number that has been assigned to your comment is SolarD10802.

Comment Date: April 12, 2011 17:03:19PM
Solar Energy Development PEIS
Comment ID: SolarD10802

First Name: Erik
Middle Initial: M
Last Name: Wood
Organization:
Address: 15 N Dittmar Dr
Address 2:
Address 3:
City: Ocean
State: NJ
Zip: 07712
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is no secret to anyone that the fossil fuel and Nuclear lobbies have a stranglehold on our elected officials. We as a species cannot afford to allow their "profit over survival" policies steamroll us into extinction. If anything, the ongoing mishandling of the nuclear meltdown in Japan proves that safety concerns are near the bottom of the list of priorities.

We MUST make a swift and decisive shift to a basket of renewable energy resources to stem the inevitable environmental and humanitarian disasters which are to follow us like grim death should we pursue the current course of action.

Thank you for your comment, valerie gilbert.

The comment tracking number that has been assigned to your comment is SolarD10803.

Comment Date: April 12, 2011 17:04:35PM
Solar Energy Development PEIS
Comment ID: SolarD10803

First Name: valerie
Middle Initial:
Last Name: gilbert
Organization:
Address:
Address 2:
Address 3:
City: new york
State: NY
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Donald Saito.

The comment tracking number that has been assigned to your comment is SolarD10804.

Comment Date: April 12, 2011 17:05:02PM
Solar Energy Development PEIS
Comment ID: SolarD10804

First Name: Donald
Middle Initial:
Last Name: Saito
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Instead of building solar energy farms on the planet surface, we should put them in orbit where they can be of any size, won't be subject to weather or night, and their impact on the Earth's surface will be minimized. This is the ultimate energy solution - all other forms of energy generation are limited, and have greater deleterious effects.

Thank you for your comment, Leslie Edwards.

The comment tracking number that has been assigned to your comment is SolarD10805.

Comment Date: April 12, 2011 17:05:22PM
Solar Energy Development PEIS
Comment ID: SolarD10805

First Name: Leslie
Middle Initial:
Last Name: Edwards
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. I feel that solar energy development is an important issue which will help meet the nation's energy needs. I also feel that more emphasis should be placed on solar panels on roofs of industrial buildings, residential buildings and homes. I would personally be willing to allow the local power company to put solar panels on my roof and sell the energy generated to me, thus allowing the power company to have revenue, and making it possible for my roof in sunny Florida to be part of the solution. I personally cannot afford the money it would cost to get solar panels put on to my home in the current economic climate.

As far as solar development on public lands go, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Randall Gloege.

The comment tracking number that has been assigned to your comment is SolarD10806.

Comment Date: April 12, 2011 17:06:19PM
Solar Energy Development PEIS
Comment ID: SolarD10806

First Name: Randall
Middle Initial: G
Last Name: Gloege
Organization:
Address: 343 North Rimroad
Address 2:
Address 3:
City: Billings
State: MT
Zip: 591021016
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The prospect of utilizing solar power within or near our national parks is welcome. However, we must exercise caution in order to preserve the character of parks that are affected. For example, the Riverside East SEZ must be reconfigured to reduce negative impact on wildlife and wilderness in Joshua Tree National Park. Similarly, the Iron Mountain SEZ must be removed to prevent negative impacts on the scenery and wildlife of the same park. Additionally, the Amargosa Valley SEZ must either be reduced or reconfigured to prevent negative impacts on the wilderness and water resources of Death Valley. In the White Sands National Monument, the Red Sands SEZ threatens water sources critical to wildlife and formation of desert dunes. Furthermore, any proposed solar developments close to boundaries of national parks should require consultation with the National Park Service before implementation.

Thank you for your comment, Megan Ferry.

The comment tracking number that has been assigned to your comment is SolarD10807.

Comment Date: April 12, 2011 17:08:09PM
Solar Energy Development PEIS
Comment ID: SolarD10807

First Name: Megan
Middle Initial: M
Last Name: Ferry
Organization:
Address: 201 W. Broadway, Apt. 512
Address 2:
Address 3:
City: Anaheim
State: CA
Zip: 928053886
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration on this matter.

Thank you for your comment, Rob Roberto.

The comment tracking number that has been assigned to your comment is SolarD10808.

Comment Date: April 12, 2011 17:08:33PM
Solar Energy Development PEIS
Comment ID: SolarD10808

First Name: Rob
Middle Initial:
Last Name: Roberto
Organization:
Address: 10746 North Magnolia Ave 8C
Address 2:
Address 3:
City: Santee
State: CA
Zip: 92071
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sandra Breakfield.

The comment tracking number that has been assigned to your comment is SolarD10809.

Comment Date: April 12, 2011 17:09:18PM
Solar Energy Development PEIS
Comment ID: SolarD10809

First Name: Sandra
Middle Initial:
Last Name: Breakfield
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please use common sense when choosing locations for solar energy facilities so that our national parks, wildlife preserves and corridors are not affected.

Thank you for your comment, Scott Bishop.

The comment tracking number that has been assigned to your comment is SolarD10810.

Comment Date: April 12, 2011 17:10:00PM
Solar Energy Development PEIS
Comment ID: SolarD10810

First Name: Scott
Middle Initial:
Last Name: Bishop
Organization:
Address: 1710 Giles NW
Address 2:
Address 3:
City: Olympia
State: WA
Zip: 98502
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar generation should be distributed! If every building had solar panels on them just the savings in distribution losses would be huge.

Thank you for your comment, sharise briggs.

The comment tracking number that has been assigned to your comment is SolarD10811.

Comment Date: April 12, 2011 17:11:12PM
Solar Energy Development PEIS
Comment ID: SolarD10811

First Name: sharise
Middle Initial:
Last Name: briggs
Organization:
Address: 11789 kintner bottom rd
Address 2:
Address 3:
City: laconia
State: IN
Zip: 47135
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is a no brainer.

Thank you for your comment, Krystina Stark.

The comment tracking number that has been assigned to your comment is SolarD10812.

Comment Date: April 12, 2011 17:11:52PM
Solar Energy Development PEIS
Comment ID: SolarD10812

First Name: Krystina
Middle Initial: L
Last Name: Stark
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Let's be smart about this and conserve our state and national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10813.

Comment Date: April 12, 2011 17:13:27PM
Solar Energy Development PEIS
Comment ID: SolarD10813

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Joseph Goldman.

The comment tracking number that has been assigned to your comment is SolarD10814.

Comment Date: April 12, 2011 17:14:18PM
Solar Energy Development PEIS
Comment ID: SolarD10814

First Name: Joseph
Middle Initial: L
Last Name: Goldman
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Here in West Texas both solar energy and wind energy are in abundance and are clearly under utilized. Considered with a responsible effort to reduce energy waste, the maximum application of both renewable energy, solar and wind, should become sufficient as a primary energy use with the present available grid of depletable energy as a backup. We must make the utilization of renewable energy a high priority effort as the overall costs of depletable energy use, that includes the climate change, medical, loss of labor productivity and health costs have clearly made it a luxury that society is paying for dearly and can ill afford to continue.

Our country, that leads the planet in per capita energy waste, is the logical choice to lead the turn around effort from wasteful use of energy to efficient use renewable with depletable energy as backup.

Thank you for your comment, Benjamin Payne.

The comment tracking number that has been assigned to your comment is SolarD10815.

Comment Date: April 12, 2011 17:15:01PM
Solar Energy Development PEIS
Comment ID: SolarD10815

First Name: Benjamin
Middle Initial: C
Last Name: Payne
Organization:
Address: 6209 1st Avenue
Address 2:
Address 3:
City: New Port Richey
State: FL
Zip: 346535101
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, kathy hilt.

The comment tracking number that has been assigned to your comment is SolarD10816.

Comment Date: April 12, 2011 17:16:06PM
Solar Energy Development PEIS
Comment ID: SolarD10816

First Name: kathy
Middle Initial: l
Last Name: hilt
Organization:
Address: p o box 375
Address 2:
Address 3:
City: pinellas park
State: FL
Zip: 33780
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Cynthia Hill.

The comment tracking number that has been assigned to your comment is SolarD10817.

Comment Date: April 12, 2011 17:17:36PM
Solar Energy Development PEIS
Comment ID: SolarD10817

First Name: Cynthia
Middle Initial: L
Last Name: Hill
Organization:
Address: 161 Amherst Street
Address 2:
Address 3:
City: St. Paul
State: MN
Zip: 55105
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you...

Thank you for your comment, sherry andresen.

The comment tracking number that has been assigned to your comment is SolarD10818.

Comment Date: April 12, 2011 17:21:59PM
Solar Energy Development PEIS
Comment ID: SolarD10818

First Name: sherry
Middle Initial:
Last Name: andresen
Organization:
Address: 1022 flagmore
Address 2:
Address 3:
City: katy
State: TX
Zip: 77450
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As with any project, moving forward must be done with utmost care and planning.

Thank you for your comment, Ryan Mickelson.

The comment tracking number that has been assigned to your comment is SolarD10819.

Comment Date: April 12, 2011 17:22:33PM
Solar Energy Development PEIS
Comment ID: SolarD10819

First Name: Ryan
Middle Initial:
Last Name: Mickelson
Organization:
Address:
Address 2:
Address 3:
City: Bend
State: OR
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I just visited Death Valley National Park in March and I certainly hope it looks the same when I return. Whether thats next year or in fifty.

Thank you

Thank you for your comment, Norman Bishop.

The comment tracking number that has been assigned to your comment is SolarD10820.

Comment Date: April 12, 2011 17:22:45PM
Solar Energy Development PEIS
Comment ID: SolarD10820

First Name: Norman
Middle Initial: A
Last Name: Bishop
Organization: NPCA, Sierra Club, Wilderness Society, + 35 others
Address: 4898 Itana Circle
Address 2:
Address 3:
City: Bozeman
State: MT
Zip: 597159391
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am an avid supporter of solar energy development. In the placement of solar facilities, I hope you will consider and avoid placing them where they will adversely affect the viewshed of any national park. Thank you.

Thank you for your comment, CARMEN SADEK.

The comment tracking number that has been assigned to your comment is SolarD10821.

Comment Date: April 12, 2011 17:22:58PM
Solar Energy Development PEIS
Comment ID: SolarD10821

First Name: CARMEN
Middle Initial: S
Last Name: SADEK
Organization:
Address: 3113 Malcolm Avenue
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 900343406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time consider responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Ramsay MacLeod.

The comment tracking number that has been assigned to your comment is SolarD10822.

Comment Date: April 12, 2011 17:23:34PM
Solar Energy Development PEIS
Comment ID: SolarD10822

First Name: Ramsay
Middle Initial: A
Last Name: MacLeod
Organization:
Address: 24 South C Street
Address 2:
Address 3:
City: Lake Worth
State: FL
Zip: 33460
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please be respectful of the land we are trying to preserve.

Thank you for your comment, Lisa Johnson.

The comment tracking number that has been assigned to your comment is SolarD10823.

Comment Date: April 12, 2011 17:23:46PM
Solar Energy Development PEIS
Comment ID: SolarD10823

First Name: Lisa
Middle Initial:
Last Name: Johnson
Organization:
Address: 1449 6th Street
Address 2:
Address 3:
City: Alameda
State: CA
Zip: 94501
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for the opportunity to comment on this proposal.

I am a strong supporter of solar energy. I am also a strong supporter of the National Parks and preserving the beauty and wildlife within them.

I am concerned about parts of the current proposal that appear to threaten wildlife: specifically:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Additionally, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my comments.

Sincerely,
Lisa Johnson

Thank you for your comment, ANN SPRAYREGEN.

The comment tracking number that has been assigned to your comment is SolarD10824.

Comment Date: April 12, 2011 17:23:56PM
Solar Energy Development PEIS
Comment ID: SolarD10824

First Name: ANN
Middle Initial:
Last Name: SPRAYREGEN
Organization:
Address: 25 CHITTENDEN
Address 2:
Address 3:
City: NYC
State: NY
Zip: 100331142
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

IT IS IMPORTANT THAT SOLAR ENERGY FACILITIES BE DEVELOPED IN A WAY THAT DOES NOT DESTROY ANY PART OF OUR NATIONAL PARKS....THERE IS AN INCREASINGLY SMALL ASPECT OF THE LIVES OF THE AVERAGE AMERICAN THAT CAN GIVE US RESPIRE, RECREATION, ENJOYMENT WITHOUT GREAT COST. THERE IS NO NEED TO RUIN THIS. THERE'S ENOUGH SPACE IN DESIGNATED AREAS IN WHICH TO DEVELOP SOLAR ENERGY.

Thank you for your comment, S. Spacek.

The comment tracking number that has been assigned to your comment is SolarD10825.

Comment Date: April 12, 2011 17:23:57PM
Solar Energy Development PEIS
Comment ID: SolarD10825

First Name: S.
Middle Initial:
Last Name: Spacek
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the Solar Energy Zone
alternative, which concentrate solar development on quasi-private land parcels.

Please protect the Riverside East SEZ at the Joshua Tree National Park.
Please remove The Iron Mountain SEZ from Joshua Tree NP, and the Red Sands SEZ at White Sands Monument.

Thank you.
S. Spacek, MPA

Thank you for your comment, Linda Paleias.

The comment tracking number that has been assigned to your comment is SolarD10826.

Comment Date: April 12, 2011 17:24:38PM
Solar Energy Development PEIS
Comment ID: SolarD10826

First Name: Linda
Middle Initial:
Last Name: Paleias
Organization:
Address: 502 W. 47 street
Address 2:
Address 3:
City: New York
State: NY
Zip: 10036
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is a right way and a wrong way to embark on solar energy development on public lands. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Joan Butcher.

The comment tracking number that has been assigned to your comment is SolarD10827.

Comment Date: April 12, 2011 17:25:28PM
Solar Energy Development PEIS
Comment ID: SolarD10827

First Name: Joan
Middle Initial: R
Last Name: Butcher
Organization:
Address: 3106 Allen Avenue
Address 2:
Address 3:
City: St. Louis
State: MO
Zip: 631041531
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, John Twohig.

The comment tracking number that has been assigned to your comment is SolarD10828.

Comment Date: April 12, 2011 17:26:05PM
Solar Energy Development PEIS
Comment ID: SolarD10828

First Name: John
Middle Initial:
Last Name: Twohig
Organization:
Address: 14 ROUNDTREE CT
Address 2:
Address 3:
City: BEACON
State:
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

If not now, when? Abraham Lincoln told congress, "we will be remembered inspite of ourselves." May this congress be remembered for its great foresight and courage, similar to our efforts to send a man to the moon.

Thank you for your comment, Eric Edwards.

The comment tracking number that has been assigned to your comment is SolarD10829.

Comment Date: April 12, 2011 17:28:38PM
Solar Energy Development PEIS
Comment ID: SolarD10829

First Name: Eric
Middle Initial:
Last Name: Edwards
Organization:
Address:
Address 2:
Address 3:
City: West Chicago
State: IL
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

-The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
-The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
-The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. Thank You for considering my comments.

Sincerely,

Thank you for your comment, Mary Shaffer.

The comment tracking number that has been assigned to your comment is SolarD10830.

Comment Date: April 12, 2011 17:29:19PM
Solar Energy Development PEIS
Comment ID: SolarD10830

First Name: Mary
Middle Initial: E
Last Name: Shaffer
Organization:
Address: 21133 West 886 Road
Address 2:
Address 3:
City: Cookson
State: OK
Zip: 74427
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10831.

Comment Date: April 12, 2011 17:29:24PM
Solar Energy Development PEIS
Comment ID: SolarD10831

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The Solar Energy Zone alternative,needs to concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

National Parks are not FREE LAND for any industry to rent or occupy, be that lumber, biologics, or solar, etc.

DO NOT FRACTIONALIZE your own supporters by careless land grabs or non-science based planning. The Park experts are concerned, and you should be tap the natural support base with in Park supporters, not alienate them.

There are four proposed Solar Energy Zones (SEZ) that threaten national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you,
Linda Maher

Thank you for your comment, steve lyons.

The comment tracking number that has been assigned to your comment is SolarD10832.

Comment Date: April 12, 2011 17:29:28PM

Solar Energy Development PEIS

Comment ID: SolarD10832

First Name: steve

Middle Initial:

Last Name: lyons

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Why are republicans so determined to give all our money to billionaires and OPEC?

Thank you for your comment, William Wurst.

The comment tracking number that has been assigned to your comment is SolarD10833.

Comment Date: April 12, 2011 17:30:31PM
Solar Energy Development PEIS
Comment ID: SolarD10833

First Name: William
Middle Initial: C
Last Name: Wurst
Organization:
Address: 21 Danbury Circle
Address 2:
Address 3:
City: Amherst
State: NH
Zip: 030312016
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone (SEZ) alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

As currently constructed, there are four proposed Solar Energy Zones that threaten our national parks. These must be amended as follows:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Very truly yours,
William C. Wurst

Thank you for your comment, bryan trent.

The comment tracking number that has been assigned to your comment is SolarD10834.

Comment Date: April 12, 2011 17:30:44PM
Solar Energy Development PEIS
Comment ID: SolarD10834

First Name: bryan
Middle Initial: k
Last Name: trent
Organization:
Address: 12718 162nd ave kpn
Address 2:
Address 3:
City: gig harbor
State: WA
Zip: 983295403
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

i think the parks should be protected from solar energy

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10835.

Comment Date: April 12, 2011 17:30:51PM
Solar Energy Development PEIS
Comment ID: SolarD10835

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

As an American citizen who values our national parks & wildlife just as much as the promise of a renewable, clean green energy future, I am submitting these official comments on the Draft Solar Energy Development PEIS.

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are, however, four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- (1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- (2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- (3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- (4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment and voice my support for responsible solar development that protects our national parks & wildlife.

Sincerely,
Mr. Galen Davis

Thank you for your comment, Naomi Franklin.

The comment tracking number that has been assigned to your comment is SolarD10836.

Comment Date: April 12, 2011 17:31:52PM
Solar Energy Development PEIS
Comment ID: SolarD10836

First Name: Naomi
Middle Initial:
Last Name: Franklin
Organization:
Address: 1411 Utah St #4
Address 2:
Address 3:
City: Salt Lake City
State: UT
Zip: 84104
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I welcome your concern for growing the harvesting of renewable energy sources, especially solar, for the generation of electricity in this nation (and world). I am well aware of the role of fossil fuel combustion in causing toxic pollutions as well as climate-changing carbon dioxide accumulations. The sooner the replacement of fossil fuels, the better for all of us and for our natural environment.

Making BLM lands available for solar and wind farms is a step in the right direction. It must be recognized, however, that BLM lands include a great variety, and all due consideration should be given to choosing lands most appropriate to energy development.

Lands with wilderness potential should be protected, in my opinion, since their natural ancient values cannot be restored after damage. Also archeological sites are worthy of protection.

Lands for energy should be selected for proximity to prior development, roads and electric and gas transmission lines. Solar farms in the Southwest should be of type that requires minimal water. Ideally suited would be grasslands already disturbed by grazing and tree-chaining.

Thank you for your comment, kristin whitaker.

The comment tracking number that has been assigned to your comment is SolarD10837.

Comment Date: April 12, 2011 17:32:02PM
Solar Energy Development PEIS
Comment ID: SolarD10837

First Name: kristin
Middle Initial:
Last Name: whitaker
Organization:
Address: 5179 Darry Ave
Address 2:
Address 3: 5179 Darry Ave
City: dublin
State: OH
Zip: 43016
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Mark Stone.

The comment tracking number that has been assigned to your comment is SolarD10838.

Comment Date: April 12, 2011 17:32:21PM
Solar Energy Development PEIS
Comment ID: SolarD10838

First Name: Mark
Middle Initial:
Last Name: Stone
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elizabeth Bullock.

The comment tracking number that has been assigned to your comment is SolarD10839.

Comment Date: April 12, 2011 17:32:59PM
Solar Energy Development PEIS
Comment ID: SolarD10839

First Name: Elizabeth
Middle Initial: L
Last Name: Bullock
Organization:
Address: 4500 N. Magnolia Ave. #3
Address 2:
Address 3:
City: Chicago
State: IL
Zip: 606405513
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I encourage you to support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Michele Church.

The comment tracking number that has been assigned to your comment is SolarD10840.

Comment Date: April 12, 2011 17:33:30PM
Solar Energy Development PEIS
Comment ID: SolarD10840

First Name: Michele
Middle Initial: S
Last Name: Church
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

National parks are the best places to use natural energy.

Thank you for your comment, Raphael Kosek.

The comment tracking number that has been assigned to your comment is SolarD10841.

Comment Date: April 12, 2011 17:34:23PM
Solar Energy Development PEIS
Comment ID: SolarD10841

First Name: Raphael
Middle Initial: H
Last Name: Kosek
Organization:
Address: 420 RT. 82
Address 2:
Address 3:
City: Hopewell Jct.
State: NY
Zip: 12533
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We really need to push to develop solar energy; we must wean ourselves off of nuclear energy. This needs to be supported large scale.

Thank you for your comment, Mike Raymond.

The comment tracking number that has been assigned to your comment is SolarD10842.

Comment Date: April 12, 2011 17:34:42PM
Solar Energy Development PEIS
Comment ID: SolarD10842

First Name: Mike
Middle Initial:
Last Name: Raymond
Organization:
Address: 12145 Racine Road
Address 2:
Address 3:
City: Warren
State: MI
Zip: 48093
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy Development PEIS Public Comment:

Please give environmental groups, Park Foundations and citizen interest groups to provide input into locations of Solar Energy Facilities. We should take care to limit the impact of these facilities on threatened and endangered species as well as critical habitats.

thank you.

Thank you for your comment, Susan Cassens.

The comment tracking number that has been assigned to your comment is SolarD10843.

Comment Date: April 12, 2011 17:35:26PM
Solar Energy Development PEIS
Comment ID: SolarD10843

First Name: Susan
Middle Initial: F
Last Name: Cassens
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please take the time to carefully review the placement of solar energy sites. We need to leave future generations with a healthier planet and do not want to repeat the mistakes of the past unnecessarily.

Thank you,

Susan Cassens

Thank you for your comment, William Wurst.

The comment tracking number that has been assigned to your comment is SolarD10844.

Comment Date: April 12, 2011 17:35:47PM
Solar Energy Development PEIS
Comment ID: SolarD10844

First Name: William
Middle Initial: C
Last Name: Wurst
Organization:
Address: 21 Danbury Circle
Address 2:
Address 3:
City: Amherst
State: NH
Zip: 030312016
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone (SEZ) alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

As currently envisioned, there are four proposed Solar Energy Zones that threaten our national parks. These must be amended as follows:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Also, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Very truly yours,
William C. Wurst

Thank you for your comment, George Davis.

The comment tracking number that has been assigned to your comment is SolarD10845.

Comment Date: April 12, 2011 17:36:38PM
Solar Energy Development PEIS
Comment ID: SolarD10845

First Name: George
Middle Initial: A
Last Name: Davis
Organization:
Address: 31 Kenduskeag Ave. #3
Address 2:
Address 3: 31 Kenduskeag Ave. #3
City: Bangor
State: ME
Zip: 04401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Nevada Test Site.

Thank you for your comment, Glenn Stewart, Ph.D..

The comment tracking number that has been assigned to your comment is SolarD10846.

Comment Date: April 12, 2011 17:38:23PM
Solar Energy Development PEIS
Comment ID: SolarD10846

First Name: Glenn
Middle Initial: R
Last Name: Stewart, Ph.D.
Organization:
Address: 4524 Briney Point Road
Address 2:
Address 3:
City: La Verne
State: CA
Zip: 917502303
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a Professor Emeritus of Zoology and Environmental Science, I strongly support the development of Solar Energy Zones (SEZs) in areas that avoid conflicts with National Parks and habitats of sensitive wildlife species. Unfortunately, there are 4 SEZs that threaten National Parks: Riverside East, Iron Mountain, and Amargosa Valley in California; and Red Sands in New Mexico. All of these must be reconfigured to avoid damaging NP lands. Any project proposed within 15 miles of a NP must trigger consultation with the National Park Service. Further, the Bureau of Land Management must include proposed National Parks, National Monuments, Wilderness Areas, and important habitat for sensitive species (e.g., Desert Tortoise, Bighorn Sheep, Mojave Ground Squirrel) as areas of high conflict for solar projects.

Thank you for your comment, Vic and Barby Ulmer.

The comment tracking number that has been assigned to your comment is SolarD10847.

Comment Date: April 12, 2011 17:38:55PM
Solar Energy Development PEIS
Comment ID: SolarD10847

First Name: Vic and Barby
Middle Initial:
Last Name: Ulmer
Organization: our developing world
Address: 13004 Paseo Presada
Address 2:
Address 3:
City: Saratoga
State: CA
Zip: 950704125
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Not only should the environment be considered but also the distance should be as close to potential use as possible so electricity isn't wasted through transporting it long distances.

Thank you for your comment, Jonathan Nash.

The comment tracking number that has been assigned to your comment is SolarD10848.

Comment Date: April 12, 2011 17:45:05PM
Solar Energy Development PEIS
Comment ID: SolarD10848

First Name: Jonathan
Middle Initial: D
Last Name: Nash
Organization:
Address: 500 East 83rd Street, #10B
Address 2:
Address 3:
City: New York
State: NY
Zip: 10028
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, janice shannon.

The comment tracking number that has been assigned to your comment is SolarD10849.

Comment Date: April 12, 2011 17:45:50PM
Solar Energy Development PEIS
Comment ID: SolarD10849

First Name: janice
Middle Initial: j
Last Name: shannon
Organization:
Address: 1704 w. country club drive
Address 2:
Address 3:
City: tampa
State: FL
Zip: 336125042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

in the time of nearly \$4.00 per gallon gasoline...wouldn't it make sense to look to our sun for help...it shines down on us everyday and can furnish us with needed energy.. all we have to do is harness it.. let's get busy ...we are wasting valuable time.....

Thank you for your comment, Nanette Oggiono.

The comment tracking number that has been assigned to your comment is SolarD10850.

Comment Date: April 12, 2011 17:46:29PM
Solar Energy Development PEIS
Comment ID: SolarD10850

First Name: Nanette
Middle Initial:
Last Name: Oggiono
Organization:
Address: 3 Sadler Rd
Address 2:
Address 3:
City: Upton
State: MA
Zip: 01568
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, PHOEBE TURNER.

The comment tracking number that has been assigned to your comment is SolarD10851.

Comment Date: April 12, 2011 17:49:16PM
Solar Energy Development PEIS
Comment ID: SolarD10851

First Name: PHOEBE
Middle Initial:
Last Name: TURNER
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

PRESERVING THE DELICATE ENVIRONMENT is just as important as Energy Independence. To do both is do-able.

Thank you for your comment, Sherry Marsh.

The comment tracking number that has been assigned to your comment is SolarD10852.

Comment Date: April 12, 2011 17:49:31PM
Solar Energy Development PEIS
Comment ID: SolarD10852

First Name: Sherry
Middle Initial:
Last Name: Marsh
Organization:
Address: 5030 Alicante Way
Address 2:
Address 3:
City: Oceanside
State: CA
Zip: 92056
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Use environmental caution and install solar energy collectors on Federal and State lands where possible.

Thank you for your comment, William Edelman.

The comment tracking number that has been assigned to your comment is SolarD10853.

Comment Date: April 12, 2011 17:50:08PM
Solar Energy Development PEIS
Comment ID: SolarD10853

First Name: William
Middle Initial: W
Last Name: Edelman
Organization:
Address: 6538 Walnut Park Drive
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 19120
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

American reliance on fossil fuels—from domestic coal, shale, and natural gas to foreign oil—is shortsighted and economically destructive, especially in this continuing economic depression (which is only a "recession" in the minds of the wealthy and the politicians who pander to them), and must end.

Renewable energy projects are vital, to wean us from oil, halt global warming, and get us out of foreign entanglements that kill our young warrior heroes and threaten our security at home.

Solar energy is one of our best hopes for the future. Solar facilities are vital

At the same time, they must be installed properly and responsibly, unless they become a threat to one of our most valuable resources, our wildlife...not to mention our open spaces.

The federal government has initiated an environmental review to identify where solar development should occur on public lands, and that is a big step in the right direction.

That said, it must also be said, and demanded, that the United States develop this necessary resource the right way.

Solar energy facilities must be developed only in solar energy zones so that they do not compromise national-park and refuge wildlife, scenery, archaeological sites, water resources, or night-sky viewing.

We must conserve these resources for our children's children's children.

Thank you.

Thank you for your comment, Tom Finholt.

The comment tracking number that has been assigned to your comment is SolarD10854.

Comment Date: April 12, 2011 17:50:26PM
Solar Energy Development PEIS
Comment ID: SolarD10854

First Name: Tom
Middle Initial: E
Last Name: Finholt
Organization: Musician
Address: 212 Timber Wind Dr.
Address 2:
Address 3:
City: Wildwood
State: MO
Zip: 63011
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is Tom Finholt.

Please, increase production and
use of solar energy to protect the
environment.

Thanks,

Tom Finholt

Thank you for your comment, Carmine Tocci.

The comment tracking number that has been assigned to your comment is SolarD10855.

Comment Date: April 12, 2011 17:50:28PM
Solar Energy Development PEIS
Comment ID: SolarD10855

First Name: Carmine
Middle Initial: M
Last Name: Tocci
Organization:
Address: PO Box 594
Address 2: River Street
Address 3:
City: Westford
State: MA
Zip: 01886
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

For the survival of the planet, and for the survival of humankind; for the sake of all species of animal and plant, please act immediately and vigorously to support the development of solar energy.

Thank you for your comment, kenneth boyle.

The comment tracking number that has been assigned to your comment is SolarD10856.

Comment Date: April 12, 2011 17:52:29PM
Solar Energy Development PEIS
Comment ID: SolarD10856

First Name: kenneth
Middle Initial: j
Last Name: boyle
Organization:
Address: 501 sw diamond dr apt 13
Address 2:
Address 3:
City: bentonville
State: AR
Zip: 72712
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

solar engery only

Thank you for your comment, rhea moss.

The comment tracking number that has been assigned to your comment is SolarD10857.

Comment Date: April 12, 2011 17:58:12PM
Solar Energy Development PEIS
Comment ID: SolarD10857

First Name: rhea
Middle Initial:
Last Name: moss
Organization:
Address: 9448 palestro st
Address 2:
Address 3:
City: LAKE WORTH
State: FL
Zip: 33467
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

the US is behind in the development and use of solar energy. traveling the world you see other countries developing alternative energies.....we urge you to help the development of solar in the US.....get us off of oil.....

Thank you for your comment, David Comfort.

The comment tracking number that has been assigned to your comment is SolarD10858.

Comment Date: April 12, 2011 17:58:19PM
Solar Energy Development PEIS
Comment ID: SolarD10858

First Name: David
Middle Initial:
Last Name: Comfort
Organization: Sleepless Digital
Address: 1460 Town And Country Dr
Address 2:
Address 3:
City: Santa Rosa
State: CA
Zip: 954043018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, CONSUELO ANNON.

The comment tracking number that has been assigned to your comment is SolarD10859.

Comment Date: April 12, 2011 17:58:21PM
Solar Energy Development PEIS
Comment ID: SolarD10859

First Name: CONSUELO
Middle Initial:
Last Name: ANNON
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please let us use the miles of parking lots for our solar development puts the electricity generation where the people are, shades the cars and preserves our lovely natural world.

Thank you for your comment, charles boyington.

The comment tracking number that has been assigned to your comment is SolarD10860.

Comment Date: April 12, 2011 17:58:33PM

Solar Energy Development PEIS

Comment ID: SolarD10860

First Name: charles

Middle Initial: r

Last Name: boyington

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold address from public record

Attachment:

Comment Submitted:

use solar panels and other eyesores in designated areas only, please!

Thank you for your comment, Daniel Hardie.

The comment tracking number that has been assigned to your comment is SolarD10861.

Comment Date: April 12, 2011 17:59:27PM
Solar Energy Development PEIS
Comment ID: SolarD10861

First Name: Daniel
Middle Initial: B
Last Name: Hardie
Organization:
Address: 1749 Ducker Court
Address 2:
Address 3:
City: Concord
State: CA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, edgar gehlert.

The comment tracking number that has been assigned to your comment is SolarD10862.

Comment Date: April 12, 2011 18:00:40PM
Solar Energy Development PEIS
Comment ID: SolarD10862

First Name: edgar
Middle Initial:
Last Name: gehlert
Organization:
Address: 150 rosh rd
Address 2:
Address 3:
City: rogersville
State: TN
Zip: 37857
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hi!- Ok I have been to many of our Parks and there are many Buildings, Parking areas that can be used to collect solar energy;

Just look at the hotels in Yellowstone: I would even suggest that the Geo Thermal waters in Yellowstone be used for energy withing the PARK::

Solar panels could be part of the National Park experience.

Thank you,

Edgar Gehlert

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10863.

Comment Date: April 12, 2011 18:01:46PM
Solar Energy Development PEIS
Comment ID: SolarD10863

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. It is very important for us to go solar and save the environment and dependency on foreign oil - but not at the expense of harming our national parks or nature/wildlife.

Thank you for your comment, jane ellison.

The comment tracking number that has been assigned to your comment is SolarD10864.

Comment Date: April 12, 2011 18:02:01PM
Solar Energy Development PEIS
Comment ID: SolarD10864

First Name: jane
Middle Initial: m
Last Name: ellison
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Michael Kurman.

The comment tracking number that has been assigned to your comment is SolarD10865.

Comment Date: April 12, 2011 18:02:20PM
Solar Energy Development PEIS
Comment ID: SolarD10865

First Name: Michael
Middle Initial: D
Last Name: Kurman
Organization:
Address: 4417 Marriottsville Road
Address 2:
Address 3:
City: Owings Mills
State: MD
Zip: 21117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am absolutely in favor of new solar energy projects...I believe that energy from the sun and from wind will help secure America from reliance on foreign suppliers.

My only concern is that any solar projects take into consideration the aesthetic value of the wild lands in which they may be placed. I urge that such projects be sited in areas that are appropriate to protect citizens' and visitors' views of America's wild places.

Thank you for your comment, claire flewitt.

The comment tracking number that has been assigned to your comment is SolarD10866.

Comment Date: April 12, 2011 18:02:30PM
Solar Energy Development PEIS
Comment ID: SolarD10866

First Name: claire
Middle Initial:
Last Name: flewitt
Organization:
Address: 975 Soto Drive
Address 2:
Address 3:
City: San Lorenzo
State: CA
Zip: 945801554
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Albert Ritchey, Jr..

The comment tracking number that has been assigned to your comment is SolarD10867.

Comment Date: April 12, 2011 18:04:21PM
Solar Energy Development PEIS
Comment ID: SolarD10867

First Name: Albert
Middle Initial:
Last Name: Ritchey, Jr.
Organization:
Address: 2101 Cloud Croft Circle
Address 2:
Address 3:
City: Vestavia Hills
State: AL
Zip: 35216
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Julianne Craig.

The comment tracking number that has been assigned to your comment is SolarD10868.

Comment Date: April 12, 2011 18:06:05PM
Solar Energy Development PEIS
Comment ID: SolarD10868

First Name: Julianne
Middle Initial:
Last Name: Craig
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please be responsible about where you put solar energy equipment. Archaeological, environmental and animal needs should all be taken in account.

Thank you for your comment, Sharon Peariso.

The comment tracking number that has been assigned to your comment is SolarD10869.

Comment Date: April 12, 2011 18:08:49PM
Solar Energy Development PEIS
Comment ID: SolarD10869

First Name: Sharon
Middle Initial: M
Last Name: Peariso
Organization:
Address: 9640 SE 136th Place
Address 2:
Address 3:
City: Summerfield
State: FL
Zip: 34491
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Developing solar and other alternative energies is very important, particularly now. The National Park Service also needs to map out areas of the parks that will not be developed in the National Parks, so they continue to have wilderness and animal areas that is so integral to their creation.

Thank you for your comment, Adam Williams.

The comment tracking number that has been assigned to your comment is SolarD10870.

Comment Date: April 12, 2011 18:10:31PM
Solar Energy Development PEIS
Comment ID: SolarD10870

First Name: Adam
Middle Initial:
Last Name: Williams
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

As critical as the development is to our energy future, it must be done in a wise manner to protect the beauty of some our most cherished and irreplaceable lands!

Thank you for your comment, Shari Au.

The comment tracking number that has been assigned to your comment is SolarD10871.

Comment Date: April 12, 2011 18:11:09PM
Solar Energy Development PEIS
Comment ID: SolarD10871

First Name: Shari
Middle Initial:
Last Name: Au
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar, wind, ocean energies abound and we have only scratched the surface of these resources. Tax breaks to corporations controlling American legislation keep us in recession, at war, chasing oil and coal, obsolete, environmentally polluting fuel sources. The longer we're at war, depleting our resources, the richer corporations become and the poorer the population. As rich and impoverished separate in America as in the Philipines, the masses remain uneducated, a vulnerable position for any nation. We desperately need alternative energy sources, alternative medicine, alternative approaches to what we've been doing, which evidence suggests has failed us. Clean energy sources are imperative in an environmentally polluted endocrine disruptive world, reflected in the prevalence of cancer, heart disease, diabetes, obesity, etc. Pharmaceuticals, a pill for all problems, is undermining America, an ailing cross-cultural population deprived of cultural health care. Solar is advanced in Germany and Iceland, why not America? When will America catch up with the rest of the industrialized world?

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10872.

Comment Date: April 12, 2011 18:12:27PM
Solar Energy Development PEIS
Comment ID: SolarD10872

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

the parks MUST be completely preserved, no if's and or but's about it!

Thank you for your comment, Harriet Brashear.

The comment tracking number that has been assigned to your comment is SolarD10873.

Comment Date: April 12, 2011 18:13:49PM
Solar Energy Development PEIS
Comment ID: SolarD10873

First Name: Harriet
Middle Initial: M
Last Name: Brashear
Organization: Society for the Protection and Care of Wildlife (S
Address: 10500 Christenson Road
Address 2:
Address 3: Lucerne Valley
City: Lucerne Valley
State: CA
Zip: 923568335
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SEZcomments.wps

Comment Submitted:

These comments are being submitted for myself and for the Society for the Protection and Care of Wildlife (SPCW), an organization which I represent.

The entire document is fatally flawed in as much as the producers (BLM and DOE) have chosen to ignore **requirements** of the Federal Land Policy and Management Act.

Approximately 550,000 acres proposed for designation as SEZs in the six states will in effect be segregated/withdrawn from mineral entry. To meet the requirement of FLPMA, a mineral inventory must be completed and presented to Congress for each and every SEZ and should be part of the PEIS.

In California alone there are four SEZ which exceed the 5,000 acre trigger. In Nevada there are 6 SEZ which exceed the 5,000 acres with more in other states. Any such segregation/withdrawal over 5000 acres must be approved by congress. A mineral report and Congressional approval is required for each SEZ. This has not been done.

Minerals are where they are found and not where one might want them to be; thus the requirement for a minerals inventory and Congressional approval for areas over 5000 acres. Loss of mineral land cannot be mitigated.

The FLPMA also created the California Desert Conservation Area; a special designation and a special area. There exists a Management Plan for this special area which already ZONES the land. The PEIS proposes SEZs which would further ZONE on top of already existing zones. The PEIS does not adequately address the zoning and for all practical purposes ignoring of the California Desert Conservation Area and its very special designation. (The zoning of lands is usually a function of local governments not the federal government.)

It is almost as if the producers of the EIS are responding only to Administrative/Executive Orders and ignoring Congressional requirements passed in earlier times. Further, there are legal stipulations and legal actions pending which impact many of these lands which have also not been considered.

The maps are of such a large scale it is impossible to discover if there are special areas which would require mitigation measures of such magnitude as to require special review and comment..

Lands and Realty records have not been up-dated in some time and have recently been found to be unreliable. (U.S. Forest Service personal conversation.) Therefore the acreage in the various categories in the PEIS may not be considered reliable.

The Socio-economic study is a farce. It implies, no states that there is little to no socio-economic impact. This is not true in as much as the document does not address the taxpayers in those areas (counties for the most part) which will be impacted by lost property tax revenue from those lands acquired for mitigation. Many of these counties are maxed out on PELT money. Further that ranchers may lose grazing lands and AUMs is treated as a nothing matter. This loss is a taking and without being compensated is a violation of the Constitution. The treatment of the death or near death of small communities in or near the SEZ is almost ignored.

There is an inadequate attempt to address mitigation for plants and animals ,however nowhere is there discussed mitigation for lost recreational opportunities; not even on a one acres for one acre basis.

Thank you for your comment, Linnell Krikorian.

The comment tracking number that has been assigned to your comment is SolarD10874.

Comment Date: April 12, 2011 18:14:49PM
Solar Energy Development PEIS
Comment ID: SolarD10874

First Name: Linnell
Middle Initial:
Last Name: Krikorian
Organization:
Address: 10 Old Orchard Way
Address 2:
Address 3:
City: Manchester
State: NH
Zip: 03103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Tiffany Derreumaux.

The comment tracking number that has been assigned to your comment is SolarD10875.

Comment Date: April 12, 2011 18:15:52PM
Solar Energy Development PEIS
Comment ID: SolarD10875

First Name: Tiffany
Middle Initial:
Last Name: Derreumaux
Organization:
Address:
Address 2:
Address 3:
City: Molalla
State: OR
Zip: 97038
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

- * The Riverside East Solar Energy Zone must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, harriet irby.

The comment tracking number that has been assigned to your comment is SolarD10876.

Comment Date: April 12, 2011 18:16:09PM
Solar Energy Development PEIS
Comment ID: SolarD10876

First Name: harriet
Middle Initial: m
Last Name: irby
Organization:
Address: 3400 peachtree lane
Address 2:
Address 3:
City: Pantego
State: TX
Zip: 76013
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need solar and wind installations. But this should not happen in our National Parks!
These treasures belong to all of us. We are stewards for future generations

Thank you for your comment, Terence Travis.

The comment tracking number that has been assigned to your comment is SolarD10877.

Comment Date: April 12, 2011 18:16:44PM
Solar Energy Development PEIS
Comment ID: SolarD10877

First Name: Terence
Middle Initial:
Last Name: Travis
Organization:
Address: 91-999 La'aulu St
Address 2:
Address 3:
City: Ewa Beach
State: HI
Zip: 967063863
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
5. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.
6. It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, John Mitchell.

The comment tracking number that has been assigned to your comment is SolarD10878.

Comment Date: April 12, 2011 18:17:01PM
Solar Energy Development PEIS
Comment ID: SolarD10878

First Name: John
Middle Initial: W
Last Name: Mitchell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Diane Martin-Brodak.

The comment tracking number that has been assigned to your comment is SolarD10879.

Comment Date: April 12, 2011 18:17:37PM
Solar Energy Development PEIS
Comment ID: SolarD10879

First Name: Diane
Middle Initial: M
Last Name: Martin-Brodak
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am all for solar energy for the United States, but only if it's done responsibly.
I would not want to see it in areas where it would spoil the looks and the peacefulness
of our National parks and places of history.
These monumental places are too overburdened already.
The wild life struggles more and more everyday because of all that goes on in their habitat.

Thank you for your comment, Roger Montgomery.

The comment tracking number that has been assigned to your comment is SolarD10880.

Comment Date: April 12, 2011 18:18:03PM
Solar Energy Development PEIS
Comment ID: SolarD10880

First Name: Roger
Middle Initial: B
Last Name: Montgomery
Organization:
Address: 340 NE 35th Street
Address 2:
Address 3:
City: Topeka
State: KS
Zip: 66617
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is essential to help keep our environment clean. Let's make sure it is installed in a manner that keeps our National Parks beautiful too!

Thank you for your comment, Mark Robillard.

The comment tracking number that has been assigned to your comment is SolarD10881.

Comment Date: April 12, 2011 18:20:36PM
Solar Energy Development PEIS
Comment ID: SolarD10881

First Name: Mark
Middle Initial: V
Last Name: Robillard
Organization:
Address: 108 Heiskel Drive
Address 2:
Address 3:
City: Port Matilda
State: PA
Zip: 16870
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the NPCA concerns regarding the Solar Energy Development PEIS as described below.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Mark V. Robillard

Thank you for your comment, Elyse Coulson.

The comment tracking number that has been assigned to your comment is SolarD10882.

Comment Date: April 12, 2011 18:22:17PM
Solar Energy Development PEIS
Comment ID: SolarD10882

First Name: Elyse
Middle Initial:
Last Name: Coulson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development

Thank you for your comment, Susan Selbin.

The comment tracking number that has been assigned to your comment is SolarD10883.

Comment Date: April 12, 2011 18:22:47PM
Solar Energy Development PEIS
Comment ID: SolarD10883

First Name: Susan
Middle Initial:
Last Name: Selbin
Organization:
Address: 2431 Northwest Circle NW
Address 2:
Address 3:
City: Albuquerque
State: NM
Zip: 87104
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I appreciate the opportunity to comment solar energy development. Forremost, I strongly support solar energy and other alternative energy development. It is, however, important where solar development takes place.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, MARY MCGILLIGAN.

The comment tracking number that has been assigned to your comment is SolarD10884.

Comment Date: April 12, 2011 18:24:03PM
Solar Energy Development PEIS
Comment ID: SolarD10884

First Name: MARY
Middle Initial: E
Last Name: MCGILLIGAN
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I have been traveling to visit the National Parks in New Mexico for the last four weeks, spending a bundle in your gift shops and enjoying the many fantastic features of about a dozen parks. I was impressed to see that the park service is making use of solar power in several parks. I heartily support the use of solar power in our parks and administration buildings. Hooray for the US park system.

Thank you for your comment, Guy Graham.

The comment tracking number that has been assigned to your comment is SolarD10885.

Comment Date: April 12, 2011 18:27:42PM
Solar Energy Development PEIS
Comment ID: SolarD10885

First Name: Guy
Middle Initial:
Last Name: Graham
Organization:
Address: 10huronave
Address 2: apt-3k
Address 3:
City: Jersey City
State: NJ
Zip: 07306
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

You are the Future for this Country. We as a Species must Rid ourselves of Coal and Oil, Before its to late Build your Panels ALL over.

Friend

Thank you for your comment, Ann Kelly.

The comment tracking number that has been assigned to your comment is SolarD10886.

Comment Date: April 12, 2011 18:29:21PM
Solar Energy Development PEIS
Comment ID: SolarD10886

First Name: Ann
Middle Initial:
Last Name: Kelly
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Public lands must be kept public. Solar power is an important national priority, but as with everything, the impact must be looked at.

Thank you for your comment, Alan Young.

The comment tracking number that has been assigned to your comment is SolarD10887.

Comment Date: April 12, 2011 18:29:36PM
Solar Energy Development PEIS
Comment ID: SolarD10887

First Name: Alan
Middle Initial:
Last Name: Young
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear Solar Energy Development folks: It surely is imperative we develop alternates to fossil fuel energy sources but consideration of the lands to be utilized should be chosen with an aim at efficiency and ecologic/environmental usefulness now and in the future.

Sincerely and aloha,

Alan Young

Thank you for your comment, Israel Valdez.

The comment tracking number that has been assigned to your comment is SolarD10888.

Comment Date: April 12, 2011 18:29:55PM
Solar Energy Development PEIS
Comment ID: SolarD10888

First Name: Israel
Middle Initial:
Last Name: Valdez
Organization:
Address: P O box 59386
Address 2:
Address 3:
City: San Jose
State: CA
Zip: 95159
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm or compromise our national parks and wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. Read more about what's at stake.

Thank you for your comment, Diane Wynne.

The comment tracking number that has been assigned to your comment is SolarD10889.

Comment Date: April 12, 2011 18:33:49PM
Solar Energy Development PEIS
Comment ID: SolarD10889

First Name: Diane
Middle Initial:
Last Name: Wynne
Organization:
Address: 5055 Ashington Landing Dr
Address 2:
Address 3:
City: Tampa
State: FL
Zip: 336473515
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jan McCall.

The comment tracking number that has been assigned to your comment is SolarD10890.

Comment Date: April 12, 2011 18:35:12PM
Solar Energy Development PEIS
Comment ID: SolarD10890

First Name: Jan
Middle Initial:
Last Name: McCall
Organization:
Address: 278 Vine St.
Address 2:
Address 3: 278 Vine St.
City: West Bend
State: WI
Zip: 53095
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Virgene Link.

The comment tracking number that has been assigned to your comment is SolarD10891.

Comment Date: April 12, 2011 18:36:22PM
Solar Energy Development PEIS
Comment ID: SolarD10891

First Name: Virgene
Middle Initial:
Last Name: Link
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy Zones should not impact our National Parks, wilderness areas or National Monuments!

Why not use public land that is already available along roads. Access is there and so are power lines (usually). They are linear rather than rectangular or square, but does that really matter?

Thank you!

Thank you for your comment, James Boone.

The comment tracking number that has been assigned to your comment is SolarD10892.

Comment Date: April 12, 2011 18:37:22PM
Solar Energy Development PEIS
Comment ID: SolarD10892

First Name: James
Middle Initial: L
Last Name: Boone
Organization: NPCA
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear custodian of the Nation's natural resources,

I am pleased the federal government has initiated the Solar Programmatic Environmental Impact Statement (Solar PEIS) process to identify where solar energy development should occur on federal lands.

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley NP and Joshua Tree NP.

What's needed is an approach that protects these spectacular places, their abundant wildlife, night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and draw down water resources.

It should also prohibit the siting of new SEZs, or new solar development in general, from at least 15 miles from national parks unless the National Park Service determines that development does not do undue harm to park resources.

Thank you for considering my comments. Please add my remarks to the official record.

Sincerely, James Boone

Thank you for your comment, Jeffrey Erwin.

The comment tracking number that has been assigned to your comment is SolarD10893.

Comment Date: April 12, 2011 18:39:10PM
Solar Energy Development PEIS
Comment ID: SolarD10893

First Name: Jeffrey
Middle Initial: S
Last Name: Erwin
Organization:
Address: PO Box 1522
Address 2:
Address 3:
City: Portsmouth
State: NH
Zip: 03802
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a strong supporter of the Nation Park system. They are some of our only remaining pristine lands here in America. Regarding the solar panels, please only install them in areas that will not harm the park, disturb wildlife or be an eye sore to park visitors. Thank you!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10895.

Comment Date: April 12, 2011 18:40:22PM

Solar Energy Development PEIS

Comment ID: SolarD10895

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization: retired

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Solve the problem and get moving on solar. We need solar energy right now.

Thank you for your comment, Robyn Walters.

The comment tracking number that has been assigned to your comment is SolarD10896.

Comment Date: April 12, 2011 18:41:07PM
Solar Energy Development PEIS
Comment ID: SolarD10896

First Name: Robyn
Middle Initial: S
Last Name: Walters
Organization:
Address: 4174 Conashaugh Lakes
Address 2:
Address 3:
City: Milford
State: PA
Zip: 18337
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the use and promotion of solar energy resources.

Thank you for your comment, Mary Ann MOSCOSO.

The comment tracking number that has been assigned to your comment is SolarD10897.

Comment Date: April 12, 2011 18:42:35PM
Solar Energy Development PEIS
Comment ID: SolarD10897

First Name: Mary Ann
Middle Initial:
Last Name: MOSCOSO
Organization:
Address: 6641 Urban Ct
Address 2:
Address 3:
City: Arvada
State: CO
Zip: 800042435
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please use caution to insure that no damage is done to the integrity of the scenic value of our Nat'l Parks or the preservation of their historic archaeological sections. We as a nation need to be able to enjoy these wonderful parts of our heritage for generations to come. Thank you.

Thank you for your comment, Elisabeth Price.

The comment tracking number that has been assigned to your comment is SolarD10898.

Comment Date: April 12, 2011 18:44:19PM
Solar Energy Development PEIS
Comment ID: SolarD10898

First Name: Elisabeth
Middle Initial: J
Last Name: Price
Organization:
Address: 2809 Carolina NE
Address 2:
Address 3:
City: Albuquerque
State: NM
Zip: 87110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am for solar energy, however wildlife and environmental impact studies should be made to ensure that the location of a solar power farm would not be harmed.

Thank you for your comment, Faith Moeller.

The comment tracking number that has been assigned to your comment is SolarD10899.

Comment Date: April 12, 2011 18:45:38PM
Solar Energy Development PEIS
Comment ID: SolarD10899

First Name: Faith
Middle Initial:
Last Name: Moeller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar, hydro, and thermal energy must be cultivated, but there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and opportunities for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Blake Winter.

The comment tracking number that has been assigned to your comment is SolarD10900.

Comment Date: April 12, 2011 18:47:00PM
Solar Energy Development PEIS
Comment ID: SolarD10900

First Name: Blake
Middle Initial: K
Last Name: Winter
Organization:
Address: 6313B W. Quaker St.
Address 2:
Address 3:
City: Orchard Park
State: NY
Zip: 141272327
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the development of solar energy sources. However, it is important that the locations for such development be chosen to avoid interfering with wildlife or our national and state parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10901.

Comment Date: April 12, 2011 18:49:41PM
Solar Energy Development PEIS
Comment ID: SolarD10901

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10902.

Comment Date: April 12, 2011 18:50:25PM
Solar Energy Development PEIS
Comment ID: SolarD10902

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

solar is the way. it harms nothing

Thank you for your comment, Mr and Mrs James Denison.

The comment tracking number that has been assigned to your comment is SolarD10903.

Comment Date: April 12, 2011 18:50:40PM
Solar Energy Development PEIS
Comment ID: SolarD10903

First Name: Mr and Mrs James
Middle Initial: L
Last Name: Denison
Organization:
Address: 6931 E 11 TH ST
Address 2:
Address 3:
City: Long beach
State: CA
Zip: 90815
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need solar energy more than ever! Our environment can't afford more nuclear, oil ,gas (and fracking!) pollution!
We must stop wars fought for the oil that is being sold by the energy corporations to enrich themselves but destroy our environment and economy.
We should be subsidizing the use of solar on nearly every home instead using our open space.
The costs of fighting wars should be included in the other ways we have been subsidizing Big oil.
Solar would then be much less expensive!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10904.

Comment Date: April 12, 2011 18:52:50PM
Solar Energy Development PEIS
Comment ID: SolarD10904

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Hello -- I am a big fan of developing solar power. I live in the West and see wonderful opportunities for jobs, for cleaner air, and more.

But in planning and developing solar (and wind) power, please consider our national parks, our flora and fauna, and please consider our water resources.

Don't let the solar power future wreck our present.

Thank you --

Thank you for your comment, Claudia Carty.

The comment tracking number that has been assigned to your comment is SolarD10905.

Comment Date: April 12, 2011 18:53:14PM
Solar Energy Development PEIS
Comment ID: SolarD10905

First Name: Claudia
Middle Initial:
Last Name: Carty
Organization:
Address: 4060 1 Av N
Address 2:
Address 3:
City: St Petersburg
State: FL
Zip: 33713
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

America needs to work toward a renewable energy future to buffer us from climate change, help us kick our reliance on foreign oil and enhance our national security.

Solar energy should be developed in areas that don't compromise our national parks. America needs to develop renewable energy resources in a manner that protects our national treasures.

Government has identified twenty four solar energy zones where renewable energy companies can build their facilities. Solar development within specified zones makes sense, but needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. Several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic national parks, this means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife and other resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

Thank you for your comment, Frank Bartell.

The comment tracking number that has been assigned to your comment is SolarD10906.

Comment Date: April 12, 2011 18:53:17PM
Solar Energy Development PEIS
Comment ID: SolarD10906

First Name: Frank
Middle Initial:
Last Name: Bartell
Organization:
Address: 1024 N. 5th St.
Address 2:
Address 3:
City: Phila
State: PA
Zip: 191231404
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Jennifer Humowiecki.

The comment tracking number that has been assigned to your comment is SolarD10907.

Comment Date: April 12, 2011 18:53:40PM
Solar Energy Development PEIS
Comment ID: SolarD10907

First Name: Jennifer
Middle Initial: C
Last Name: Humowiecki
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Thank you for this opportunity to comment. Currently, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Assuming my four concerns above are addressed and the proposal amended, I will strongly support the Solar Energy Zone alternative as it would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Additionally, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Tim Barrington.

The comment tracking number that has been assigned to your comment is SolarD10908.

Comment Date: April 12, 2011 18:53:52PM
Solar Energy Development PEIS
Comment ID: SolarD10908

First Name: Tim
Middle Initial:
Last Name: Barrington
Organization:
Address: 1487 W San Carlos St
Address 2:
Address 3:
City: San Jose
State: CA
Zip: 95126
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom It May Concern,

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your consideration.

Sincerely,

Tim Barrington

Thank you for your comment, Thurston Thompson.

The comment tracking number that has been assigned to your comment is SolarD10909.

Comment Date: April 12, 2011 18:55:09PM
Solar Energy Development PEIS
Comment ID: SolarD10909

First Name: Thurston
Middle Initial:
Last Name: Thompson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

we love solar and wind
but
protect the parks
and
develop renewable responsibly

thanks,
tmt

Thank you for your comment, Albert Marra.

The comment tracking number that has been assigned to your comment is SolarD10910.

Comment Date: April 12, 2011 18:55:09PM
Solar Energy Development PEIS
Comment ID: SolarD10910

First Name: Albert
Middle Initial:
Last Name: Marra
Organization:
Address: 42 Terrapin Trail
Address 2:
Address 3:
City: Crawfordville
State: FL
Zip: 32327
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Go Solar

Thank you for your comment, Cynthia Gillette.

The comment tracking number that has been assigned to your comment is SolarD10911.

Comment Date: April 12, 2011 18:55:10PM
Solar Energy Development PEIS
Comment ID: SolarD10911

First Name: Cynthia
Middle Initial: H
Last Name: Gillette
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Wayne Flick.

The comment tracking number that has been assigned to your comment is SolarD10912.

Comment Date: April 12, 2011 18:55:43PM
Solar Energy Development PEIS
Comment ID: SolarD10912

First Name: Wayne
Middle Initial: A
Last Name: Flick
Organization:
Address: 470 Balsam Road
Address 2:
Address 3:
City: Cimarron
State: CO
Zip: 812209570
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support working on alternate sources of energy as long our national heritage is not damaged!

Thank you for your comment, Timothy Frink.

The comment tracking number that has been assigned to your comment is SolarD10913.

Comment Date: April 12, 2011 18:56:33PM
Solar Energy Development PEIS
Comment ID: SolarD10913

First Name: Timothy
Middle Initial:
Last Name: Frink
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy is one of the best, cleanest ideas humans have ever come up with. Not only is the energy production clean, but it has the lowest toxicity impact to the environment (unlike electric car batteries, hydrogen fuel cells, fossil fuel exhaust, etc.).

That said, we can compromise one part of the environment (levels of toxicity) for another (wildlife and habitat).

Let's not rush into something blindly (pardon the light-based pun); instead, let's evaluate where the best places are to get sunlight to maximize the benefit and execute it in such a way that there are no ill-effects on the wildlife or their habitat.

Thank you for your comment, Robert Brosius.

The comment tracking number that has been assigned to your comment is SolarD10914.

Comment Date: April 12, 2011 18:56:39PM
Solar Energy Development PEIS
Comment ID: SolarD10914

First Name: Robert
Middle Initial: M
Last Name: Brosius
Organization:
Address: 5700 Etiwanda #224
Address 2:
Address 3:
City: Tarzana
State: CA
Zip: 91356
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Theodore Bahn.

The comment tracking number that has been assigned to your comment is SolarD10915.

Comment Date: April 12, 2011 18:56:44PM
Solar Energy Development PEIS
Comment ID: SolarD10915

First Name: Theodore
Middle Initial:
Last Name: Bahn
Organization:
Address: 555 N Pantano Rd
Address 2: Lot 162
Address 3:
City: Tucson
State: AZ
Zip: 85710
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The federal government has initiated the Solar Programmatic Environmental Impact Statement (Solar PEIS) process to identify where solar energy development should occur on federal lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado. The government has identified Twenty four solar energy zones where renewable energy companies can build their facilities.

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

NPCA strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, Sonja Chan.

The comment tracking number that has been assigned to your comment is SolarD10916.

Comment Date: April 12, 2011 18:58:29PM
Solar Energy Development PEIS
Comment ID: SolarD10916

First Name: Sonja
Middle Initial:
Last Name: Chan
Organization:
Address: 944 W. Walnut St.
Address 2:
Address 3:
City: Kankakee
State: IL
Zip: 60901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Derry Dean.

The comment tracking number that has been assigned to your comment is SolarD10917.

Comment Date: April 12, 2011 18:59:16PM
Solar Energy Development PEIS
Comment ID: SolarD10917

First Name: Derry
Middle Initial: L
Last Name: Dean
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Only use solar energy where appropriate in national parks.

Thank you for your comment, Judith Smith.

The comment tracking number that has been assigned to your comment is SolarD10918.

Comment Date: April 12, 2011 19:00:11PM
Solar Energy Development PEIS
Comment ID: SolarD10918

First Name: Judith
Middle Initial:
Last Name: Smith
Organization:
Address: 2712 Grande Vista Ave
Address 2:
Address 3:
City: Oakland
State: CA
Zip: 94601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for responsible solar development that protects our national parks.

Thank you for your comment, Jonathan Diaz.

The comment tracking number that has been assigned to your comment is SolarD10919.

Comment Date: April 12, 2011 19:01:10PM
Solar Energy Development PEIS
Comment ID: SolarD10919

First Name: Jonathan
Middle Initial:
Last Name: Diaz
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sarah Gallagher.

The comment tracking number that has been assigned to your comment is SolarD10920.

Comment Date: April 12, 2011 19:01:11PM
Solar Energy Development PEIS
Comment ID: SolarD10920

First Name: Sarah
Middle Initial:
Last Name: Gallagher
Organization:
Address: 1136 First Avenue
Address 2:
Address 3:
City: New York
State: NY
Zip: 10065
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Indeed, for once, please Obama administration, don't cave to expediency.

Thank you for your comment, William Seyfried Jr.

The comment tracking number that has been assigned to your comment is SolarD10921.

Comment Date: April 12, 2011 19:01:35PM
Solar Energy Development PEIS
Comment ID: SolarD10921

First Name: William
Middle Initial: M
Last Name: Seyfried Jr
Organization:
Address: 701 California Avenue
Address 2: Unit A
Address 3:
City: Boulder City
State: NV
Zip: 89005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
- Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10922.

Comment Date: April 12, 2011 19:01:48PM
Solar Energy Development PEIS
Comment ID: SolarD10922

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Please develop Solar energy and keep us from oil drilling....

Thank you for your comment, Ransom Stone.

The comment tracking number that has been assigned to your comment is SolarD10923.

Comment Date: April 12, 2011 19:02:02PM
Solar Energy Development PEIS
Comment ID: SolarD10923

First Name: Ransom
Middle Initial: D
Last Name: Stone
Organization: Retired Army Colonel
Address: 415 SE 177th Ave. Unit 210
Address 2:
Address 3:
City: Vancouver
State: WA
Zip: 986834202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Get us to a sustainable energy plan for solar, wind, geothermal, and nuclear using guaranteed pricing and hydrogen liquid fuel starting now. Phase out coal and oil and biofuel as quickly as feasible.

Thank you for your comment, Sarah Gross Gowin.

The comment tracking number that has been assigned to your comment is SolarD10924.

Comment Date: April 12, 2011 19:02:09PM
Solar Energy Development PEIS
Comment ID: SolarD10924

First Name: Sarah
Middle Initial:
Last Name: Gross Gowin
Organization:
Address: 7651 Highland Woods Ct
Address 2:
Address 3:
City: Lorton
State: VA
Zip: 22079
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- 1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Malinda Conger.

The comment tracking number that has been assigned to your comment is SolarD10925.

Comment Date: April 12, 2011 19:02:54PM
Solar Energy Development PEIS
Comment ID: SolarD10925

First Name: Malinda
Middle Initial:
Last Name: Conger
Organization: NA
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Our National Parks are America's treasure and we need to do everything possible to protect them for future generations. At the same time, alternative energy sources that can help reduce our dependence on fossil fuels must be pursued. Both of these ideals can be considered and realized in an integrated approach.

Thank you for your comment, Jana Lane.

The comment tracking number that has been assigned to your comment is SolarD10926.

Comment Date: April 12, 2011 19:03:24PM

Solar Energy Development PEIS

Comment ID: SolarD10926

First Name: Jana

Middle Initial: C

Last Name: Lane

Organization: None

Address: 11 Hillcrest Court

Address 2:

Address 3:

City: Oakland

State: CA

Zip: 94619

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Developing solar energy is urgent but it must be done in ways that don't damage our national parks and other fragile places.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10927.

Comment Date: April 12, 2011 19:05:09PM
Solar Energy Development PEIS
Comment ID: SolarD10927

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Solar Energy development sites should be chosen responsibly and on turf already cemented-over and sitting in squalor and deterioration - they should be re-development projects. Destroying natural habitat, natural resources and un-developed public lands would be short-sighted, malicious, and un-necessary. It is high-time for the American people to witness political officials complete public-interest projects correctly, properly, and intelligently.

Thank you for your comment, Michael Rotcher.

The comment tracking number that has been assigned to your comment is SolarD10928.

Comment Date: April 12, 2011 19:07:59PM
Solar Energy Development PEIS
Comment ID: SolarD10928

First Name: Michael
Middle Initial:
Last Name: Rotcher
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Carmi Strom.

The comment tracking number that has been assigned to your comment is SolarD10929.

Comment Date: April 12, 2011 19:09:22PM
Solar Energy Development PEIS
Comment ID: SolarD10929

First Name: Carmi
Middle Initial:
Last Name: Strom
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission of building solar energy. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to

Thank you for your comment, Matthew Cloner.

The comment tracking number that has been assigned to your comment is SolarD10930.

Comment Date: April 12, 2011 19:10:24PM
Solar Energy Development PEIS
Comment ID: SolarD10930

First Name: Matthew
Middle Initial: L
Last Name: Cloner
Organization:
Address: P.O. Box 58623
Address 2:
Address 3:
City: Tukwila
State: WA
Zip: 98138
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Carroll Arkema.

The comment tracking number that has been assigned to your comment is SolarD10931.

Comment Date: April 12, 2011 19:10:34PM
Solar Energy Development PEIS
Comment ID: SolarD10931

First Name: Carroll
Middle Initial:
Last Name: Arkema
Organization:
Address: 221 Ringwood Ave - A3
Address 2:
Address 3: 221 Ringwood Ave - A3
City: Pompton Lakes
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy, yes!
In National Parks, No!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10932.

Comment Date: April 12, 2011 19:10:46PM
Solar Energy Development PEIS
Comment ID: SolarD10932

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Currently there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- 1) The Riverside East SEZ should be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2) The Iron Mountain SEZ should be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3) The Amargosa Valley SEZ should be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jeff Bjorn.

The comment tracking number that has been assigned to your comment is SolarD10933.

Comment Date: April 12, 2011 19:13:07PM
Solar Energy Development PEIS
Comment ID: SolarD10933

First Name: Jeff
Middle Initial:
Last Name: Bjorn
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Specifically, the Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

In addition, the Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

Also, the Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my views.

Sincerely,

Jeff Bjorn
Portland, Oregon

Thank you for your comment, Elke Hoppenbrouwers.

The comment tracking number that has been assigned to your comment is SolarD10934.

Comment Date: April 12, 2011 19:13:59PM
Solar Energy Development PEIS
Comment ID: SolarD10934

First Name: Elke
Middle Initial:
Last Name: Hoppenbrouwers
Organization:
Address: 152 Allison Way
Address 2:
Address 3:
City: East Haven
State: CT
Zip: 06512
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am all for clean energy, that is for wind and solar power. But both of those energies have to take into account that they might endanger wildlife. Animals have a hard enough time surviving with our encroaching on their natural habitat that we cannot restrict them any further. There are many places where solar power panels/plants can be placed without doing any damage to the environment and the native animal world.

Thank you for your comment, Roger Bultot.

The comment tracking number that has been assigned to your comment is SolarD10935.

Comment Date: April 12, 2011 19:14:59PM
Solar Energy Development PEIS
Comment ID: SolarD10935

First Name: Roger
Middle Initial: A
Last Name: Bultot
Organization: FINE ART
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Patricia Wade.

The comment tracking number that has been assigned to your comment is SolarD10936.

Comment Date: April 12, 2011 19:15:05PM
Solar Energy Development PEIS
Comment ID: SolarD10936

First Name: Patricia
Middle Initial: B
Last Name: Wade
Organization: PBWCO
Address: 4215 South Erie Ave
Address 2:
Address 3: 4215 South Erie Ave
City: Tulsa
State: OK
Zip: 74135
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please be sure your solar energy zones protect national park wildlife as well as the scenery, archaeological sites, water resources, and other benefits in our parks.

We need to be sure they are carefully preserved for many generations to come.

Thank you for your comment, Mark Newlon.

The comment tracking number that has been assigned to your comment is SolarD10937.

Comment Date: April 12, 2011 19:17:13PM
Solar Energy Development PEIS
Comment ID: SolarD10937

First Name: Mark
Middle Initial: A
Last Name: Newlon
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We must focus on renewable energy sources. This will provide a better planet for us and our childrens children.

Thank you for your comment, Valerie Lonneman.

The comment tracking number that has been assigned to your comment is SolarD10938.

Comment Date: April 12, 2011 19:17:29PM
Solar Energy Development PEIS
Comment ID: SolarD10938

First Name: Valerie
Middle Initial:
Last Name: Lonneman
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Please make sure that the Riverside East, Iron Mountain, Amargosa Valley, and Red Sands Solar Energy Zones do not threaten the wilderness and wildlife that surround them. To that end, please commit to consulting with the National Park Service to determine whether projects in sensitive areas unacceptably impact or diminish national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. Please keep our environment at the forefront of decision-making, lest we diminish our precious wilderness areas as we bring more renewable energy to fruition.

Thank you for your comment, dianea kohl.

The comment tracking number that has been assigned to your comment is SolarD10939.

Comment Date: April 12, 2011 19:18:07PM
Solar Energy Development PEIS
Comment ID: SolarD10939

First Name: dianea
Middle Initial: a
Last Name: kohl
Organization:
Address: 4 gray road
Address 2:
Address 3:
City: ithaca
State: NY
Zip: 14850
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

wE NEED TO ALWAYS PROTECT OUR ENVIRONMENT AS WE MAKE PROGRESS TOWARD MORE SOLAR ENERGY.

Thank you for your comment, Linda Catlin.

The comment tracking number that has been assigned to your comment is SolarD10940.

Comment Date: April 12, 2011 19:19:06PM
Solar Energy Development PEIS
Comment ID: SolarD10940

First Name: Linda
Middle Initial:
Last Name: Catlin
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Linda Catlin

Thank you for your comment, Tobi Zausner.

The comment tracking number that has been assigned to your comment is SolarD10941.

Comment Date: April 12, 2011 19:19:58PM
Solar Energy Development PEIS
Comment ID: SolarD10941

First Name: Tobi
Middle Initial:
Last Name: Zausner
Organization:
Address: 137 E 38th St Apt 6j
Address 2:
Address 3:
City: New York
State: NY
Zip: 100162620
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The USA needs clean energy

Thank you for your comment, Christopher McCausland.

The comment tracking number that has been assigned to your comment is SolarD10942.

Comment Date: April 12, 2011 19:21:00PM
Solar Energy Development PEIS
Comment ID: SolarD10942

First Name: Christopher
Middle Initial: J
Last Name: McCausland
Organization:
Address: 304 E Marshall St Apt 732
Address 2:
Address 3:
City: West Chester
State: PA
Zip: 19380
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy grids need to be brought on line as we will soon see more and more of the effects of carbon based fuel burn-off, in the form of carbon monoxide, dioxide and methane gases, which from natural gas are increasing green house gases ten-fold. Our climate is a fickle thing, and in the past ice ages, hot and dry periods that lasted thousands of years were brought on in a matter of decades. This was brought on by increased solar and volcanic activity, ice cap melting and warm ocean current dilution, to name the major reasons for climate change. We are most definitely speeding up this natural cycle, in an un-natural way. More forward-thinking, scientific, yet compassionate individuals in all professions, and walks of life need to march on toward a future driven by the most powerful natural energy source, with only good effects on the environment, our wildlife and their natural habitats, and our future generation of what will soon be endangered as a species... human beings. Let's get it together and work towards a promising, healthy, and wholesome future for our children, and start to wean ourselves off a finite resource, that is only toxic for our planet. Thank you, and God Bless America!

Thank you for your comment, Robert McArtor.

The comment tracking number that has been assigned to your comment is SolarD10943.

Comment Date: April 12, 2011 19:22:59PM
Solar Energy Development PEIS
Comment ID: SolarD10943

First Name: Robert
Middle Initial:
Last Name: McArtor
Organization:
Address: 2312 Blythe Rd
Address 2:
Address 3:
City: Wilmington
State: NC
Zip: 284038012
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to develop better technology for solar than currently available, i.e. more cost effective solar cells. When that is available distribution of solar fields must be very selective in site selection. Among the important considerations are to protect migration pathways of major wildlife and to protect designated Wilderness areas, National Parks etc.

Thank you for your comment, Daviann McClurg.

The comment tracking number that has been assigned to your comment is SolarD10944.

Comment Date: April 12, 2011 19:22:59PM
Solar Energy Development PEIS
Comment ID: SolarD10944

First Name: Daviann
Middle Initial:
Last Name: McClurg
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

?The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
?The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
?The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
?Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks.

Thank you for your comment, Richard Cogan.

The comment tracking number that has been assigned to your comment is SolarD10945.

Comment Date: April 12, 2011 19:23:37PM
Solar Energy Development PEIS
Comment ID: SolarD10945

First Name: Richard
Middle Initial: V
Last Name: Cogan
Organization:
Address: 5832 Cleveland St.
Address 2:
Address 3:
City: Morton Grove
State: IL
Zip: 600533320
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Chris Rice.

The comment tracking number that has been assigned to your comment is SolarD10946.

Comment Date: April 12, 2011 19:26:25PM
Solar Energy Development PEIS
Comment ID: SolarD10946

First Name: Chris
Middle Initial:
Last Name: Rice
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Keep our parks safe AND energy efficient!

Thank you for your comment, Frank Watrous.

The comment tracking number that has been assigned to your comment is SolarD10947.

Comment Date: April 12, 2011 19:26:52PM
Solar Energy Development PEIS
Comment ID: SolarD10947

First Name: Frank
Middle Initial: T
Last Name: Watrous
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support the collection and utilization of solar energy. However, I do not support its development in or immediately near critical natural areas, to include parks and monuments, wilderness areas, national forests, wildlife refuges, or any lands that are under consideration for such designations.

Thank you for your comment, Michael Vanderhorst.

The comment tracking number that has been assigned to your comment is SolarD10948.

Comment Date: April 12, 2011 19:27:24PM
Solar Energy Development PEIS
Comment ID: SolarD10948

First Name: Michael
Middle Initial:
Last Name: Vanderhorst
Organization: myohionatives.com
Address:
Address 2:
Address 3:
City:
State: OH
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any chance we have to further alternative energy should be taken. Politicians say we do not have the means to use anything but oil, thats because we don't try to use anything else. Options for solar are good and should be used in a way that does not take from the land.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10949.

Comment Date: April 12, 2011 19:27:43PM
Solar Energy Development PEIS
Comment ID: SolarD10949

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

One can support an amended Solar Energy Zone alternative,

Four proposed Solar Energy Zones (SEZ) threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources.
Similarly, the Red Sands SEZ threatens water resources.
Solar projects sited within 15 miles of a national park boundary should trigger consultation with the National Park Service.

Thank you for your comment, Joseph Vincent.

The comment tracking number that has been assigned to your comment is SolarD10950.

Comment Date: April 12, 2011 19:28:31PM
Solar Energy Development PEIS
Comment ID: SolarD10950

First Name: Joseph
Middle Initial: I
Last Name: Vincent
Organization:
Address: 509 Third Avenue
Address 2:
Address 3:
City: Harvey
State: LA
Zip: 700582727
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm all in favor of solar, but let's make sure we don't sacrifice other things/places of value as we attempt to pursue a worthy goal.

Thank you for your comment, Richard Creswell.

The comment tracking number that has been assigned to your comment is SolarD10951.

Comment Date: April 12, 2011 19:30:09PM
Solar Energy Development PEIS
Comment ID: SolarD10951

First Name: Richard
Middle Initial: J
Last Name: Creswell
Organization:
Address: 2557 S Dover St #88
Address 2:
Address 3:
City: Lakewood
State: CO
Zip: 802273161
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I approve solar development on public lands but only if such development is designed to minimize conflict with birds and other wildlife.

Thank you for your comment, Subrata Sircar.

The comment tracking number that has been assigned to your comment is SolarD10952.

Comment Date: April 12, 2011 19:31:08PM
Solar Energy Development PEIS
Comment ID: SolarD10952

First Name: Subrata
Middle Initial:
Last Name: Sircar
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support the use of solar energy in national parks, particularly where the environmental impact can be minimized (roofs of all existing buildings, otherwise inaccessible locations that don't support nesting birds and so forth).

Thank you for your comment, Carol Newton.

The comment tracking number that has been assigned to your comment is SolarD10953.

Comment Date: April 12, 2011 19:31:39PM
Solar Energy Development PEIS
Comment ID: SolarD10953

First Name: Carol
Middle Initial: A
Last Name: Newton
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Think the development of energy all the way through and plan to really improve our all aspects of our environment, including wild places and aesthetics.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10954.

Comment Date: April 12, 2011 19:33:12PM
Solar Energy Development PEIS
Comment ID: SolarD10954

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Heidi Blanck.

The comment tracking number that has been assigned to your comment is SolarD10955.

Comment Date: April 12, 2011 19:34:56PM
Solar Energy Development PEIS
Comment ID: SolarD10955

First Name: Heidi
Middle Initial: L
Last Name: Blanck
Organization:
Address: 1508 Pangborn Station Dr
Address 2:
Address 3:
City: Decatur
State: GA
Zip: 30033
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hello. As the mother of two children who actively seek out green space including local, state, and national parks, our family is keenly aware of the need for new energy initiatives. Therefore we are writing to ask you to amend the Solar Energy Zone alternative. We ask you to consider concentrating solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your openness to input.

Sincerely, Heidi Blanck, PhD

Thank you for your comment, Liz Amsden.

The comment tracking number that has been assigned to your comment is SolarD10956.

Comment Date: April 12, 2011 19:35:48PM
Solar Energy Development PEIS
Comment ID: SolarD10956

First Name: Liz
Middle Initial:
Last Name: Amsden
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Renewable energy must be embraced if we are to reduce greenhouse gases, reduce global warming and reduce American dependence on foreign oil.

However, we need to take care that we don't rush headlong into creating worse problems for our country. Environmental impact studies must be done and over a suitable period of time. ALL sources that will impact the environment at any level, whether it be construction, conversion or delivery, MUST be addressed.

We don't want another debacle such as the foray into ethanol where the demand for corn for energy purposes adversely impacted costs for livestock feed and human nutrition.

We also do not want to see natural habitats destroyed be it for elk or tortoises.

Be smart and get it right the first time.

Thank you for your comment, laurie harris.

The comment tracking number that has been assigned to your comment is SolarD10957.

Comment Date: April 12, 2011 19:39:23PM
Solar Energy Development PEIS
Comment ID: SolarD10957

First Name: laurie
Middle Initial: c
Last Name: harris
Organization:
Address: 1126 horseshoe bend
Address 2:
Address 3:
City: irving
State: TX
Zip: 75061
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Let's be smart about energy. It is not necessary to build wind mills or other clean energy solutions in or near national parks or other places where they cause damage to our environment. Duh!

Thank you for your comment, Charles McCall.

The comment tracking number that has been assigned to your comment is SolarD10958.

Comment Date: April 12, 2011 19:40:43PM
Solar Energy Development PEIS
Comment ID: SolarD10958

First Name: Charles
Middle Initial:
Last Name: McCall
Organization:
Address: 278 Vine St.
Address 2:
Address 3: 278 Vine St.
City: West Bend
State: WI
Zip: 53095
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development

Thank you for your comment, Dorothy Shaw.

The comment tracking number that has been assigned to your comment is SolarD10959.

Comment Date: April 12, 2011 19:41:09PM
Solar Energy Development PEIS
Comment ID: SolarD10959

First Name: Dorothy
Middle Initial: S
Last Name: Shaw
Organization: Georgia Peace and Justice
Address:
Address 2:
Address 3:
City: Atlanta
State: GA
Zip: 30039
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is my favorite.

Thank you for your comment, Patricia Nickles.

The comment tracking number that has been assigned to your comment is SolarD10960.

Comment Date: April 12, 2011 19:41:26PM
Solar Energy Development PEIS
Comment ID: SolarD10960

First Name: Patricia
Middle Initial:
Last Name: Nickles
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my views.

Thank you for your comment, David Bauer.

The comment tracking number that has been assigned to your comment is SolarD10961.

Comment Date: April 12, 2011 19:43:03PM
Solar Energy Development PEIS
Comment ID: SolarD10961

First Name: David
Middle Initial:
Last Name: Bauer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Shearle Furnish.

The comment tracking number that has been assigned to your comment is SolarD10962.

Comment Date: April 12, 2011 19:43:28PM
Solar Energy Development PEIS
Comment ID: SolarD10962

First Name: Shearle
Middle Initial:
Last Name: Furnish
Organization:
Address: 6943 Knauf Road
Address 2:
Address 3:
City: Canfield
State: OH
Zip: 444069762
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is great for the nation but potentially intrusive where landscapes, wilderness, or built environments have a distinctive historic or pristine nature.

The siting of solar installations is sensitive and requires careful vetting. Oversight and regulation are absolutely required

Thank you for your comment, Christine Sullivan.

The comment tracking number that has been assigned to your comment is SolarD10963.

Comment Date: April 12, 2011 19:43:39PM
Solar Energy Development PEIS
Comment ID: SolarD10963

First Name: Christine
Middle Initial:
Last Name: Sullivan
Organization:
Address: 3134 Occidental Street
Address 2:
Address 3:
City: San Diego
State: CA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Margaret and Art Walsh.

The comment tracking number that has been assigned to your comment is SolarD10964.

Comment Date: April 12, 2011 19:46:10PM
Solar Energy Development PEIS
Comment ID: SolarD10964

First Name: Margaret and Art
Middle Initial:
Last Name: Walsh
Organization:
Address: 123 Mountain Way
Address 2:
Address 3:
City: Morris Plains
State: NJ
Zip: 07950
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

It is also vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Nancy Brown.

The comment tracking number that has been assigned to your comment is SolarD10965.

Comment Date: April 12, 2011 19:46:40PM
Solar Energy Development PEIS
Comment ID: SolarD10965

First Name: Nancy
Middle Initial: K
Last Name: Brown
Organization: Full Moon Farm, Inc.
Address: 39 Full Moon Tr.
Address 2:
Address 3:
City: Black Mountain
State: NC
Zip: 28711
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Thank you for your comment, E Gail Walder.

The comment tracking number that has been assigned to your comment is SolarD10966.

Comment Date: April 12, 2011 19:47:29PM
Solar Energy Development PEIS
Comment ID: SolarD10966

First Name: E Gail
Middle Initial:
Last Name: Walder
Organization:
Address: 4633 Chestnut Road
Address 2:
Address 3:
City: Newfane
State: NY
Zip: 14108
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
E Gail Walder

Thank you for your comment, Gretchen Berger.

The comment tracking number that has been assigned to your comment is SolarD10967.

Comment Date: April 12, 2011 19:47:29PM
Solar Energy Development PEIS
Comment ID: SolarD10967

First Name: Gretchen
Middle Initial:
Last Name: Berger
Organization:
Address: 234 W. 74 St.
Address 2:
Address 3:
City: New York
State: NY
Zip: 10023
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We've seen the effects of the BP oil spill and many others, the Middle East crisis on our oil prices, the dangers of fracking on the environment, and now the Fukushima nuclear disaster. So here comes the Sun! Let be smart and cautious for the future and generations to come.

Thank you for your comment, Janet Taggart.

The comment tracking number that has been assigned to your comment is SolarD10968.

Comment Date: April 12, 2011 19:49:29PM
Solar Energy Development PEIS
Comment ID: SolarD10968

First Name: Janet
Middle Initial: S
Last Name: Taggart
Organization:
Address: PO Box 335810
Address 2:
Address 3:
City: North Las Vegas
State: NV
Zip: 89033
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Having recently moved to North Las Vegas, NV, I am anxious to see solar energy developed. However, I believe solar energy should be developed only in solar energy zones that don't compromise national parks and our enjoyment of them presently and for future generations. I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

These are magnificent areas in our country enjoyed regularly and respected. Our prestigious national park lands should be preserved, especially considering other lands that are available. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Bruno.

The comment tracking number that has been assigned to your comment is SolarD10969.

Comment Date: April 12, 2011 19:50:12PM
Solar Energy Development PEIS
Comment ID: SolarD10969

First Name: Robert
Middle Initial:
Last Name: Bruno
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

After the debacle in Japan,we should embrace Solar systems

Thank you for your comment, Michelle Moody.

The comment tracking number that has been assigned to your comment is SolarD10970.

Comment Date: April 12, 2011 19:50:26PM
Solar Energy Development PEIS
Comment ID: SolarD10970

First Name: Michelle
Middle Initial: P
Last Name: Moody
Organization:
Address: 237 Foreside Road
Address 2:
Address 3:
City: Topsham
State: ME
Zip: 040865103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My husband and I urge you to take every precaution in deciding where solar energy will be placed in the future on public land. Please avoid damage to scenic resources, wildlife, environmentally sensitive areas, archaeological sites, water resources, and night sky viewing. While we support solar energy, we want to ensure the opportunity for present and future generations to fully enjoy America's heritage.

We are already struggling in Maine with visual impact on the Appalachian Trail from wind power. Clearing large areas of land and building roads and power lines to move the electricity may do more harm than good in energy gained.

Thank you in advance for your thoughtful review of this issue.

Thank you for your comment, Cherylta Cruz-Ellis.

The comment tracking number that has been assigned to your comment is SolarD10971.

Comment Date: April 12, 2011 19:51:23PM
Solar Energy Development PEIS
Comment ID: SolarD10971

First Name: Cherylta
Middle Initial: C
Last Name: Cruz-Ellis
Organization:
Address: PMB#88 2514 Jamacha Road
Address 2: Suite 502
Address 3:
City: El Cajon
State: CA
Zip: 92019
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe solar energy is a better way to go as long as it does not take away from the natural beauty of the area it is going to be in in such a way that it is what you notice more than the beauty of nature.

Thank you for your comment, Helen Keegan.

The comment tracking number that has been assigned to your comment is SolarD10972.

Comment Date: April 12, 2011 19:51:55PM
Solar Energy Development PEIS
Comment ID: SolarD10972

First Name: Helen
Middle Initial:
Last Name: Keegan
Organization:
Address: 7840 W. 59th Avenue
Address 2:
Address 3:
City: Arvada
State: CO
Zip: 80004
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Lois Allaire.

The comment tracking number that has been assigned to your comment is SolarD10973.

Comment Date: April 12, 2011 19:52:01PM
Solar Energy Development PEIS
Comment ID: SolarD10973

First Name: Lois
Middle Initial:
Last Name: Allaire
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I applaud efforts to beef up the solar energy approach to our energy crisis and also want to assure that it is done thoughtfully and well, i.e., preserving important areas of our natural resources.

Thank you for your comment, Drena LaPointe-Meyer.

The comment tracking number that has been assigned to your comment is SolarD10974.

Comment Date: April 12, 2011 19:52:32PM
Solar Energy Development PEIS
Comment ID: SolarD10974

First Name: Drena
Middle Initial:
Last Name: LaPointe-Meyer
Organization:
Address: 338 E Vaughn Avenue
Address 2:
Address 3:
City: Gilbert
State: AZ
Zip: 85234
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time!

Thank you for your comment, Theodore Thomas.

The comment tracking number that has been assigned to your comment is SolarD10975.

Comment Date: April 12, 2011 19:53:30PM
Solar Energy Development PEIS
Comment ID: SolarD10975

First Name: Theodore
Middle Initial: W
Last Name: Thomas
Organization:
Address: 2519 Schaaf Dr
Address 2:
Address 3:
City: Columbus
State: OH
Zip: 432093209
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Earlene Webster.

The comment tracking number that has been assigned to your comment is SolarD10976.

Comment Date: April 12, 2011 19:53:40PM
Solar Energy Development PEIS
Comment ID: SolarD10976

First Name: Earlene
Middle Initial: H
Last Name: Webster
Organization:
Address: 4300 Filmore Rd.
Address 2:
Address 3:
City: Greensboro
State: NC
Zip: 27409
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is very important but should be located where it will not impact places like Joshua Tree and White Sands. Please work with park officials to locate in appropriate areas.

Thank you for your comment, Rose Bruno.

The comment tracking number that has been assigned to your comment is SolarD10977.

Comment Date: April 12, 2011 19:54:42PM
Solar Energy Development PEIS
Comment ID: SolarD10977

First Name: Rose
Middle Initial:
Last Name: Bruno
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I think solar is our future;we sure don't want a repeat of the Japanese fiasco

Thank you for your comment, Addie Smock.

The comment tracking number that has been assigned to your comment is SolarD10978.

Comment Date: April 12, 2011 19:54:54PM
Solar Energy Development PEIS
Comment ID: SolarD10978

First Name: Addie
Middle Initial: D
Last Name: Smock
Organization:
Address: 365 5th St
Address 2:
Address 3:
City: Brooklyn
State: NY
Zip: 11215
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Russell Collins.

The comment tracking number that has been assigned to your comment is SolarD10979.

Comment Date: April 12, 2011 19:55:29PM
Solar Energy Development PEIS
Comment ID: SolarD10979

First Name: Russell
Middle Initial:
Last Name: Collins
Organization:
Address: 411 Highland Ave
Address 2:
Address 3:
City: Galloway
State: NJ
Zip: 08205
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks. Please.....we need to be very careful in choosing the sites. We need both, the parks and the zones, but NOT on top of each other. Let us use good judgement here, OK???

RDC

Thank you for your comment, Sheryl Iversen.

The comment tracking number that has been assigned to your comment is SolarD10980.

Comment Date: April 12, 2011 19:58:48PM
Solar Energy Development PEIS
Comment ID: SolarD10980

First Name: Sheryl
Middle Initial:
Last Name: Iversen
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy is a great idea and I hope it can be established in our national parks.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

So please do this carefully and mindfully.

Thank you for your comment, Norman Hartz.

The comment tracking number that has been assigned to your comment is SolarD10981.

Comment Date: April 12, 2011 19:59:11PM
Solar Energy Development PEIS
Comment ID: SolarD10981

First Name: Norman
Middle Initial:
Last Name: Hartz
Organization: N/A
Address: 14-D Stewart Place
Address 2:
Address 3: 14-D Stewart Place
City: Fair Lawn
State: NJ
Zip: 07410
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Do the RIGHT thing for our environment. . . our future. . . and the future of our children and grand children!

Thank you for your comment, Gay Kramer-Dodd.

The comment tracking number that has been assigned to your comment is SolarD10982.

Comment Date: April 12, 2011 19:59:22PM
Solar Energy Development PEIS
Comment ID: SolarD10982

First Name: Gay
Middle Initial: D
Last Name: Kramer-Dodd
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I firmly believe in renewable energy sources and would love to see solar installations all over our country. It is crucial, however, that these solar collectors not be placed in areas where they compromise the natural environment -- such as interfering with breeding grounds, migration routes, or sensitive plant species.

Thank you for your comment, dennis barrett.

The comment tracking number that has been assigned to your comment is SolarD10983.

Comment Date: April 12, 2011 20:01:43PM
Solar Energy Development PEIS
Comment ID: SolarD10983

First Name: dennis
Middle Initial:
Last Name: barrett
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Maureen McCarthy.

The comment tracking number that has been assigned to your comment is SolarD10984.

Comment Date: April 12, 2011 20:04:22PM
Solar Energy Development PEIS
Comment ID: SolarD10984

First Name: Maureen
Middle Initial:
Last Name: McCarthy
Organization:
Address:
Address 2:
Address 3:
City:
State: MA
Zip: 01945
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear President Obama,

I implore you to save vital medicare and medicaid programs, avoid imposing more strain on struggling Americans, and increase taxes for the corporations and wealthier citizens who can AFFORD to pay more. We are barely making it week to week with the high cost of food and fuel and housing. Savings are a thing of the past. Please remember your campaign promises. I trust that you do, and that you WILL do the right thing.

Thank you for your comment, Wes Reutimann.

The comment tracking number that has been assigned to your comment is SolarD10985.

Comment Date: April 12, 2011 20:10:11PM
Solar Energy Development PEIS
Comment ID: SolarD10985

First Name: Wes
Middle Initial:
Last Name: Reutimann
Organization:
Address: 1215 S. Euclid Ave.
Address 2:
Address 3:
City: Pasadena
State: CA
Zip: 91106
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

At present there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kathleen Golden.

The comment tracking number that has been assigned to your comment is SolarD10986.

Comment Date: April 12, 2011 20:11:31PM
Solar Energy Development PEIS
Comment ID: SolarD10986

First Name: Kathleen
Middle Initial: H
Last Name: Golden
Organization:
Address: PO Box 957
Address 2:
Address 3:
City: Volcano
State: HI
Zip: 96785
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Support Solar Energy and protect our National Parks.

Thank you for your comment, EVA ADAMYAN.

The comment tracking number that has been assigned to your comment is SolarD10987.

Comment Date: April 12, 2011 20:12:08PM

Solar Energy Development PEIS

Comment ID: SolarD10987

First Name: EVA

Middle Initial:

Last Name: ADAMYAN

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

NEED TO BE CLEAR OUT ALL THE PROBLEMS WE FACE

Thank you for your comment, Jim Bird.

The comment tracking number that has been assigned to your comment is SolarD10988.

Comment Date: April 12, 2011 20:12:54PM

Solar Energy Development PEIS

Comment ID: SolarD10988

First Name: Jim

Middle Initial:

Last Name: Bird

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

It makes no sense to endanger some of the very things we are trying to preserve,

Thank you for your comment, Lynn Crandall.

The comment tracking number that has been assigned to your comment is SolarD10989.

Comment Date: April 12, 2011 20:13:10PM
Solar Energy Development PEIS
Comment ID: SolarD10989

First Name: Lynn
Middle Initial:
Last Name: Crandall
Organization:
Address: 2050 W SR 89A
Address 2:
Address 3:
City: Cottonwood
State: AZ
Zip: 863265114
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, my family and friends strongly support the Solar Energy Zone alternative, which would avoid conflicts with national park resources and sensitive desert ecology. There are four proposed Solar Energy Zones that threaten our national parks: Riverside East SEZ,; Iron Mountain SEZ; Armargosa Valley SEZ; and the Red Sands SEZ. Each threatens the ecology of the adjacent parks wilderness areas, and monuments.

If you would consult with the NPS when these proposed sites are within 15 miles of a park boundary, there could be a meeting of the minds, regarding impact and conflict of interest to the resources or visitor enjoyment. I'm sure that an accord can be reached to save these places and still have solar energy development which we are very pleased to see happen. It just takes sitting down and talking about the best way to do it.

Please be sure the BLM includes proposed national parks, wilderness areas and national monuments as high conflict areas for industrial solar development. Thank you for considering these reasonable requests to protect our wonderful heritage, while making a big step forward in alternative energy.

Thank you for your comment, Michelle Ku.

The comment tracking number that has been assigned to your comment is SolarD10990.

Comment Date: April 12, 2011 20:15:45PM
Solar Energy Development PEIS
Comment ID: SolarD10990

First Name: Michelle
Middle Initial:
Last Name: Ku
Organization:
Address: 212 S Olive St
Address 2:
Address 3:
City: Denver
State: CO
Zip: 80230
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, David Collins.

The comment tracking number that has been assigned to your comment is SolarD10991.

Comment Date: April 12, 2011 20:18:18PM
Solar Energy Development PEIS
Comment ID: SolarD10991

First Name: David
Middle Initial: A
Last Name: Collins
Organization:
Address: 115 E Main St
Address 2:
Address 3:
City: Flemingsburg
State: KY
Zip: 41041
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The National Park System needs to develop plans and policies for renewable energy use at park facilities to reduce the use of fossil fuels and protect our environment. These renewable projects should be sensitive to the setting, resources, scenery and historic fabric, while demonstrating wise use of funds and conservation.

Thank you for your comment, Gail Camhi.

The comment tracking number that has been assigned to your comment is SolarD10992.

Comment Date: April 12, 2011 20:18:26PM
Solar Energy Development PEIS
Comment ID: SolarD10992

First Name: Gail
Middle Initial:
Last Name: Camhi
Organization:
Address: 4 Fallen Leaf Way
Address 2:
Address 3:
City: Novato
State: CA
Zip: 94949
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy must be implemented on a vast scale -- but our parks should not be harmed in any way by solar installations situated in them.

Thank you for your comment, Don Schwarz.

The comment tracking number that has been assigned to your comment is SolarD10993.

Comment Date: April 12, 2011 20:20:09PM
Solar Energy Development PEIS
Comment ID: SolarD10993

First Name: Don
Middle Initial:
Last Name: Schwarz
Organization:
Address: 3388 Lennox Court
Address 2:
Address 3:
City: Lawrenceville
State: GA
Zip: 300445616
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment.

Thank you for your comment, Jenny O'Neil.

The comment tracking number that has been assigned to your comment is SolarD10994.

Comment Date: April 12, 2011 20:21:08PM
Solar Energy Development PEIS
Comment ID: SolarD10994

First Name: Jenny
Middle Initial:
Last Name: O'Neil
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Thank you for your comment, Charles Wolfe.

The comment tracking number that has been assigned to your comment is SolarD10995.

Comment Date: April 12, 2011 20:23:12PM
Solar Energy Development PEIS
Comment ID: SolarD10995

First Name: Charles
Middle Initial: A
Last Name: Wolfe
Organization:
Address: 13376 Dronfield Ave.
Address 2:
Address 3:
City: Sylmar
State: CA
Zip: 91342
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support the use of solar and wind energy. However, destruction of habitat for plants, animals, and other living things is not acceptable. There is always a way to avoid or minimize the negative effects of human activities.

Thank you for your comment, Catharine Lofroos.

The comment tracking number that has been assigned to your comment is SolarD10996.

Comment Date: April 12, 2011 20:24:13PM

Solar Energy Development PEIS

Comment ID: SolarD10996

First Name: Catharine

Middle Initial: J

Last Name: Lofroos

Organization:

Address: 101A Post

Address 2:

Address 3:

City: Petaluma

State: CA

Zip: 94952

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

get off the resin, go solar!

Thank you for your comment, Robert Hicks.

The comment tracking number that has been assigned to your comment is SolarD10997.

Comment Date: April 12, 2011 20:25:05PM
Solar Energy Development PEIS
Comment ID: SolarD10997

First Name: Robert
Middle Initial: A
Last Name: Hicks
Organization:
Address: 2999 E Ocean Blvd, #1740
Address 2:
Address 3: 2999 E Ocean Blvd, #1740
City: Long Beach
State: CA
Zip: 90803
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Joshua Seff.

The comment tracking number that has been assigned to your comment is SolarD10998.

Comment Date: April 12, 2011 20:25:32PM
Solar Energy Development PEIS
Comment ID: SolarD10998

First Name: Joshua
Middle Initial:
Last Name: Seff
Organization:
Address: 9508 George Washington Dr.
Address 2:
Address 3:
City: McKinney
State: TX
Zip: 750705815
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sue Stanton.

The comment tracking number that has been assigned to your comment is SolarD10999.

Comment Date: April 12, 2011 20:26:41PM
Solar Energy Development PEIS
Comment ID: SolarD10999

First Name: Sue
Middle Initial:
Last Name: Stanton
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, John Crow.

The comment tracking number that has been assigned to your comment is SolarD11747.

Comment Date: April 21, 2011 15:15:42PM
Solar Energy Development PEIS
Comment ID: SolarD11747

First Name: John
Middle Initial:
Last Name: Crow
Organization: Navy Region Southwest
Address: 937 N. Harbor Drive, Box 81
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 921320058
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: DoD Solar PEIS Comments-1 Apr 20 2011.docx

Comment Submitted:

As a Cooperating Agency, per the Memorandum of Agreement dated 8 July, 2009, these three attachments represent the DoD Regional Environmental Coordinator Region 9 installation-coordinated comments for the Solar Energy Development Draft Programmatic Environmental Impact Statement for solar energy development in the six southwestern state area. These comments were routed to and reviewed by the newly established DoD Energy Siting Clearinghouse in Washington, DC.

Please see the attached three files:

1. DoD Solar PEIS Comments-1 Apr 20 2011.
2. DoD Solar PEIS Comments-2 Apr 20 2011.
3. DoD Solar PEIS Comments-3 Apr 20 2011.

Thank you for the opportunity to review and comment on this important document. These comments were also submitted via email to Ms. Resseguie.
Submitted on behalf of DeEllen M. Brasher.

**Standard Review Form
Preliminary Draft Solar Energy Development PEIS**

Reviewer's Name: DeEllen Brasher
Reviewer's email address: deellen.brasher@navy.mil

Reviewer's Organization: DoD Regional Environmental Coordinator Region 9
Reviewer's Telephone numbers: (619) 532-2434

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Impacts to DoD

Section or Chapter Number and Date of Reviewed Document: Reviewed 20 April 11, Executive Summary

EIS Chap	Section/Line	Comment/Suggested Revision	Action (for use by ANL)
	General Comments	It is DoD's understanding that the proposed action in this Solar Energy Development PEIS is to develop and implement a new Solar Energy Program that would facilitate environmentally responsible utility-scale solar energy development by establishing environmental policies and design features (i.e., mitigation requirements) related to utility-scale solar energy development in six western states (Arizona, California, Colorado, New Mexico, Nevada, and Utah). Within these six states, the BLM has identified 24 proposed solar energy zones (SEZs) as areas where the BLM would prioritize development. Comments received from various installations addressing these areas have identified several impacts.	
		EXECUTIVE SUMMARY	
Exec Summary	General Comments	Since the DoD has analyzed these 24-study areas, we request that BLM and DOE limit the Solar PEIS to 22 of these 24 SEZs by eliminating the two areas: Delmar Valley and Dry Lake Valley North.	
		Development in several of the 22 remaining areas could have mission impacts to military readiness and would need to be reviewed on a case-by-case basis.	
		The attached DoD comments provide specifics as to the study area impacts and DoD's recommendation. Please see attached documents: DoD Solar PEIS Comments-2 Apr 20 2011, and DoD Solar PEIS Comments-3 Apr 20 2011.	

Thank you for your comment, John Crow.

The comment tracking number that has been assigned to your comment is SolarD11748.

Comment Date: April 21, 2011 15:18:16PM
Solar Energy Development PEIS
Comment ID: SolarD11748

First Name: John
Middle Initial:
Last Name: Crow
Organization: Navy Region Southwest
Address: 937 N. Harbor Drive, Box 81
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 921320058
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: DoD Solar PEIS Comments-2 Apr 20 2011.docx

Comment Submitted:

As a Cooperating Agency, per the Memorandum of Agreement dated 8 July, 2009, these three attachments represent the DoD Regional Environmental Coordinator Region 9 installation-coordinated comments for the Solar Energy Development Draft Programmatic Environmental Impact Statement for solar energy development in the six southwestern state area. These comments were routed to and reviewed by the newly established DoD Energy Siting Clearinghouse in Washington, DC.

Please see the attached three files:

1. DoD Solar PEIS Comments-1 Apr 20 2011.
2. DoD Solar PEIS Comments-2 Apr 20 2011.
3. DoD Solar PEIS Comments-3 Apr 20 2011.

Thank you for the opportunity to review and comment on this important document. These comments were also submitted via email to Ms. Resseguie.
Submitted on behalf of DeEllen M. Brasher.

**Standard Review Form
Preliminary Draft Solar Energy Development PEIS**

Reviewer's Name: Deborah MacNeill

Reviewer's Organization: 99 ABW/CCY

Reviewer's email address: Deborah.MacNeill@nellis.af.mil
7777/3488

Reviewer's Telephone numbers: 702 652-

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Impacts to DoD

Section or Chapter Number and Date of Reviewed Document: Reviewed 16 Feb 11

- Executive Summary
- Chap 11.1 Amargosa Valley
- Chap 11.2 Delamar Valley (Student Gap)
- Chap 11.3 Dry Lake
- Chap 11.4 Dry Lake (Texas Lake) Valley North
- Chap 11.5 East Mormon Mountain
- Chap 11.6 Gold Point
- Chap 11.7 Miller

EIS Chap	Section/Line	Comment/Suggested Revision	Action (for use by ANL)
	General Comments	The Nevada Test and Training Range (NTTR) represents 40% of the Air Force's (AF) land assets, 10% of Department of Defense's (DoD) land assets, and is an irreplaceable national security asset. The NTTR supports every aircraft type in the DoD inventory. Joint and allied partners conduct several highly specialized flying and ground combat testing and training missions on the NTTR in preparation for real-world joint combat operations worldwide. The NTTR is a pristine military testing and training laboratory built on 70 years of scientific research supporting military intelligence, arms, and radar advancement through the investment of an incalculable sum of	

		<p>federal funding. The training and testing environment provided by the NTTR cannot be replicated.</p> <p>Any development in the Upper Dry Lake (Texas Lake) Valley North SEZ or Delamar Valley (Student Gap) SEZ will have an immediate adverse impact to current and future DoD operations on the NTTR. Additionally, any development in these areas will have significant adverse mission impacts to military readiness (detailed below).</p> <p>As a result of the cumulative impacts, we request the proposed Delamar Valley (Student Gap) and Dry Lake (Texas Lake) Valley North sites be removed from consideration as solar development zones.</p> <p>MISSION IMPACTS:</p> <ol style="list-style-type: none">1) For decades, the Federal Aviation Administration (FAA) has authorized a Military Operations Area in the Dry Lake (Texas Lake) Valley North and Delamar Valley (Student Gap) region with an operating floor of 100 feet Above Ground Level (AGL). Nellis Air Force Base (NAFB) currently conducts approximately 50,000 tactical over-flights per year in these areas, which would increase to an estimated 63,000 flights following the beddown of F-35 Joint Strike Fighter aircraft on NAFB should the AF reach a Record of decision on this proposal. Air Force regulations require pilots to avoid structures by 500 feet, so any technology rising above ground level (including PV arrays) will place new and/or further restrictions on military operations. In addition, associated power lines further impact military flight operations by increasing the operating floor from the current altitude of 100 feet to altitudes exceeding 700 feet AGL over the 14,000 acres of proposed SEZ land, as well as surrounding areas.2) The proposed solar areas are on highly-utilized dry lake beds	
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		<p>in valleys critical to military operations. The dry lake beds are approved by the FAA for supersonic operations at 5,000 feet AGL and above. As such, these areas are highly susceptible to sonic booms and associated overpressures. The potential for and magnitude of damage that could result from approved supersonic flight activity may significantly impact the grid and network reliability.</p> <ol style="list-style-type: none"> 3) The United States Air Force Weapons School, the Air Force's premier tactical training school, regularly utilizes the Delamar Valley (Student Gap) dry lake bed for austere A-10 and C-130 aircraft landing training operations. Exercising landings and departures from austere, unimproved surfaces is critical to aircrews preparing for real-world global combat and contingency operations. The airspace directly above Delamar Valley (Student Gap) provides critical air refueling tracks supporting all military aircraft operating in the eastern sector of the NTTR. The location and availability of tactical air refueling tracks in the specified airspace is vital to flight safety and air traffic management. 4) At this time, it is unknown whether the proposed solar zones will impact other future ground-based training operations in these areas. 5) Radar Frequencies/Electromagnetic Interference (RF/EMI): Radar and radar jamming operations conducted by unique ground-based systems on the NTTR are incompatible with certain types of renewable energy technology. Notably, technologies requiring structures higher than 50 feet AGL present unacceptable electromagnetic compatibility and flight safety concerns on the NTTR. 6) Transmission lines: The demand for multiple, interconnected transmission lines to transport power from proposed SEZs to demand centers/marketplace may negatively impact airspace through increased altitude restrictions in low-level flight 	
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		<p>corridors and MOAs. Transmission lines (individually or through a cumulative effect) may create restrictions that adversely impact military testing and training capabilities on the NTTR.</p> <p>7) Thermal boundaries: Certain solar technologies release or emit extreme heat near and/or above their development. The extreme heat may create a thermal boundary that requires aircraft to avoid the area in order to prevent aircraft buffeting, damage, or accidents. Further, heat-sensitive armament may create a severe safety hazard for aircrew and ground-based personnel in the area.</p> <p>8) Glare: Depending on technology design features built at all proposed SEZs, reflective glare may create a severe safety hazard to pilots and aircraft, (including major force exercises such as RED FLAG and Weapons School Mission Employment Phase).</p> <p>9) Infrared targeting systems: Based on design specifications of concentrated solar towers, the heat being radiated by solar collectors at the top of the towers overlaps the same infra-red spectrum used by multiple DoD aircraft and weapon sensors during both test and training missions. Scientific analysis indicates that this spectrum overlap will cause unacceptable sensor degradation of systems as a function of the distance from solar towers.</p> <p>10) Cameras/security: Many solar technologies require the use of cameras for the targeting of mirrors on solar collectors. The use of high definition camera equipment on the NTTR presents a security concern for joint and allied aircraft test and training operations.</p> <p>11) Wireless systems: Electronic jamming on the NTTR is conducted on a regular basis. It is unknown how military operations could impact wirelessly controlled mirrors, or how disturbing mirror alignment could create a glare hazard to flight</p>	
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		<p>crews or navigation.</p> <p>DoD assesses that development in the Delamar Valley (Student Gap) and Dry Lake (Texas Lake) Valley North SEZs would create significant adverse impacts to military testing and training missions in the area. For reasons of safety and unacceptable mission impacts to joint and allied military operations, it is requested that both zones be removed from consideration as SEZs.</p>	
		EXECUTIVE SUMMARY	
Exec Summary	<p>ES.2.3.1 ES-7 Lines 5-6, 13</p>	<p>COMMENT: Nevada RE Goals (per Energy Policy Act of 2005 and Secretarial Order 3285A1) can be met without designating the Delamar Valley (Student Gap) and Dry Lake (Texas Lake) North locations as BLM SEZs. According to the BLM Preferred Alternative, approximately 9.5 million acres of BLM-administered land in Nevada would be available for ROW based on exclusions outlined. Further, SEZ lands would total more than 171,000 acres. According to table ES.2-3, total acreage proposed for the Delamar Valley (Student Gap) and Dry Lake (Texas Lake) North locations is 93,426 acres. If excluded, 9.4 million acres of BLM land would remain available for ROW, including 77,500 acres designated as SEZ areas with a lesser impact to military operations. In addition to power generated by private RE projects and those already authorized on BLM land in NV, the remaining 77,500 acres of BLM-administered SEZ land would be more than sufficient to meet current and future NV RE goals.</p>	
Exec Summary & Appendix A	<p>Required Elements of BLM's Proposed Solar Energy Program ES-11</p>	<p>Reference Appendix A, Section A.2.2, Table A.2-1 "Mitigation Plans Specified as Elements of proposed Design Features": Request the following be added in effort to mitigate adverse impacts to military operations:</p> <ul style="list-style-type: none"> -- Wireless Systems/Electrical Frequency Assessment, Mitigation and Monitoring Plan -- Security (or Security System) Plan 	

	<i>Appendix A, Section A.2.2</i>	-- Heat emissions Assessment, Mitigation and Monitoring Plan OR provide an all-encompassing: -- Military Operations Compatibility Assessment, Mitigation and Monitoring Plan.	
Exec Summary	<i>ES-14 Line 42-46</i>	The comment stating that cumulative effects would be low is inaccurate, (pending revision of design feature policies requiring that impacts to military operations be mitigated.)	
Exec Summary	Table ES.2-2	Recommend the following be added to Table ES.2-2: "Areas for Exclusion under the BLM Solar Energy Development Program Alternative." -- Areas where solar energy development proposals are assessed by the DoD and partner agencies as having significant adverse impacts to military operations.	
Exec Summary	Table ES.2-5	Recommend the following be added to Table ES.2-5: "Summary-Level Assessment of Potential Environmental Impacts by Alternative." - <i>Military and Civilian Aviation</i> -- Development of solar energy facilities and associated infrastructure in specific areas would result in significant impacts to military operations, potentially degrading testing and training operations supporting the national security mission. Military and civilian aviation impacts would be identified and adequately mitigated prior to BLM's issuance of a ROW authorization.	
11.1		AMARGOSA VALLEY SEZ	
11.1.6 <i>Military and Civilian Aviation</i>	Table 11.1.1.3-1	Recommend the following revision to Table 11.1.1.3-1: "Summary of Impacts of Solar Energy Development within the Proposed Amargosa Valley SEZ and SEZ-Specific Design Features": <i>Military and Civilian Aviation:</i> -- The military has expressed serious concern over certain solar energy technologies being constructed within the Amargosa Valley SEZ. DoD has indicated that any facilities exceeding 50 feet (15 m) in height may be incompatible with low-level aircraft operations conducted in approved Military Training Routes (MTR). Additionally, glare and heat emissions produced by certain types of technology	

		<p>may present both flight and ground safety concerns. Further, DoD has indicated that solar technologies requiring structures higher than 50 feet (15 m) AGL may present unacceptable electromagnetic compatibility concerns for certain test and training missions.</p> <p>NOTE: MTR airspace is authorized and utilized from the surface to 9,400 feet mean sea level (MSL). The proposed SEZ development encompasses the entire route.</p>	
11.1.6 <i>Military and Civ Aviation</i>	11.1.6.2 <i>Impacts</i> Line 21	<p>Recommend adding the following: “Additionally, glare and heat emissions produced by certain types of technology may present both flight and ground safety concerns. Further,...”</p>	
11.1.15 <i>Acoustic Environment</i>	11.1.15.1 <i>Affected Environment</i> Line 17	<p>Recommend adding the following: ... “Additionally, several approved, highly-utilized military training routes (MTRs) exist in airspace directly above the SEZ.”</p>	
11.1.15 <i>Acoustic Environment</i>	11.1.15.1 <i>Affected Environment</i> Line 30	<p>Recommend adding the following: ... “Noise levels may be impacted by routine military flight operations occurring in military training routes (MTRs) located directly above and proximal to the SEZ....”</p>	
11.2		DELAMAR VALLEY SEZ (STUDENT GAP)	
11.2.1.1 <i>General Information</i>	11.2.1.1 <i>General Information</i> Line 35	<p>Recommend adding the following: “Airspace directly above and proximal to the proposed Delamar Valley (Student Gap) SEZ is categorized as an approved military operations area (MOA), which is routinely utilized for supersonic military flight operations authorized at and above 5,000 feet AGL (1,524 m).”</p> <p>NOTE: The proposed SEZ is located below a desert MOA with airspace authorized and utilized from 100 feet AGL to unlimited. An authorized and utilized supersonic flight area exists 5,000 feet AGL above this SEZ.</p>	

		As a result of the cumulative impacts, we request the proposed Delamar Valley (Student Gap) site be removed from consideration as a solar development zone.	
11.2.1.3 <i>Summary of Major Impacts</i>	Table 11.2.1.3-1	<p>Recommend the following revision to Table 11.2.1.3-1 “Summary of Impacts of Solar Energy Development within the Proposed Delamar Valley (Student Gap) SEZ and SEZ-Specific Design Features”:</p> <p><i>Military and Civilian Aviation</i></p> <p>-- The military has expressed serious concern over construction of solar energy facilities within the SEZ. DoD has indicated that facilities exceeding 50 feet in height may be incompatible with low-level aircraft use of the MTR. Additionally, supersonic military flight operations are authorized at and above 5,000 feet AGL (1,524 m) in airspace directly above and proximal to the SEZ. Noise and overpressure impacts resulting from supersonic flight may adversely impact solar technology or infrastructure in the SEZ. Also, solar technology possessing reflectivity characteristics may create severe glint and glare hazards for aircrew operating in approved airspace. Further, DoD has indicated that solar technologies requiring structures higher than 50 feet (15 m) above ground level may present unacceptable electromagnetic compatibility concerns for their test mission.</p> <p>As a result of the cumulative impacts, we request the proposed Delamar Valley (Student Gap) site be removed from consideration as a solar development zone.</p>	
11.2.6 <i>Military and Civilian Aviation</i>	11.2.6.2 <i>Impacts</i>	<p>Recommend adding the following:</p> <p>-- Further, noise and overpressure impacts resulting from supersonic flight may adversely impact solar technology or infrastructure in the SEZ.</p> <p>As a result of the cumulative impacts, we request the proposed Delamar Valley (Student Gap) site be removed from consideration as a solar development zone.</p>	

<p>11.2.15 <i>Acoustic Environment</i></p>	<p>11.2.15.1 <i>Affected Environment</i> Line 16/26</p>	<p>Recommend adding the following: ... “Supersonic flight operations conducted at and above 5,000 AGL in military airspace above and proximal to the SEZ may produce significant noise and subsequent overpressure concerns....”</p> <p>As a result of the cumulative impacts, we request the proposed Delamar Valley (Student Gap) site be removed from consideration as a solar development zone.</p>	
<p>11.3</p>		<p>DRY LAKE SEZ</p>	
<p>11.3.1 <i>Background and Summary of Impacts</i></p>	<p>11.3.1.1 <i>General Information</i> Line 21</p>	<p>This SEZ is directly under the primary route used by military aircraft to enter and exit the NTTR from Nellis Air Force Base. Recommend adding the following: -- “Nellis Air Force Base, located to the southwest, maintains a major military airfield from which nearly 50,000 DoD and allied aircraft departures and arrivals occur annually.”</p> <p>NOTE: Per Nellis Air Force Base Air Force Instruction (AFI) 11-250 para 6.13, Controlled Bailout Procedures, the primary controlled bailout location is Dry Lake (LSV 015/15). “Should it become necessary to use this area in an emergency situation, aircraft proceed to Dry Lake at an altitude of 15,000 feet MSL, (8,000 feet MSL for non-ejection seat equipped aircraft), turn to a heading of 345, and eject or bailout.”</p> <p>Solar development in this area would present a severe safety risk for aircrew in emergency situations, as well as present potential liability for excessive damage to technology and surrounding infrastructure. Additionally, terminal procedures for approaches and departures from runways at Nellis Air Force Base will be adversely impacted by solar towers or other tall structures built in the proposed Dry Lake SEZ area. The Dry Lake SEZ area is located within the navigational aid flight path for approaching aircraft. Obstacles in this area are highly</p>	

		<p>incompatible with flight operations, and may present severe safety concerns. Maintaining an open, unpopulated area close to the Nellis Air Force Base runways for controlled bailout purposes is critical to the safety of military pilots and the community. Therefore, we recommend a reduction in size of the Dry Lake SEZ to ensure a flat, non-developed area remains available for emergency aircraft bailout purposes.</p>	
<p>11.3.1.3-1 <i>Summary of Major Impacts</i></p>	<p>Table 11.3.1.3-1</p>	<p>Recommend the following revision to Table 11.3.1.3-1 “Summary of Impacts of Solar Energy Development within the Proposed Dry Lake SEZ and SEZ-Specific Design Features” :</p> <p><i>Military and Civilian Aviation</i></p> <p>- DoD has expressed concern for solar energy facilities that might affect approach and departure from runways on the base. The military is also concerned with the potential impact on the test and training mission at the NTTR. NOTE: Per Nellis Air Force Base Air Force Instruction (AFI) 11-250 para 6.13, Controlled Bailout Procedures, the primary controlled bailout location is Dry Lake (LSV 015/15). “Should it become necessary to use this area in an emergency situation, aircraft proceed to Dry Lake at an altitude of 15,000 feet MSL, (8,000 feet MSL for non-ejection seat equipped aircraft), turn to a heading of 345, and eject or bailout.”</p> <p>Solar development in this area would present a severe safety risk for aircrew in emergency situations, as well as present potential liability for excessive damage to technology and surrounding infrastructure. Additionally, terminal procedures for approaches and departures from runways at Nellis Air Force Base will be adversely impacted by solar towers or other tall structures built in the proposed Dry Lake SEZ area. The Dry Lake SEZ area is located within the navigational aid flight path for approaching aircraft. Obstacles in this area are highly incompatible with flight operations, and may present severe safety concerns. Maintaining an open, unpopulated area close to the Nellis</p>	

		<p>Air Force Base runways for controlled bailout purposes is critical to the safety of military pilots and the community.</p> <p>As a result of the cumulative impacts, we recommend a reduction in size of the Dry Lake SEZ to ensure a flat, non-developed area remains available for emergency aircraft bailout purposes.</p>	
<p>11.3.6 <i>Military and Civilian Aviation</i></p>	<p>11.3.6.2 <i>Impacts</i> Line 21</p>	<p>Recommend adding the following:</p> <ul style="list-style-type: none"> - DoD has expressed concern for solar energy facilities that might affect approach and departure from runways on the base. The military is also concerned with the potential impact on the test and training mission at the NTTR. NOTE: Per Nellis Air Force Base Air Force Instruction (AFI) 11-250 para 6.13, Controlled Bailout Procedures, the primary controlled bailout location is Dry Lake (LSV 015/15). “Should it become necessary to use this area in an emergency situation, aircraft proceed to Dry Lake at an altitude of 15,000 feet MSL, (8,000 feet MSL for non-ejection seat equipped aircraft), turn to a heading of 345, and eject or bailout.” <p>Solar development in this area would present a severe safety risk for aircrew in emergency situations, as well as present potential liability for excessive damage to technology and surrounding infrastructure. Additionally, terminal procedures for approaches and departures from runways at Nellis Air Force Base will be adversely impacted by solar towers or other tall structures built in the proposed Dry Lake SEZ area. The Dry Lake SEZ area is located within the navigational aid flight path for approaching aircraft. Obstacles in this area are highly incompatible with flight operations, and may present severe safety concerns. Maintaining an open, unpopulated area close to the Nellis Air Force Base runways for controlled bailout purposes is critical to the safety of military pilots and the community.</p>	

		As a result of the cumulative impacts, we recommend a reduction in size of the Dry Lake SEZ to ensure a flat, non-developed area remains available for emergency aircraft bailout purposes.	
11.4		UPPER DRY LAKE (TEXAS LAKE) VALLEY NORTH SEZ	
11.4.1 <i>Background and Summary of Impacts</i>	11.4.1.1 <i>General Information</i> Line 22	<p>Recommend adding the following: "Airspace directly above and proximal to the proposed Upper Dry Lake (Texas Lake) Valley North SEZ is categorized as an approved military operations area (MOA), which is routinely utilized for supersonic military flight operations authorized at and above 5,000 feet AGL (1,524 m)."</p> <p>NOTE: The proposed SEZ is located below a desert MOA with airspace authorized and utilized from 100 feet AGL to 60,000 feet AGL in northern areas, and 100 feet AGL to unlimited in the southern area. An authorized and utilized supersonic flight area exists 5,000 feet AGL over this SEZ. Desert Military Operating Area; airspace authorized/ utilized from 100 feet above ground level to 60,000 feet AGL for the northern portion to unlimited for the southern portion.</p> <p>As a result of the cumulative impacts, we request the proposed Upper Dry Lake (Texas Lake) Valley North site be removed from consideration as a solar development zone.</p>	
11.4.1.3 <i>Summary of Major Impacts</i>	Table 11.4.1.3-1	<p>Recommend the following revision to Table 11.4.1.3-1 "Summary of Impacts of Solar Energy Development within the Proposed Dry Lake (Texas Lake) Valley North SEZ and SEZ Specific Design Features" <i>Military and Civilian Aviation</i></p> <p>-- The proposed Dry Valley Lake North SEZ is covered by two military training routes (MTRs) with 200 feet (61 m) AGL operating limits and a major special use airspace zone permitting low-level supersonic flight. Noise and overpressure impacts resulting from supersonic flight</p>	

		<p>may adversely impact solar technology or infrastructure in the SEZ. Also, solar technology possessing reflectivity characteristics may create severe glint and glare hazards for aircrew operating in approved airspace. Further, DoD has indicated that solar technologies requiring structures higher than 50 feet (15 m) above ground level may present unacceptable electromagnetic compatibility concerns for their test mission.</p> <p>As a result of the cumulative impacts, we request the proposed Upper Dry Lake (Texas Lake) Valley North site be removed from consideration as a solar development zone.</p>	
11.4.6 <i>Military and Civilian Aviation</i>	11.4.6.2 <i>Impacts</i> Line 23	<p>Recommend adding the following: ... “Supersonic flight operations conducted at and above 5,000 AGL in military airspace above and proximal to the SEZ may produce significant noise and subsequent overpressure concerns....”</p> <p>As a result of the cumulative impacts, we request the proposed Upper Dry Lake (Texas Lake) Valley North site be removed from consideration as a solar development zone.</p>	
11.4.15 <i>Acoustic Environment</i>	11.4.15.1 <i>Affected Environment</i> Line 16/26	<p>Recommend adding the following: ... “Additionally, military training routes (MTRs) authorizing supersonic flight at and above 5,000 AGL exist directly above the SEZ.”</p> <p>As a result of the cumulative impacts, we request the proposed Upper Dry Lake (Texas Lake) Valley North site be removed from consideration as a solar development zone.</p>	
11.4.15 <i>Acoustic Environment</i>	11.4.15.2 <i>Impacts</i>	<p>Recommend adding the following: -- Noise and associated overpressures created by authorized supersonic flight above and proximal to the SEZ may adversely affect</p>	

		<p>solar technology and/or infrastructure.</p> <p>As a result of the cumulative impacts, we request the proposed Upper Dry Lake (Texas Lake) Valley North site be removed from consideration as a solar development zone.</p>	
11.5		EAST MORMON MOUNTAIN SEZ	
11.5.6 <i>Military and Civilian Aviation</i>	11.5.6.2 <i>Impacts</i>	<p>NOTE: At this time, <i>with respect to Nellis AFB and NTTR operations only</i>, the East Mormon Mountain location is the most compatible SEZ area for taller solar technologies. However, analysis has been conducted only to a height of 700 feet AGL. Technologies that require structures in excess of 700 feet AGL would require additional analysis, including a review of construction plans and technology design features.</p>	
11.6 11.7		GOLD POINT SEZ MILLER SEZ	
11.6 and 11.7 FOR DOD READER INFO ONLY		<p>Previous concerns submitted by DoD addressing the proposed Gold Point and Miller SEZs have been incorporated into the December 2010 Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States, Vol 5, Part 1, Chapter 11.</p>	

Thank you for your comment, John Crow.

The comment tracking number that has been assigned to your comment is SolarD11749.

Comment Date: April 21, 2011 15:20:47PM
Solar Energy Development PEIS
Comment ID: SolarD11749

First Name: John
Middle Initial:
Last Name: Crow
Organization: Navy Region Southwest
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Privacy Preference: Don't withhold name or address from public record
Attachment: DoD Solar PEIS Comments-3 Apr 20 2011.pdf

Comment Submitted:

As a Cooperating Agency, per the Memorandum of Agreement dated 8 July, 2009, these three attachments represent the DoD Regional Environmental Coordinator Region 9 installation-coordinated comments for the Solar Energy Development Draft Programmatic Environmental Impact Statement for solar energy development in the six southwestern state area. These comments were routed to and reviewed by the newly established DoD Energy Siting Clearinghouse in Washington, DC.

Please see the attached three files:

1. DoD Solar PEIS Comments-1 Apr 20 2011.
2. DoD Solar PEIS Comments-2 Apr 20 2011.
3. DoD Solar PEIS Comments-3 Apr 20 2011.

Thank you for the opportunity to review and comment on this important document. These comments were also submitted via email to Ms. Resseguie.
Submitted on behalf of DeEllen M. Brasher.

Enclosure A

Analysis of the Solar Energy Development Program Alternative for the BLM Solar PEIS

Purpose: To inform interested parties of the military mission impacts for possible solar development in areas around White Sands Missile Range (WSMR).

Background: As a common frame of reference, the following map is provided:

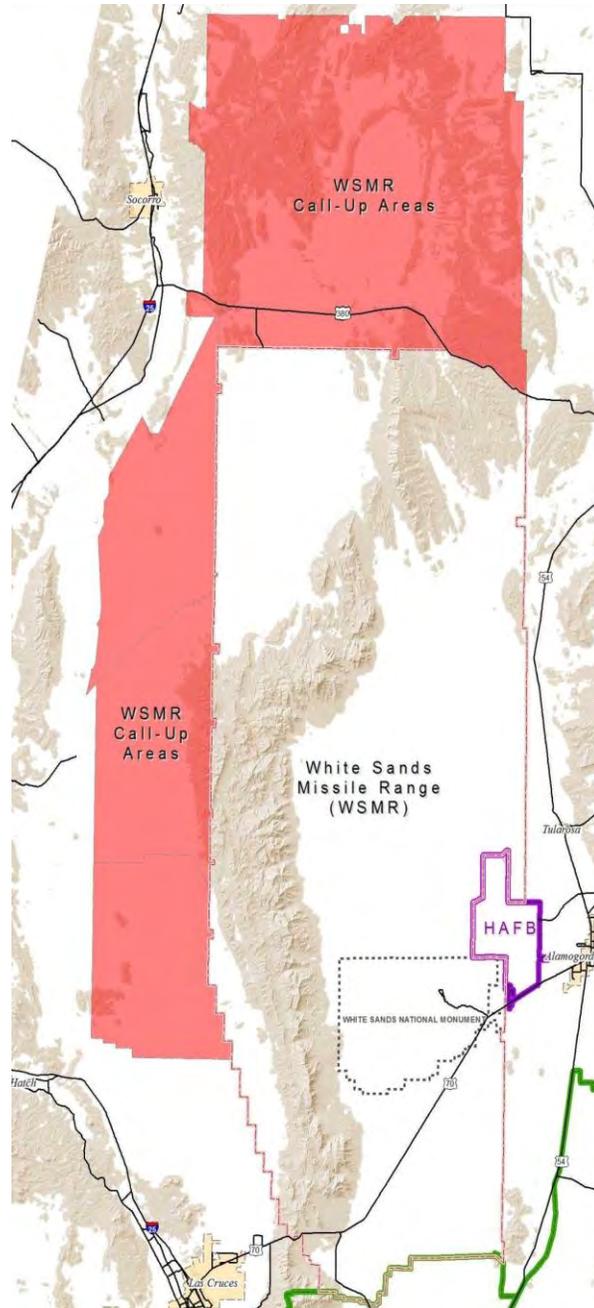


Figure 1

Analysis: White Sands Missile Range (WSMR) possible military issues concerning proposed solar development are listed below. Please note that a more definitive military impact analysis is not possible until additional information is provided on the proposed solar development. Additional information should include heights of any structures, power levels, substation locations, and National impact if developments are damaged. In the absence of detailed information, WSMR assumed some common configurations and provided a preliminary impact assessment. For simplicity purposes, the following areas of potential development are assessed for the potential impact to the WSMR military missions. The areas are delineated in this document as: Far North, Near North, and Near West (see figure 2).

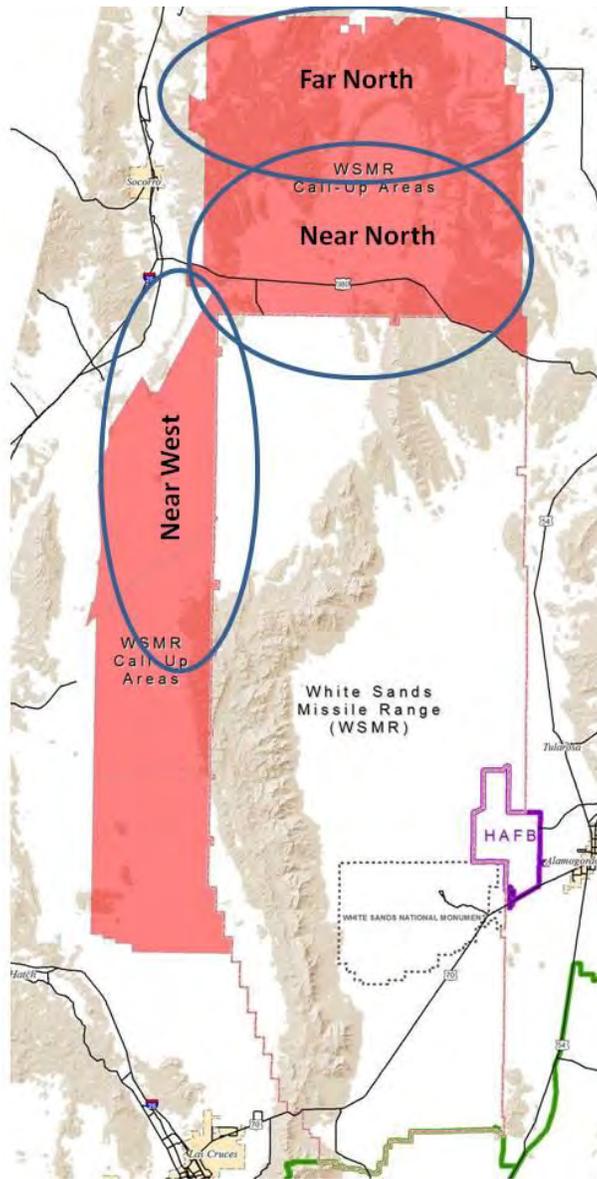


Figure 2

- a. **Far North Group.** The area includes the safety fans employed for a variety of surface to air and air to ground systems (figure 3). The estimated impact to WSMR operations is considered less than significant.

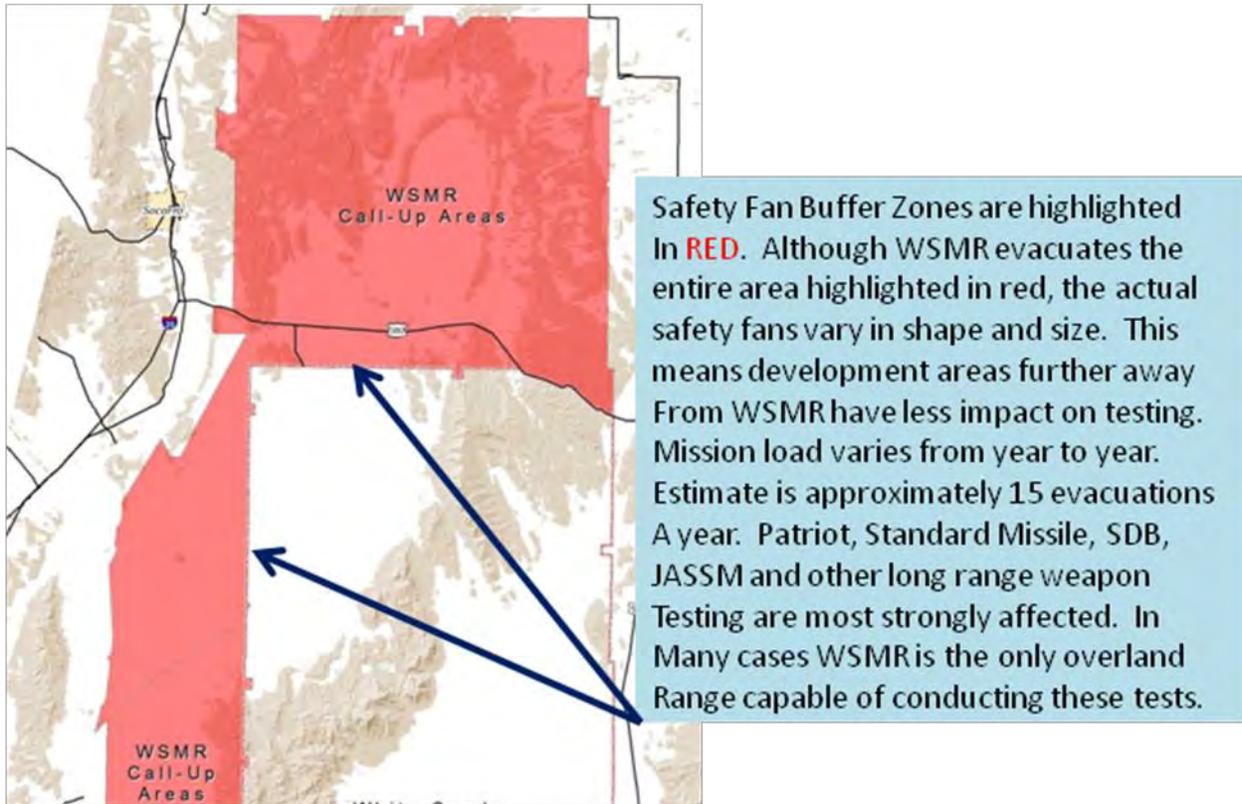


Figure 3

- b. **Near North Group.** Development in the Near North area could have a significant impact on DoD missions.
- i. **Safety Fan Debris.** The Near North Group has similar concerns as identified for the Far North Group, but as it is closer to WSMR land, the impact is greater. The closer proximity results in a significantly greater number of safety fans overlays and a resultant increase in risk to infrastructure or relocation of mission profiles. The relocation alternative has the effect of reducing the size of WSMR. The impact of these routes would preclude the use of WSMR for these missions.
 - ii. **Target Debris.** Target Debris from LC94 may damage any development near this area (figure 4). Programs include Patriot, THAAD, MDA agency. Mission load varies significantly from year to year. Conservative estimate is approximately 1 mission per year. Debris patterns vary based on target used. The estimated impact to WSMR operations is considered significant.

- iii. EMI. Airborne C-IED systems will be negatively affected by high voltage powerlines and substations in the Near North Group. The impact will be a reduction in the area these systems can be tested and has the effect of reducing the WSMR airspace (see figure 5). The impact to WSMR operations is considered significant.

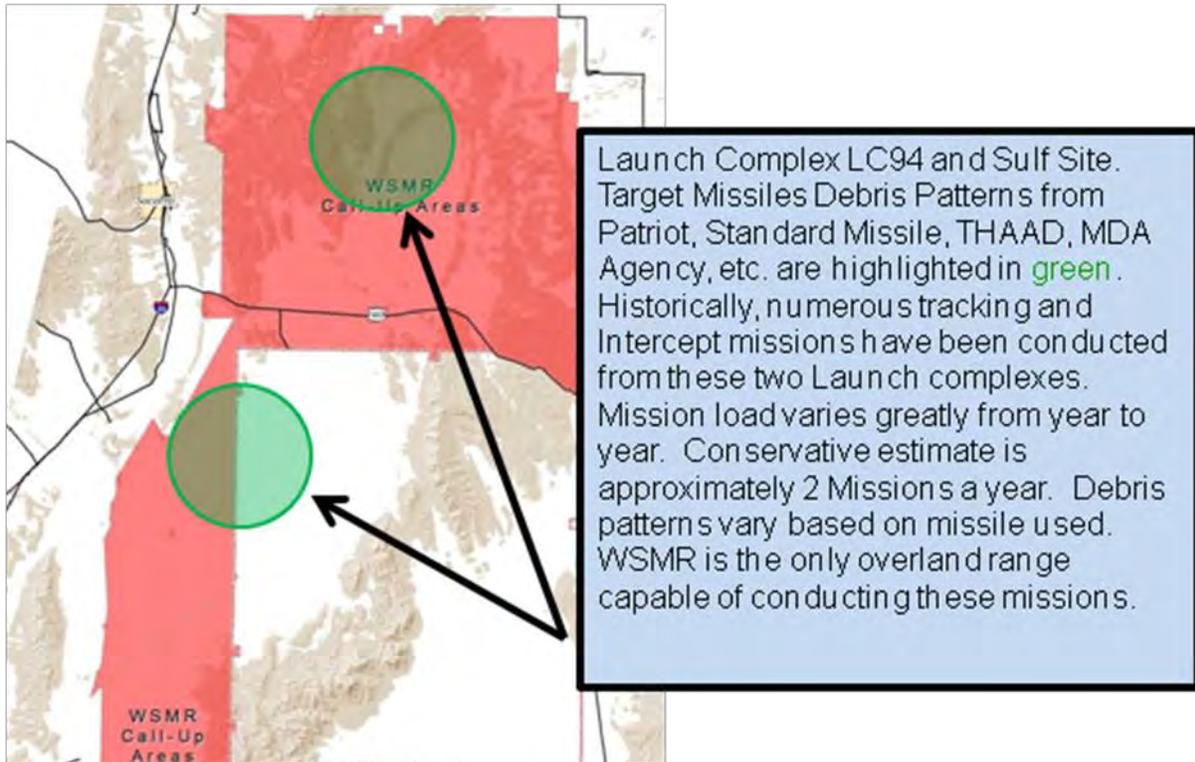


Figure 4

- c. **Near West Group.** Development in the near west area has a significant impact on DoD missions.
 - i. Target Debris. Target Debris from Sulf Site may damage any solar development. Programs supported from this site include Patriot, Standard Missile, THAAD, MDA agency, and others. Mission load varies significantly from year to year. Conservative estimate is approximately 1 mission per year. Debris patterns vary based on target used. In addition to target debris, the area includes the safety fans employed for a variety of surface to air and air to ground systems (figure 4). Excluding the potential loss of the use of Sulf Site, which could be mitigated, the estimated impact to WSMR operations is considered significant.
 - ii. EMI. Airborne C-IED systems will be negatively affected by substations and high voltage powerlines in the Near West Group. The impact will be a reduction in the area these systems can be tested and has the effect of reducing the WSMR airspace (see figure 5). Some potential areas are close to Joint Directed Energy Test Site

(JDETS) testing and will adversely impact C-IED testing. The impact to WSMR operations is considered significant.

- iii. Safety Fan Debris. The Near West Group encompasses numerous safety fans (figure 3). The close proximity results in a significant number of safety fans overlays and a resultant increase in risk to infrastructure or relocation of mission profiles. The relocation alternative has the effect of reducing the size of WSMR. Systems particularly affected include Small Diameter Bomb, Standard Missile, Patriot, and others. The impact of these routes precludes execution of these missions at WSMR.

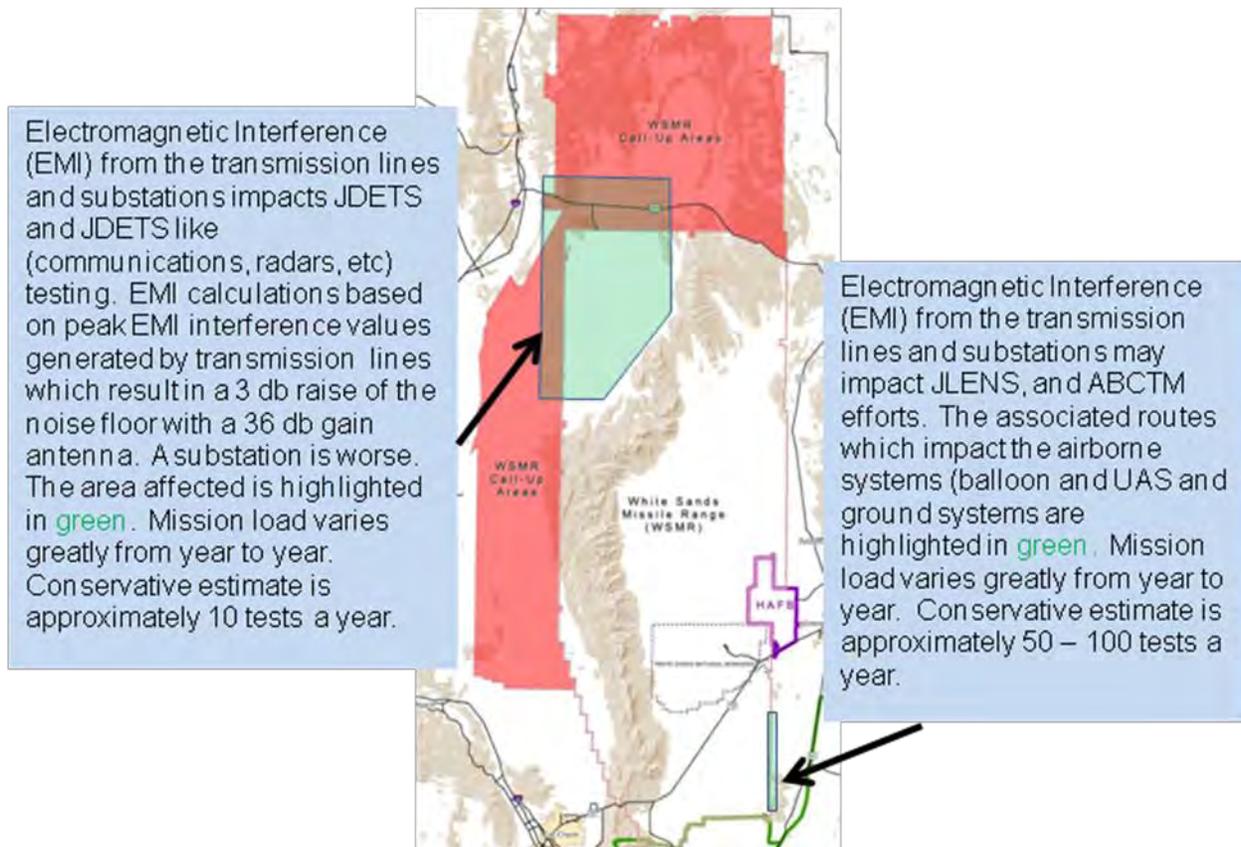


Figure 5

Additional considerations

Infrastructure Safety. Damage to Solar development infrastructure must be taken into account by the Department of Defense. WSMR conducts developmental testing for a wide variety of weapon systems. WSMR has a unique combination of land and military restricted airspace which is from surface to unlimited. The combined airspace and land space makes WSMR the **only** choice in CONUS for many missile and rocket tests. Despite the vast land area available, WSMR frequently needs longer ranges to

accommodate long-range systems. In addition to ballistic systems capable of extremely high speeds, WSMR tests low-velocity systems, such as cruise missiles capable of flying as low as 60 feet above ground level and requiring wide safety exclusion areas. WSMR has long-standing agreements with bordering land owners to temporarily use adjacent lands to launch from and fly through. Often, these lands must be evacuated due to safety buffers costing the Army 2 million dollars a year. In addition to aerial collisions and explosive ordnance dangers, WSMR conducts testing on Directed Energy (DE) systems. Infrastructure Safety hazards are a function of relative proximity to WSMR land. The fact that the development areas are not physically on WSMR land mitigates, but does not eliminate the hazards. The system effects and safety buffer zones significantly exceed WSMR boundaries; which is why the evacuation areas are necessary.

Electromagnetic Interference. Some testing, such as Counter-Improvised Explosive Device (C-IED), is conducted at WSMR because the electromagnetically quiet environment allows the establishment of baseline characterizations. This type of testing is critical to the safety of U.S. and Allied forces currently engaged in Combat and Counter-Insurgency operations. Again, the concern increases with proximity to WSMR land. Since EMI is a function of power and distance, the risk increases geometrically.

An example to exemplify the impact on WSMR Military missions is testing involving low flying cruise missile threats. Effective testing requires these systems to be flown at very low altitude to make it difficult for search radars to detect them. The northern part of WSMR and its associated call up areas have very little infrastructure and have a very low RF ambient background noise floor. Many systems require very low back ground noise and areas with little to no infrastructure (like power towers/substations/powerlines that reflect and emanate RF energy). If the ambient noise floor is too high then systems will not be able test their actual detection ranges in a benign environment (important for all targets, but critical for low RCS targets). These baseline measurements are critical to define the performance envelope of a system. The system's performance envelope will then bound the operational tactics, techniques, and procedures used by the operators. The presence of a solar development with high voltage power lines and substation will directly impact the reason the federal government set aside this land and airspace (zero to infinity) for DoD and will preclude its use as intended. Systems affected by this threat include Patriot, Standard Missile, AMRAAM, AIAMD, NIFC-CA, and JLENS.

Finally one of the most compelling arguments is the impact energy development will have on emerging technology testing. Continuing development of weapon and sensor systems to defeat the evolving threats makes it very difficult to predict how much land and airspace is required for future testing. Three years ago, no one would have thought the country needed a large aero-acoustic range requiring very low background noise (acoustic noise). The **only** place in the country that could host the facility was WSMR because of the low amount of infrastructure encroachment. This facility now helps operational UAS fly closer to insurgents in theater before dropping their ordnance. Five years ago, no one would have thought the country needed a large low infrastructure encroachment C-IED facility for testing HPM technologies to defeat IEDs. The **only** place found in the country for this facility was WSMR. This facility has fielded numerous C-IED systems to protect US troops from the most significant

threat they face in Iraq and Afghanistan. The historical trends strongly point to the need for more land and airspace that can be isolated from the encroachment of infrastructure.

Recommendation: In the absence of mitigation concepts, the areas near the northwestern corner of WSMR are the ones which will have the most impact for solar development for WSMR.

Acronyms

ABCTM	Army Brigade Combat Team Modernization
AIAMD	Army Integrated Air and Missile Defense
AMRAAM	Advanced Medium-Range Air-to-Air Missile
BLM	Bureau of Land Management
C-IED	Counter Improvised Explosive Device
CONUS	Continental United States
DoD	Department of Defense
EMI	Electromagnetic Interference
JASSM	Joint Air-to-Surface Standoff Missile
JDETS	Joint Directed Energy Test Site
JLENS	Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System
LC94	Launch Complex 94
MDA	Missile Defense Agency
NIFC-CA	Naval Integrated Fire Control - Counter Air
RCS	Radar Cross Section
SDB	Small Diameter Bomb
THAAD	Theater High Altitude Area Defense
UAS	Unmanned Aircraft Systems
USAF	United States Air Force
WSMR	White Sands Missile Range

Enclosure B

Comments on Solar PEIS documentation

General Comments:

1. Need further detail regarding the “land use planning process” proposed as part of the alternatives involving SEZ sites and consideration of non-SEZ sites as well. Spifically, detail is needed that describes how changes, deletions, or additions to SEZ sites will be evaluated, the constraints or attributes for/against SEZ status, and why these additions, changes or modifications to SEZ sites were approved or disapproved.
2. Need detail regarding what is meant by “conflicting uses” and examples of expected “conflicting uses”. Additionally, it is unclear who will assist the BLM in the determination of conflicting uses and the process for determining same.
3. How will “comprehensive program administration and authorization policies” mitigate or minimize “SEZ-specific conflicts?”
4. Using SEZ areas are preferred because:
 - a. Limits development of undisturbed lands
 - b. Limits construction of roads and support facilities
 - c. Limits potential for erosion due to construction
 - d. Limits or helps contain urban development
 - e. Creates energy source near consumers
 - f. Limits or reduces need to build transmission lines since energy close to users.

Specific Comments:

Page ES-15, Table ES.2-5: Under the “Solar Energy Development Program Alternative” the comment “Impacts potentially could be dispersed across the 22 million acres.” While the “SEZ Program Alternative” states “...impacts would be concentrated into a smaller, known geographic area.” I think these statements are misleading. The impacts are going to be dispersed across the 22 million acres available it’s just the specific areas have already been identified and closely evaluated. What is not clear is how any area not identified as an SEZ will actually be evaluated. How much input and what type of influence will an outside agency have to the later evaluation? Also, once a site is chosen, the impacts are still going to be in a small geographic area.

Page ES-29, Lines 20-23: How/when to outside agencies provide a detailed evaluation and provide measured input if sites other than the SEZ are chosen?

Page ES-39, Lines 21-26: This paragraph makes it sound like you don't want to take the time to try to evaluate this aspect. Most impacts are difficult to quantify.

Page 1-14, Lines 3-7: This analysis needs to be done at some time since it can have a big impact on many areas.

Page 1-14, Lines 31-34: How would this analysis be done exactly to ensure proper input and just evaluation to include outside agencies?

Page 1-17, Lines 5-7: Since additional NEPA analysis is made a case-by-case basis at the time a solar energy project application is received, how are outside agencies assured they will be involved in the NEPA analysis and that the additional NEPA analysis is adequate?

Pages 2-4, 5, Solar Energy Program Administration and Authorization Policies, paragraph one: Does this provide outside agencies with at least as much influence over alternative selections in future developments as NEPA? It is not clear.

Page 2-11, Lines 26-30: What is the appropriate environmental analysis? Does this include outside agency involvement at a level consistent with NEPA?

Page 2-14, Lines 25-26: Need to assure outside agency involvement at a level consistent with NEPA if changes are made to the SEZs.

Page 3-4, Lines 40-41: This is an obstruction for aviation.

Page 3-21, Section 3.2.3 Operations: If a site is located in the Evacuation areas (north and west of WSMR), there would be periods of time when the location would have to be evacuated of people.

Page 3-23, Section 3.2.5 Transmission Lines: Development and siting of transmission lines is of great concern to the military installations in southern New Mexico. Upgrades over 345 kV can have a big impact on the military mission and upgrades should not be assumed. Location of new transmission lines again could have an impact on the military mission and should not be assumed.

Page 3-27, Lines 40-41: Add compatible land use with the military mission.

Page 3-29, Section 3.4.1 Construction: If sites are chosen in the northern or western evacuation areas for WSMR, coordination of schedules would be needed for evacuation of all construction workers – this could have a major impact if there were 1000 workers. This should be considered for any evaluation of site location.

Page 3-45, Lines 18-20: "...reflected lightcould cause eye injury...", typical operation of solar energy panels was thought it could be dealt with by pilots of military aircraft. This sounds outside of typical. There are a great many military aircraft flown in the Red Sands area at all hours of the day. If this is truly a concern, more information is needed so it can be evaluated.

Page 3-46, Section 3.6.3 Electric and Magnetic Fields: The ElectroMagnetic Interference (EMI) issue for military installations should be explained here. There are several military installations that require a very quiet “EMI site” for certain types of testing. Testing sites have been established in these areas because they are “quiet”. Moving these sites is not an option. Additional substations and transmission lines located near these sites will eliminate the ability of the military to conduct these missions. Locating in these specific areas will have a big impact on the military mission and must be part of the evaluation.

Page 4-15, Line 10: Should add “.....training and testing operations.....”

Page 4-16, Figure 4.6-1: There is supposed to be at least one MTR which goes over the Mason Draw SEZ that goes down to 100 AGL that is not included in this map. Are there others?

Page 5-17, Section 5.6.1 Common Impacts: I think the EMI impacts discussed above (page 3-46) should be included here also.

Page 5-17, Line 49: “....radar use, both ground and/or airborne systems, and other operations.”

Page 5-18, Lines 17-20: If there is a safety-of-flight issue, development should not be allowed in an area nearby airports, or MTRs and SUAs.

Page 5-18, Lines 34: Should include “...training and/or testing space.....”

Page 5-274, lines 27-29: Requirement for aircraft to fly at least 900 feet above power tower to reduce any potential eye injury. In the Red Sands area due to testing and training activities and airport approach for landing, I think this would be impossible.

Page 6-6, Table 6.1.2, Military and Civilian Aviation: For the SEZ Program Alternative, impacts would be concentrated into a smaller, known geographic area that has been evaluated to a greater degree by the military than the Solar Energy Development Program Alternative – this is a good thing.

Page 6-28, Table 6.1-3, both Mason Draw and Red Sands: Does not discuss any of the military impacts. E.g. Power tower development should be prohibited to avoid visual impacts, what about aviation impacts? There are others that have been discussed above.

Page 6-32, Lines 4-12: “...the decisions implementedto the extent appropriate.” What does this and the remainder of the paragraph really mean? The “design feature” for military issues is to discuss the project with the military, try to develop mitigations, but what happens if a mitigation is not possible and there is a major impact on the installations military mission, up to and including elimination of a specific mission? It is not clear how this will be handled.

Page 6-33, Lines 28-29: “....development could proceed with very limited additional environmental analysis.” How is that determined? What kind of input do outside agencies have on this?

Page 6-43, Section 6.2.4: While flexibility is needed, thorough evaluation is still needed for areas not considered as an SEZ.

Page 6-49, Table 6.4-1, Objective “Minimize potential environmental impacts”: “Additional mitigation required in SEZs” is listed under SEZ Program Alternative, why is it not included under Solar Energy Development Program Alternative? Since there is less evaluation of lands under the Solar Energy Development Program Alternative it would seem additional mitigation would be required there also.

Page 6-92, Lines 20-21: “Airports are generally located....at some distance from prospective solar development areas.” This is not true for Red Sands, it is near and in the landing flight path for the Alamogordo Airport.

Page 12.1-2, Figure 12.1.1.1-1: White Sands Missile Range is not in the location that you have identified on the map – that is actually Ft. Bliss. White Sands Missile Range is north of that.

Page 12.1-47, Line 28-30: Since there are no military training routes or airspace in this area is this what you want to say? Doesn’t hurt anything and we like for you to keep reinforcing this, but I don’t think it’s necessary.

Page 12.1-371, line 42: “...employs approximately 2700 military personnel and contractors”. Change to “...and employs approximately 5500 military and civilian personnel and contractors.”

Page 12.2-6, Table 12.2.1.3-1; Military and Civilian Aviation, SEZ-Specific Design Features: Would it not be best to eliminate the “power tower” type of solar technology for this SEZ due to the constraints of the military mission and the military and civilian airfields? Also to agree with the write-up on pg 12.2-37, Section 12.2.6.3, should it not at least include the information listed there?

Page 12.2-37. Section 12.2.6.3: In addition to early coordination with DoD, why not eliminate the “power tower” type of solar technology for this SEZ due to military impacts?

Page 12.3-6. Table 12.3.1.3-1, Military and Civilian Aviation: As stated above, In addition to early coordination with DoD, why not eliminate the “power tower” type of solar technology for this SEZ due to military and civilian aviation impacts?

Page 12.3-37, Lines 8-13: With the description given in this paragraph and to be consistent with other Military and Civilian Aviations sections in this document, why would “...only a small portion of the southwestern portion of the SEZ as requiring consultation with DoD prior to approval of any facilities that might have an impact on military uses”? Anything developed in this area would need consultation with DoD as is stated on page 12.3-38, lines 24-25.

Page A-27, Lines 25-27: “...coordinate with the DoD.....regarding the location of solar power tower projects early in the application process.” While this is vital, why is it limited to solar power tower projects? Throughout this document it states notification and coordination with DoD for all solar projects.

Page A-31, Lines 19-22: “Potentially affected federal, state, local and Tribal land managers and government agencies should be invited to participate as cooperating agencies....”. This implies they may not be “invited” therefore not given the opportunity to participate.

Page A-37, Line 18: Does this include military airports?

Page A-162, Red Sands, Military and Civilian Aviation: This line should be added to the Mason Draw section also.

Thank you for your comment, Drew Martin.

The comment tracking number that has been assigned to your comment is SolarD11750.

Comment Date: April 21, 2011 20:33:52PM
Solar Energy Development PEIS
Comment ID: SolarD11750

First Name: Drew
Middle Initial:
Last Name: Martin
Organization:
Address: 500 Lake Ave. #102
Address 2:
Address 3:
City: Lake Worth
State: FL
Zip: 33460
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe that Solar Energy projects should not harm endangered species. That species such as the desert tortoise be protected in the installation of large solar projects and that all environmental laws be carefully adhered to in the building of Solar Energy projects.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11751.

Comment Date: April 22, 2011 09:35:16AM

Solar Energy Development PEIS

Comment ID: SolarD11751

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

GO SOLAR

Thank you for your comment, Brittany Paniagua-Berlanga.

The comment tracking number that has been assigned to your comment is SolarD11752.

Comment Date: April 22, 2011 11:52:14AM
Solar Energy Development PEIS
Comment ID: SolarD11752

First Name: Brittany
Middle Initial: A
Last Name: Paniagua-Berlanga
Organization:
Address: 3200 S. Aberdeen
Address 2:
Address 3:
City: Chicago
State: IL
Zip: 60608
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kathleen Medina.

The comment tracking number that has been assigned to your comment is SolarD11753.

Comment Date: April 22, 2011 13:33:55PM
Solar Energy Development PEIS
Comment ID: SolarD11753

First Name: Kathleen
Middle Initial:
Last Name: Medina
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need responsible solar energy development.

Thank you for your comment, Ann Garth.

The comment tracking number that has been assigned to your comment is SolarD11754.

Comment Date: April 22, 2011 14:06:59PM
Solar Energy Development PEIS
Comment ID: SolarD11754

First Name: Ann
Middle Initial:
Last Name: Garth
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

This is fantastic. We need to support this.

Thank you for your comment, Frances Howell-Coleman.

The comment tracking number that has been assigned to your comment is SolarD11755.

Comment Date: April 22, 2011 14:17:11PM

Solar Energy Development PEIS

Comment ID: SolarD11755

First Name: Frances

Middle Initial:

Last Name: Howell-Coleman

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Do NOT threaten Joshua Tree!

Thank you for your comment, Leslie Gallagher.

The comment tracking number that has been assigned to your comment is SolarD11756.

Comment Date: April 22, 2011 19:54:02PM
Solar Energy Development PEIS
Comment ID: SolarD11756

First Name: Leslie
Middle Initial:
Last Name: Gallagher
Organization:
Address: 2240 Federal Ave.
Address 2:
Address 3: 2240 Federal Ave.
City: LA
State: CA
Zip: 90064
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Emily Quinn.

The comment tracking number that has been assigned to your comment is SolarD11757.

Comment Date: April 23, 2011 00:00:40AM
Solar Energy Development PEIS
Comment ID: SolarD11757

First Name: Emily
Middle Initial:
Last Name: Quinn
Organization:
Address: Kihei Rd
Address 2:
Address 3:
City: Kihei
State: HI
Zip: 96753
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Cloudy Germany is a leader in solar power. We can do it too.

Thank you for your comment, Andrea Hall.

The comment tracking number that has been assigned to your comment is SolarD11758.

Comment Date: April 23, 2011 12:43:59PM
Solar Energy Development PEIS
Comment ID: SolarD11758

First Name: Andrea
Middle Initial:
Last Name: Hall
Organization:
Address: 3655 Chicora Ct., #220
Address 2: #220
Address 3:
City: Fort Worth
State: TX
Zip: 76116
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I only support solar energy development within appropriately sited Solar Energy Zones that do not harm our national parks. I want clean energy resources, but not at the expense of animal welfare and I know that you can find a space that will work for solar energy and not harm animals.

Thank you for your comment, Avonna Vinje.

The comment tracking number that has been assigned to your comment is SolarD11759.

Comment Date: April 23, 2011 12:52:58PM
Solar Energy Development PEIS
Comment ID: SolarD11759

First Name: Avonna
Middle Initial: L
Last Name: Vinje
Organization: none
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The proposed area for LaPaz County/Quartzsite area is NOT listed in the Solar Energy Zones revised 12/2010. We DO NOT have extra water resources available AND it would not benefit our area going to CA, PLUS there is not enough labor in our community so they will bring in transients with no housing available. BLM land and Indian land extends right to the Colorado River. Go to them!

Thank you for your comment, Byard Bost.

The comment tracking number that has been assigned to your comment is SolarD11760.

Comment Date: April 23, 2011 14:56:24PM
Solar Energy Development PEIS
Comment ID: SolarD11760

First Name: Byard
Middle Initial: T
Last Name: Bost
Organization:
Address:
Address 2:
Address 3:
City:
State: NC
Zip: 28115
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative to concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) threaten our national parks:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Also, any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joel Peterson.

The comment tracking number that has been assigned to your comment is SolarD11761.

Comment Date: April 23, 2011 14:57:51PM
Solar Energy Development PEIS
Comment ID: SolarD11761

First Name: Joel
Middle Initial: Q
Last Name: Peterson
Organization:
Address: 31 Hastings Street
Address 2:
Address 3: 31 Hastings Street
City: West Roxbury
State: MA
Zip: 021322333
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support the development of alternative energy sources but worry that local environmental and aesthetic issues may take a second seat to the rush to develop them.

Thank you for your comment, Gregory Shrader.

The comment tracking number that has been assigned to your comment is SolarD11762.

Comment Date: April 23, 2011 16:19:18PM
Solar Energy Development PEIS
Comment ID: SolarD11762

First Name: Gregory
Middle Initial: N
Last Name: Shrader
Organization:
Address: 3201 N. 38th St.
Address 2: Unit 26
Address 3:
City: Phoenix
State: AZ
Zip: 85018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

National Parks are the natural choice to lead the nation in green energy!

Thank you for your comment, Jess Summers.

The comment tracking number that has been assigned to your comment is SolarD11763.

Comment Date: April 23, 2011 17:48:58PM
Solar Energy Development PEIS
Comment ID: SolarD11763

First Name: Jess
Middle Initial:
Last Name: Summers
Organization:
Address: 3318 Maplewood Ave.
Address 2:
Address 3: 3318 Maplewood Ave.
City: Richmond
State: VA
Zip: 23221
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The use of solar energy is a resource we need to be utilizing as much as possible.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11764.

Comment Date: April 23, 2011 19:46:19PM
Solar Energy Development PEIS
Comment ID: SolarD11764

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I think renewable energy is good, but not at the price of destroying the wild desert. I think it would be logical to study the dying cities and uproot the old structure and then put the solar panels there. Not a virgin land, I rather enjoy those deserts on my road trips, and I hope they remain for my children's children to enjoy as well! Please find another option to build before you defile what is left of our wildness. On my road trips I've seen MANY dilapidated cities that are deserving of a refurbishing by implementing your idea for energy. I understand you have a degree, please use it instead of just seeing those dollar signs! I stand firm when I say I disagree with your development plan, regardless of what it is for!

Thank you for your comment, Vanja Ivanova-Hathcock.

The comment tracking number that has been assigned to your comment is SolarD11765.

Comment Date: April 24, 2011 09:29:00AM
Solar Energy Development PEIS
Comment ID: SolarD11765

First Name: Vanja
Middle Initial: P
Last Name: Ivanova-Hathcock
Organization:
Address: 7070 21st Avenue
Address 2:
Address 3:
City: Sacramento
State: CA
Zip: 95820
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Elizabeth Schrupp.

The comment tracking number that has been assigned to your comment is SolarD11766.

Comment Date: April 24, 2011 11:13:36AM

Solar Energy Development PEIS

Comment ID: SolarD11766

First Name: Elizabeth

Middle Initial: A

Last Name: Schrupp

Organization:

Address: 6223 Lavendale

Address 2:

Address 3:

City: Dallas

State: TX

Zip: 75230

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Please go solar

Thank you for your comment, Wayne Truax.

The comment tracking number that has been assigned to your comment is SolarD11767.

Comment Date: April 24, 2011 17:38:02PM
Solar Energy Development PEIS
Comment ID: SolarD11767

First Name: Wayne
Middle Initial:
Last Name: Truax
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for considering my point of view.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11768.

Comment Date: April 24, 2011 23:38:12PM
Solar Energy Development PEIS
Comment ID: SolarD11768

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization: CARDENAS
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Dear Peis,

My Name is Maria Cardenas and I have lived in the Coachella Valley for most of my life. I absolutely love it here. It would be devastating to find out one day that I am no longer permitted to live here and that is why I don't agree with the plans of using the lands for the renewable energy project. Although I am all for renewable energy, I don't think this is the right way to get it done. By helping our energy problem we are not only taking away lands that are public, but also helping lose a part of Indian culture and destroying the home of the desert tortoise. Precious parts of Indian culture are found at the center of this project and its unfair that they have to sacrifice their treasured sanctuaries when it's something that we wouldn't give up. Also, the public should have a say in these lands. Land shouldn't just be taken away like nothing without no one having an opinion about it. Lastly, the desert tortoise. We are always trying to protect our wildlife and now you just expect to overlook the fact that the area is the home of these beautiful creatures without carrying about the impact it will have on their population. They have the right to keep their home. By doing this, you're inviting a whole list of other problems. I think we are ready for renewable energy, we just need a better way to carry it out and I'm sure there is a way.

Thank you.

Thank you for your comment, John Fields.

The comment tracking number that has been assigned to your comment is SolarD11769.

Comment Date: April 25, 2011 14:22:38PM
Solar Energy Development PEIS
Comment ID: SolarD11769

First Name: John
Middle Initial: C
Last Name: Fields
Organization: California Rifle & Pistol Association (CRPA)
Address: 271 Imperial Highway Suite 620
Address 2:
Address 3:
City: Fullerton
State: CA
Zip: 92835
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Letter to California BLM offices and Response Letter.pdf

Comment Submitted:

2011 CRPA Opposition to Solar and Wind Energy Projects on Public Lands



California Rifle and Pistol Association, Inc.

271 Imperial Highway, Suite 620 • Fullerton, California 92835
(714) 992-C₂R₇P₇A₂ • FAX (714) 992-2996
www.crpa.org

Tony Montanarella
President
James M. Shea
Vice President
Robert W. Anderson
Secretary
Arlin L. Penner
Treasurer
John C. Fields
Executive Director

April 11, 2011

Bureau of Land Management
Jim Abbott, Acting State Director
California State Office
2800 Cottage Way, Suite W-1623
Sacramento, CA 95825-1886

RE: SOLAR AND WIND ENERGY PROJECTS ON PUBLIC LANDS

Dear Mr. Abbott:

In addition to protecting the lawful ownership and use of firearms, the California Rifle and Pistol Association (CRPA) supports federal, state, and local efforts to conserve wildlife habitat and preserve hunting traditions for future generations of Californians. Naturally, the CRPA was disappointed to learn that the Bureau of Land Management (BLM) had authorized two solar energy projects, and plans to authorize several more solar and wind energy projects on public lands presently open for hunting. The Association opposes any development on public lands that would consume wildlife habitat and threaten hunting opportunities. In light of these concerns, we offer the following for your consideration:

1. There is substantial documentation on each project; however, a simple question rises to the surface: Why would development be permitted on undisturbed lands, when disturbed lands are readily available? This question also has been raised by local residents and business leaders, the Press-Enterprise, and several environmental organizations. The CRPA recognizes California's current and future demands for power, and we support the advancement of alternative sources. While our desert lands are prime candidates for wind and solar developments, **we strongly oppose utilizing undisturbed desert habitat for such projects.** There are thousands of acres of disturbed desert- both private and public- that can be used for energy development.

We believe that developers should be required to exhaust those lands before BLM authorizes any development on undisturbed public land.

2. If BLM authorizes these proposals, it should ensure that the developments are designed to avoid interfering with hunting and recreation activities on nearby lands. Project boundaries should be clearly marked, signs should be placed in clear view, and access to the developments should not cut off accessibility to hunters and others that use our desert lands.

The CRPA appreciates the opportunity to comment on this matter, and we ask that you contact our office if you have any questions or wish to discuss our concerns.

Sincerely,

A handwritten signature in black ink that reads "John C. Fields". The signature is fluid and cursive, with the first name "John" being particularly prominent and stylized.

John C. Fields
CRPA Executive Director

cc: The CRPA Hunting & Wildlife Conservation Committee
Tom Pedersen, CRPA Legislative Liaison
Connie Conway, Assembly District 34
V. Manuel Perez, Assembly District 80
Jeff Gorrell, Senate District 37
Bob Blumenfield, Senate District 40
Barbara Boxer, U.S. Senator
Diane Feinstein, U.S. Senator



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

California State Office
2800 Cottage Way, Suite W1834
Sacramento, CA 95825

In Reply Refer To:
3000
CA-910 (P)

www.blm.gov/ca

APR 19 2011

APR 21 2011
C.R.P.A.

John C. Fields
Executive Director,
California Rifle and Pistol Association, Inc.
271 Imperial Highway, Suite 620
Fullerton, CA 92835

Dear Mr. Fields:

Thank you for your letter, dated April 11, 2011, regarding solar and wind energy development on public lands. The Bureau of Land Management (BLM) values your feedback about avoiding renewable energy development on undisturbed desert lands and structuring such development, if approved, to allow for continued hunting and recreation around project areas.

As you may be aware, a national Programmatic Environmental Impact Statement (PEIS) for solar energy development on BLM-managed lands is currently underway. BLM is considering whether to amend land use plans in six western states, including California, to allow for the operation of solar energy projects on BLM-managed lands. In February and March, BLM held fourteen public meetings in the west, including four in California, to hear feedback about the PEIS. Public comment will continue to be accepted until May 2. For more information about the PEIS, please visit <http://www.solareis.anl.gov>. I encourage you to submit the comments you addressed to me as public comments to the PEIS.

Also underway in California is the development of a Desert Renewable Energy Conservation Plan (DRECP). This plan is led by state and federal agencies and enhanced by the involvement of more than 30 stakeholders from environmental organizations, counties, utilities, recreational groups, tribes and renewable energy companies. The DRECP may serve as the basis for land use plan amendments for renewable energy development and conservation areas in California's deserts. All DRECP stakeholder meetings are open to the public. I encourage you to attend the DRECP meetings in person or listen in by phone. More information on the plan can be found at <http://www.drecp.org>.

Thank you once again for your comments, and for your interest in California's public lands.

Sincerely,

James Wesley Abbott
Acting State Director

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11770.

Comment Date: April 25, 2011 18:18:31PM
Solar Energy Development PEIS
Comment ID: SolarD11770

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

We MUST explore and SUPPORT all forms of Solar Energy. We must get off fossil fuels and all avenues MUST be explored. this is a most valuable way to spend my tax dollars!

Thank you for your comment, Anna Perry.

The comment tracking number that has been assigned to your comment is SolarD11771.

Comment Date: April 25, 2011 19:41:46PM
Solar Energy Development PEIS
Comment ID: SolarD11771

First Name: Anna
Middle Initial: L
Last Name: Perry
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We desperately need a better source of energy. I am not moved by the "cleancoal" commercials. I am a college educated individual and I know that coal is not a cleaner source of energy. Removing carbon that the earth has spent centuries compressing is drastically changing our atmosphere and we must change our primary energy source before we change it beyond the point of supporting any life.

Thank you for your comment, Doreen Kelly.

The comment tracking number that has been assigned to your comment is SolarD11772.

Comment Date: April 25, 2011 20:02:49PM
Solar Energy Development PEIS
Comment ID: SolarD11772

First Name: Doreen
Middle Initial:
Last Name: Kelly
Organization:
Address: 436 Monponsett St.
Address 2:
Address 3:
City: Hanson
State: MA
Zip: 023412007
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please consider our important plea.

Thank you for your comment, Jon Landon.

The comment tracking number that has been assigned to your comment is SolarD11773.

Comment Date: April 26, 2011 01:31:29AM
Solar Energy Development PEIS
Comment ID: SolarD11773

First Name: Jon
Middle Initial: A
Last Name: Landon
Organization:
Address: 6052 Gold Meadows Rd
Address 2:
Address 3:
City: Placerville
State: CA
Zip: 95667
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Melissa Vatterott.

The comment tracking number that has been assigned to your comment is SolarD11774.

Comment Date: April 26, 2011 10:16:08AM
Solar Energy Development PEIS
Comment ID: SolarD11774

First Name: Melissa
Middle Initial: A
Last Name: Vatterott
Organization: University of Missouri - Columbia
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: EIS Public Comment.doc

Comment Submitted:

Please see attached file.

June 27, 2012

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Dear Bureau of Land Management and Department of Energy,

Looking at the wide range of natural resources in the United States as well as our anthropogenic impact on such resources, it is no surprise that we must find alternatives to our current heavily-dependent use of fossil fuels. Implementing a Solar Energy Program in the West where the most potential for solar power utility exists is crucial to sustain the country's current activities in years to come. As a concerned citizen and young person of the United States, I am concerned about what the future may hold for my generation regarding the use of natural resources. Therefore, I am glad to see that the BLM has developed a PEIS for a Solar Energy Program in order to develop utility-scale solar energy development on BLM-administered lands.

It is evident from the Executive Summary that the BLM has thoughtfully considered the socioeconomic and environmental facets of its proposed Solar Energy Program. Reading of the objectives on page ES-3 demonstrates the understanding to make the program adaptable for multiple project types with minimal adverse effects, standardization of the authorization process for developing solar projects, and utilization of existing infrastructures as much as possible (ES-3). It is important to identify lands that can and cannot be utilized for utility-scale production of solar energy, establish mitigation requirements for development, and adapt existing land use plans to include elements of the Solar Energy Program, as the Program has responsibly established as its elements. In addition, it is pleasing to read that evaluation of the impacts to transmit connections to the already existing electrical grid system is incorporated in the analysis. While it is important that the energy potentially produced through the Program reaches people through existing infrastructure, we must evaluate the impacts of transferring the energy produced from the projects to such infrastructures.

After reading the Executive Summary of the PEIS, it appears that are two very different alternatives suggested. It is stated on page ES-6 of the Executive Summary that the PEIS recognizes not all BLM-administered lands are appropriate for solar energy development. Under the Solar Energy Development Program Alternative, lands that are not suitable or are likely to be unsuitable would not be included in development and therefore are lands currently not available for solar energy development. This alternative also would establish Solar Energy Zones (SEZs) that qualify for potential Right of Way (ROW) application. With time, the Solar Energy Development Program Alternative, the BLM would be able to adjust the number of SEZs as more information is gathered about the designated land. In addition, this alternative excludes a number of areas, some of which I do not fully believe are necessary but rather should be determined for exclusion on a case-by-case basis. For example, Exclusion 1 and 2 from Table ES.2-2 are of lands with slopes greater than or equal to 5% and lands with solar insolation levels less than 6.5 kWh/m²/day. While I understand that these proposed projects would entail a great deal of investment, I believe that areas with less than optimal conditions for solar energy

production should not be excluded solely based on highest efficiency (6-34). With a growing population and increased use of electronics daily, it is likely that our electricity needs are going to increase. Therefore, I believe the Solar Energy Development Program Alternative excludes land that could be determined for usability on a case by case basis.

The second alternative, the Solar Energy Zone Program Alternative, excludes lands outside of SEZs and would consider modifying SEZs as more information is gained following implementation of the SEZ Program Alternative. In addition to the drastic elimination of land included for possible utility-scale solar power projects, the SEZ Program Alternative and the SED Program Alternative vary significantly in potential amount of developable BLM-administered land. Table ES.2-1 states that under the SED Program Alternative and the SEZ Program Alternative, 21,581,154 and 677,384 acres are potentially developable, respectively (ES-6). Lastly, the Executive Summary described a No Action Alternative, continuing solar energy development in accordance with the current Solar Energy Policies (ES-12). Unlike the other two alternatives, the No Action Alternative would therefore determine the approval or rejection of future solar energy projects solely on a case by case basis (ES-12) without any guidelines and could potentially utilize much a greater area of land for utility-scale solar energy development. In my opinion, this alternative would be incredibly dangerous to wildlife as well as indirectly to humans. Lack of guidance for establishing utility-scale solar energy projects under this alternative could extend projects into sensitive areas. In addition, if roads or buildings are developed to accompany these projects, the increase in impervious surface could lead to greater erosion and sediment yield in nearby streams. These potential increases could create environmental quality concerns for both aquatic and terrestrial animals dependent on nearby water bodies but could also potentially create water quality concerns for humans.

I believe that BLM thoroughly demonstrated the potential environmental impacts of each alternative and after reviewing Table ES.2-5 and the overview of the program and each alternative, I believe that the Solar Energy Development Program Alternative is the best option for utility-scale solar energy development. Since the Solar Energy Development Program Alternative does not assess site-specific issues and species-specific issues but rather leaves them to be addressed in each specific project review, I believe the needs and concerns of the individual projects and those impacted can be more efficiently addressed (ES-5).

As stated previously, I highly value the implementation of energy source alternatives to fossil fuels for the sustainability of the American activities and believe that this development is a significant step in the right direction. However, we must carefully evaluate the repercussions of land management, especially in sensitive areas. It is also important that all stakeholders be rightfully represented and have their opinions heard for each individual project to ensure socially, economically, and environmentally responsible decision making. Thank you for your time and I look forward to seeing the development of utility-scale solar energy projects in the very near future.

Sincerely yours,

Melissa Vatterott

17307 Radcliffe Place Drive

FROM THE DESK OF
«FIRST» «LAST»

Wildwood, MO 63025

Thank you for your comment, April Sall.

The comment tracking number that has been assigned to your comment is SolarD11775.

Comment Date: April 27, 2011 14:00:16PM
Solar Energy Development PEIS
Comment ID: SolarD11775

First Name: April
Middle Initial:
Last Name: Sall
Organization: The Wildlands Conservancy
Address: 39611 Oak Glen Rd #12
Address 2:
Address 3:
City: Oak Glen
State: CA
Zip: 92399
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Desert Siting Criteria Memo June 29_FINAL_SENT.pdf

Comment Submitted:

April 25, 2011

Delivered via electronic submission to the BLM Solar PEIS website (<http://solareis.anl.gov>) and U.S. mail.

Linda Resseguie, BLM Solar PEIS Project Lead
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue - EVS/240
Argonne, IL 60439

Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Thank you for the opportunity to comment on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS). The Wildlands Conservancy (TWC) also signed on to a larger group of environmental comments but would like to submit the following comments specific to our organization and position. TWC is a 501c3 non-profit conservation organization with the dual mission to preserve the beauty and biodiversity of the earth and to fund outdoor education programs for the youth. TWC has preserved more land in California with private funds than any other conservation organization and owns the largest nonprofit preserve system in CA. TWC is an advocate for the preservation of the unique and sensitive lands of the Mojave Desert, and we request that the following comments be applied to the PEIS to maintain the conservation, historic, and recreation values of these public lands.

TWC is very supportive of responsible renewable energy and eliminating our dependence on fossil fuel energy sources and reducing our carbon footprint. We lead by example and our first preserve was established off-the-grid and self-sufficient in 1995. Since that time we have installed photovoltaic solar arrays or wind mills on the majority of our preserves. We feel it is imperative that the siting of renewable energy projects and the greening of California's energy supply be accomplished while protecting our treasured landscapes and fragile ecosystems. TWC also has a vested interest in the current renewable energy discussion and corresponding developments being proposed on federal lands within the California desert region.

TWC is passionate about land conservation and preserving functioning ecosystems and initiated the largest private land acquisition project in U.S. History, The Catellus Land Purchase. Determined to prevent one of the great deserts of the world from being severed by development, TWC raised more than \$45 million in private funds and gifted it to the American people. This gift was to ensure preservation of a 140-mile stretch of the Mojave Desert that includes a spectacular landscape of eroded granite mountains, seemingly endless valleys, heroic rock formations, cinder cones and sand dunes. The purchase of over 600,000 acres in the CA Desert connected Joshua Tree National Park to Mojave National Preserve with public conservation lands. These lands were gifted to the Department of Interior (DOI) for management with the understanding that they were purchased for conservation. President Bill Clinton, Vice President Al Gore, DOI Secretary Bruce Babbitt and BLM Director Tom Fry all praised and congratulated TWC on the conservation benefits of this legacy purchase. Just 4 years after the completion of the project, applications for industrial renewable energy development began to cover the CA Desert and threaten to undo this legacy conservation project.

The Department of the Interior and the Department of Energy created a 'land rush' in the CA desert beginning with the Energy Policy Act of 2005. Shortly after BLM publicized their goal to produce 15,000 megawatts of renewable energy on public lands by 2015. While we support the overall initiative to green America's energy supply, DOI and DOE did not create a framework and siting criteria to encourage responsible projects in the most appropriate locations and as a result a speculative rush followed. Economic incentives for industry were numerous including the low cost of 'leasing' public lands for projects, government American Recovery and Reinvestment Act (ARRA) grants and guaranteed loans, 'fast-tracked' project status, etc. By 2007 over 1.2 million acres of the CA desert were under application for industrial development and many of those applications were in areas with highly sensitive resources and proposing inefficient or unproven technology. Frustrated desert residents and enthusiasts were assured by BLM that the PEIS would be a planning document that would designate the best places for solar development on public lands and so far the draft greatly missed that mark.

The current preferred alternative is not only an enormous step backwards in the progress toward the development of a responsible renewable energy program, but it would be a waste of resources to continue with the PEIS if that remains the preferred alternative (PA). If the DOI wants to allow the potential for solar development on 22 million acres in the west, then the PEIS is just a smokescreen for a planning document since that would essentially be continuing the current status quo of accepting and processing applications for development on most public lands (National Parks, Wilderness and other Congressional designations being the only exclusions from development). DOI began the National Environmental Protection Act (NEPA) process with a scoping process in 2009 for designating solar enterprise zones (SEZ's) on approximately 350,000 + acres in the California Desert Conservation Area (CDCA). Now, the first draft of the PEIS DOI has changed to a PA that includes the SEZ plus the additional 22 million acres in the western 6 states, which completely changes the original intent and objective of the initial scoping Notice of Intent and public comments. In addition, the inclusion of the 1.7 additional acres in CA covers many of the lands in the Catellus Lands Purchase that were gifted for conservation and include the proposed Mojave Trails National Monument.

It is TWC's position that DOI should change the preferred alternative to the Solar Energy Zones (SEZ) alternative only (Alternative). Furthermore, the SEZ still need to be reduced and revised (see our September 2009 comments) for solar energy development to provide for long-term conservation and ecosystem functioning within the California Desert Conservation Area (CDCA). Also, the current draft does not account for how pending solar applications will be incorporated into the PEIS or potential zones, and thus how cumulative impacts will be assessed and minimized.

In an effort to facilitate the BLM's daunting task of identifying suitable public lands for solar development, a number of environmental organizations including TWC have worked together to develop a desert siting criteria memo specifically designed for use by the BLM in the California Desert Conservation Area (CDCA) back in 2008-9. Those criteria were intended to aid in identifying lands both within and outside the SESA's that are lower in environmental resources and sensitivity and thus, more appropriate for industrial development. In the recent draft of the PEIS, the DOI appears to have discounted those and all other conservation and science recommendations by selecting the current PA. This siting criteria memo is attached again and should be revisited and utilized in the Solar PEIS and SEZ designation if DOI is to uphold any of its conservation missions.

The current PA in the Draft Solar PEIS is detrimental to all of the conservation work that has been done in the western deserts and does not reflect any of the knowledge scientists and land managers have gained over recent decades in the fields of conservation biology and ecosystem management. The environmental community has tried to work diligently alongside BLM over the past 2 years to help identify disturbed and degraded lands, including public lands that would provide the least conflicts for development and minimize irreversible ecosystem damage to our fragile deserts. Unfortunately, these efforts seem to be disregarded in the current draft of the PEIS and PA.

In 2010, the DOI approved several "fast-track" projects, several of them with severe environmental damage and costs. Despite the information about numerous sensitive resources upon breaking ground, these projects have been allowed to continue on their previous requirements without any revisions or adjustments to project footprints, mitigation or overall approval. Additionally, since current policy is that 'The BLM will continue to process existing renewable energy applications both within and outside the solar energy study areas,' development is continuing in a crude framework. The DPEIS does not address how these pending, nor future applications will be treated in relation to the SEZ in CA.

There are many proposed uses, and much competition for, the public lands in the desert including, but not limited to conservation, recreation, mineral exploration, military expansion, and renewable energy. While these are not all exclusive uses, BLM is charged with making many of these management decisions and allocations. Therefore, with regard to renewable energy, DOI should thoroughly evaluate the use of already disturbed lands (both private and public), and local distributed RE generation such as solar PV on rooftops of commercial and residential buildings to incorporate many alternatives and solutions into America's energy model. As TWC has stated before, prioritization should be given to previously degraded and destroyed lands before compromising the untouched, pristine desert landscapes that contribute to the legacy of the Western Frontier!

In closing, we need to reiterate that we are highly supportive of renewable energy generation, specifically solar, in the California Desert. The current PEIS model, however, is not only unnecessary and irreversible; it is an irresponsible use of our public lands!

There are diverse alternatives to consider, and later implement, to reach our renewable energy goals!

The fate of our precious land is entrusted to the DOI. We ask that you thoughtfully weigh the consequences of this decision. Thank you for the opportunity to provide insight and comment regarding the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

Sincerely,

April Sall
The Wildlands Conservancy, Conservation Director

Audubon California
California Native Plant Society * California Wilderness Coalition
Center for Biological Diversity * Defenders of Wildlife
Desert Protective Council * Mojave Desert Land Trust
National Parks Conservation Association
Natural Resources Defense Council * Sierra Club * The Nature Conservancy
The Wilderness Society * The Wildlands Conservancy

Renewable Siting Criteria for California Desert Conservation Area

Environmental stakeholders have been asked by land management agencies, elected officials, other decision-makers, and renewable energy proponents to provide criteria for use in identifying potential renewable energy sites in the California Desert Conservation Area (CDCA). Large parts of the California desert ecosystem have survived despite pressures from mining, grazing, ORV, real estate development and military uses over the last century. Now, utility scale renewable energy development presents the challenge of new land consumptive activities on a potentially unprecedented scale. Without careful planning, the surviving desert ecosystems may be further fragmented, degraded and lost.

The criteria below primarily address the siting of solar energy projects and would need to be further refined to address factors that are specific to the siting of wind and geothermal facilities. While the criteria listed below are not ranked, they are intended to inform planning processes and were designed to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. They were developed with input from field scientists, land managers, and conservation professionals and fall into two categories: 1) areas to prioritize for siting and 2) high conflict areas. The criteria are intended to guide solar development to areas with comparatively low potential for conflict and controversy in an effort to help California meet its ambitious renewable energy goals in a timely manner.

Areas to Prioritize for Siting

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
 - Lands that have been “type-converted” from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).¹
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:²
 - Allow for the expansion of renewable energy development onto private lands.
 - Private lands development offers tax benefits to local government.
- Brownfields:
 - Revitalize idle or underutilized industrialized sites.
 - Existing transmission capacity and infrastructure are typically in place.

- Locations adjacent to urbanized areas:³
 - Provide jobs for local residents often in underserved communities;
 - Minimize growth-inducing impacts;
 - Provide homes and services for the workforce that will be required at new energy facilities;
 - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.⁴

High Conflict Areas

In an effort to flag areas that will generate significant controversy the environmental community has developed the following list of criteria for areas to avoid in siting renewable projects. These criteria are fairly broad. They are intended to minimize resource conflicts and thereby help California meet its ambitious renewable goals. The criteria are not intended to serve as a substitute for project specific review. They do not include the categories of lands within the California desert that are off limits to all development by statute or policy.⁵

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant⁶ populations of federal or state threatened and endangered species,⁷ significant populations of sensitive, rare and special status species,⁸ and rare or unique plant communities.⁹
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.¹⁰
- Lands purchased for conservation including those conveyed to the BLM.¹¹
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes.¹²
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas.¹³
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.¹⁴
- National Historic Register eligible sites and other known cultural resources.
- Locations directly adjacent to National or State Park units.¹⁵

EXPLANATIONS

¹ Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

² Based on currently available data.

³ Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

⁴ The term "federally designated corridors" does not include contingent corridors.

⁵ Lands where development is prohibited by statute or policy include but are not limited to:

National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Recreation Areas; National Monuments; private preserves and reserves; Inventoried Roadless Areas on USFS lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers a; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites.

⁶ Determining “significance” requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

⁷ Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units.

⁸ Significant populations/occurrences of sensitive, rare and special status species including CNPS list 1B and list 2 plants, and federal or state agency species of concern.

⁹ Rare plant communities/assemblages include those defined by the California Native Plant Society’s Rare Plant Communities Initiative and by federal, state and county agencies.

¹⁰ ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The CDCA Plan has designated specific Wildlife Habitat Management Areas (HMAs) to conserve habitat for species such as the Mohave ground squirrel and bighorn sheep. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

¹¹ These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

¹² Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

¹³ Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be: 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies and found to have defined “wilderness characteristics.” The proposal has been publicly announced.

¹⁴ The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts; aquatic and riparian species may be highly sensitive to changes in groundwater levels.

¹⁵ Adjacent: lying contiguous, adjoining or within 2 miles of park or state boundaries. (Note: lands more than 2 miles from a park boundary should be evaluated for importance from a landscape-level linkage perspective, as further defined in footnote 12).

Thank you for your comment, Ken Goldsmith.

The comment tracking number that has been assigned to your comment is SolarD11776.

Comment Date: April 27, 2011 14:20:48PM
Solar Energy Development PEIS
Comment ID: SolarD11776

First Name: Ken
Middle Initial:
Last Name: Goldsmith
Organization:
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Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

IF amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. However, several of the proposed Solar Energy Zones (SEZ) that threaten our national parks. I urge the following changes:

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to comment.

Thank you for your comment, Lahsha Brown.

The comment tracking number that has been assigned to your comment is SolarD11777.

Comment Date: April 27, 2011 14:23:00PM
Solar Energy Development PEIS
Comment ID: SolarD11777

First Name: Lahsha
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Last Name: Brown
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Privacy Preference: Don't withhold name or address from public record
Attachment: 2011 4 18 FIF Comments on BLM Solar DPEIS.doc

Comment Submitted:

April 27th, 2011

Delivered via electronic submission to the BLM Solar PEIS website and U.S. mail.

Ms. Linda Resseguie, BLM Solar PEIS Project Lead
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: FIF Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Arizona

Dear Ms. Resseguie,

Friends of Ironwood Forest (FIF) is a 501c3 non-profit membership based organization working to permanently protect the biological, geological, archaeological, cultural and historical resources and values for which the Ironwood Forest National Monument was established in Pima and Pinal counties, Arizona. Our programs focus on accomplishing targeted conservation service projects, educating the public and Monument visitors about the natural and cultural resources, seeking out partnerships with other organizations, and serving as a strong advocate for protecting the Monument.

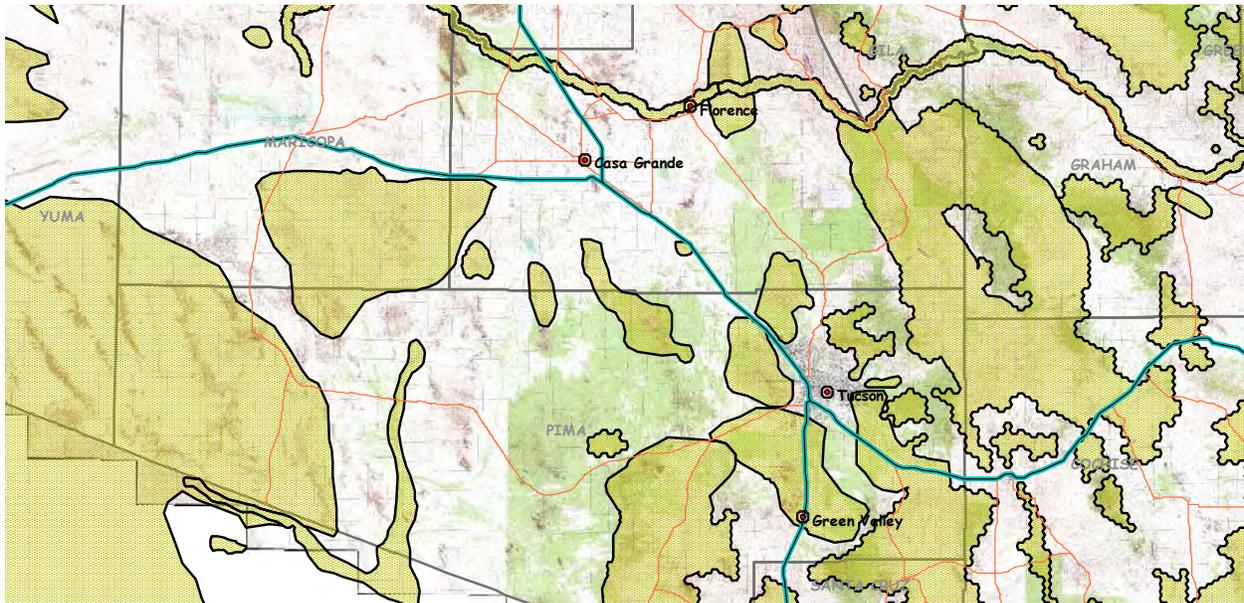
We appreciate the opportunity to comment on the draft Solar PEIS currently being considered. We would call to your attention the comments submitted by the National Trust for Historic Preservation and the environmental coalition led by the Wilderness Society *et al*, both of which we support.

The Arizona - Sonora Desert Museum has done a thorough assessment of the biologic resources of the Ironwood Forest National Monument including the iconic ironwood tree for which it was named. Our colleagues note in their comments that, while not a threatened or endangered species, each year the Sonoran Desert loses more of its old growth ironwood trees, which may live over 800 years. This species is listed on both the "Salvage Assessed" and "Harvest Restricted" lists in the Native Arizona Plant Law due to its high value. Mature ironwood trees appear in both washes and throughout the proposed solar development areas. These trees provide important habitat functions and increase the biological diversity of areas. They act as both "nurse plants" and keystone species that modify habitats and provide benefits to over 500 species of other plants and wildlife. If ironwoods were

eliminated from Sonoran Desert habitats, there would be a decrease in the density of associated plants and subsequently in associated local faunal communities. Ironwoods must be protected both to maintain the diversity and lushness of the Sonoran Desert communities they inhabit and to maintain the regeneration dynamics of species who utilize the canopy at some time in their life cycle. Protecting mature ironwood trees can help limit the impacts to wildlife as well as other plant species (http://www.desertmuseum.org/programs/ifnm_ironwoodtree.php).

We would specifically reiterate and request that the BLM exclude a small "b"-shaped parcel located adjacent to and immediately south and west of Ironwood Forest National Monument and northeast of the Tohono O'odham Reservation, near Avra Valley Road/Silverbell Road loop, less than 20 miles west of I-10 between Tucson and Casa Grande. Any solar energy development on this extremely small parcel would undoubtedly have significant visual impacts on both the national monument and the Tohono O'odham Nation, and potentially on traditional cultural properties. The same is true of the two parcels identified near the northern aspect of the monument: one parcel northwest of the very most northwestern part of the monument boundary in the Sawtooth Mountains and another parcel north of the "middle" of the monument, surrounded by state land. All three of these parcels can be seen in the Friends of Ironwood Forest's membership brochure and are important aspects of the experience and visual integrity of the Monument. The nearby Juan Bautista de Anza National Historic Trail Corridor and Auto Route may also be adversely impacted by development of parcels identified in this region. As well, The BLM should exclude the southern portion of the area southwest of the West Silver Bell Mountains, near the Aguirre Wash, around the former Spanish mission site, Santa Ana del Chiquiburitac, from solar energy development. The mission/visita was the last mission constructed in Primeria Alta in the late 1700's by Tohono O'odham laborers for Spanish Franciscan friars. Very few Spanish mission sites are known from Arizona so this one is undoubtedly nationally and regionally significant.

In Pinal County's series of public open houses regarding their recent Comprehensive Plan update, maintenance of an east-west open space wildlife linkage and trails system, from the Sawtooth and Silverbell Mountains of the Ironwood Forest National Monument, across utility easements, railroad tracks, I-10, and the CAP canal, to the Tortolita Mountains and to the Picacho State Park and Mountains, was identified by citizens as a key component of the plan. Each of the aforementioned mountain ranges is listed as an "Area of High Biological Significance" on the Arizona State Mapguide (<http://gis.pima.gov/maps/mapguide/mgmap.cfm?path=/maps/az/mapguide/arizona65.mwf&scriptpath=mgmapinitnullAPI.inc>) – seen below.



Pinal County's Comprehensive Plan Open Space and Trails Master Plan figures present multiple conflicts with areas you are considering for potential solar development (<http://pinalcountyaz.gov/Departments/DevelopmentServices/Documents/Downloads/FINAL%20Open%20Space%20and%20Trails%20Master%20Plan.pdf>). Many of these BLM lands not currently within Ironwood Forest National Monument were originally submitted for inclusion and could be considered for inclusion if there is ever an expansion of the Monument. We would refer you specifically to the map of cultural resources (Figure 4, page 14) and associated text as well as the final master plan (Figure 13, page 42).

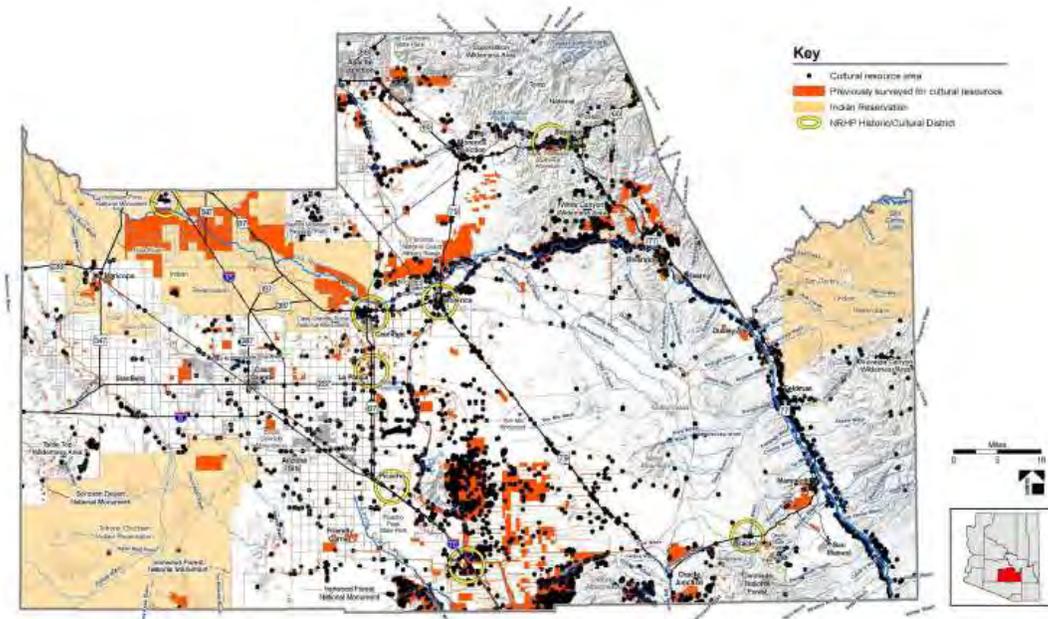


Figure 4. Cultural Resources

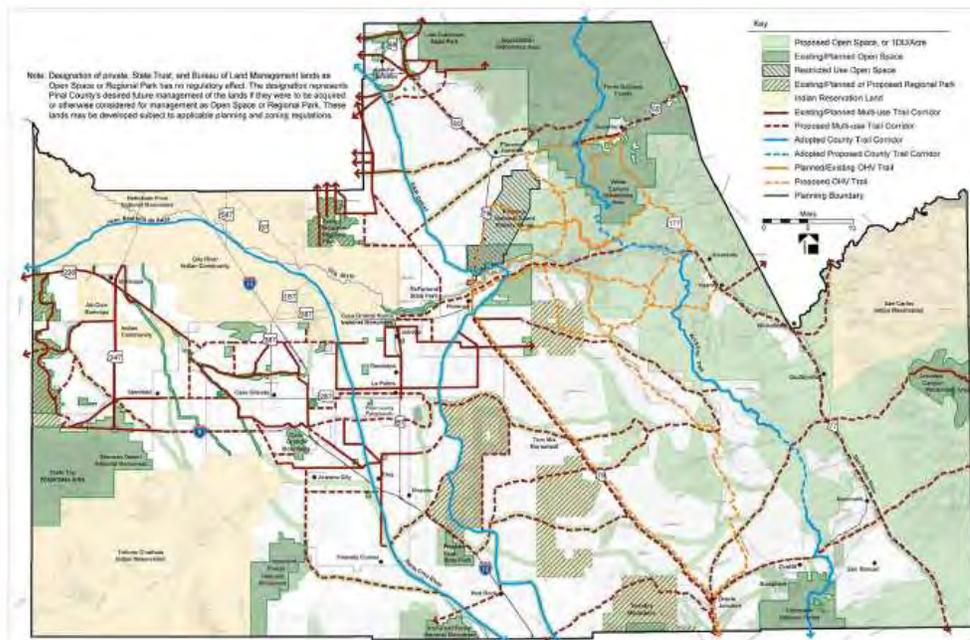


Figure 13. Final Master Plan Map

This region encompasses many wildlife linkages including the Ironwood - Tortolita Linkage # 79 of the statewide Arizona Wildlife Linkage Assessment

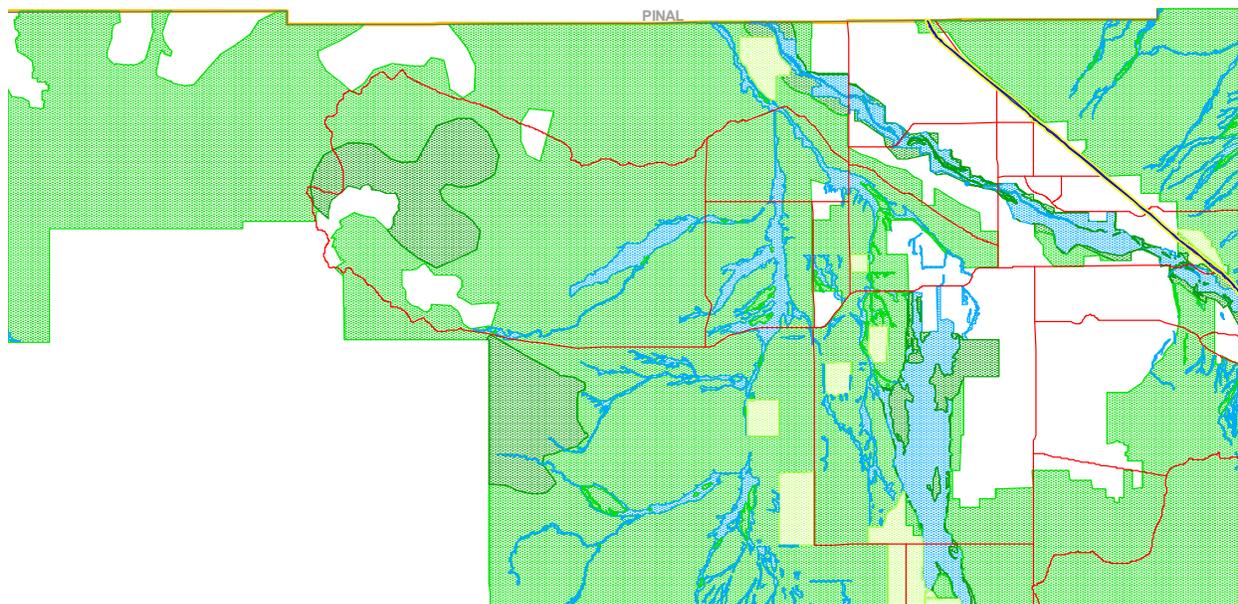
(http://www2.azdot.gov/Highways/OES/AZ_WildLife_Linkages/assessment.asp), pages 95 & 96. This project was undertaken by over 9 different public agencies and non-profit organizations including federal and state agencies, experts, academics, and researchers and has identified potential linkages throughout the state. Focal species of concern analyzed were: Bighorn Sheep, Bobcat, Cactus Ferruginous Pygmy-owl, Cave Myotis, Javelina, Kit Fox, Mountain Lion, Mule Deer, Sonoran Desert Tortoise, and Western Burrowing Owl. Vegetative types identified were: 29% AZ Upland Sonoran Desertscrub and 71% Lower Colorado River Sonoran Desertscrub.

The Ironwood – Picacho Linkage was further researched for the Arizona Game and Fish Department by Dr Paul Beier *et al* of Northern Arizona University – please see Figure 1

(http://corridordesign.org/dl/linkages/reports/Ironwood-Picacho_LinkageDesign.pdf). Focal species of concern analyzed were: Badger, Black-tailed Jackrabbit, Desert Bighorn Sheep, Javelina, Mule Deer, Black-tailed Rattlesnake, Desert Tortoise, Sonoran Desert Toad, Sonoran Whipsnake, Tucson Shovel-nosed Snake, and Cactus Ferruginous Pygmy-owl. 92% of the landcover within the linkage design was composed of scrub – shrub, more specifically comprised of 30.7 % Creosotebush - White Bursage Desert Scrub, 60.7 % Palo Verde - Mixed Cacti Desert Scrub, 0.2% Mesquite Upland Scrub, and 0.4% Desert Scrub (misc). Our colleagues have submitted species specific comments we commend to your attention.

We would reiterate: "Industrial-scale solar development in these linkages could result in their permanent impairment, fragmentation and loss of functionality for certain species...For public lands affected by the proposed action and alternatives in Arizona, we recommend that the Arizona Wildlife Linkages Assessment and subset of modeled multi-species linkages be utilized to identify areas of avoidance and/or mitigation... Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it's important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses."

The landscape level goals of both Pinal County's Open Space and Trails Master Plan and Pima County's national award winning Sonoran Desert Conservation Plan and pending Multi-species Habitat Conservation Plan application with the US Department of the Interior's Fish and Wildlife Service may be adversely impacted and demonstrate significant conflicts with areas you are considering for solar development (<http://www.pima.gov/cmo/sdcp/>) & (<http://gis.pima.gov/maps/mapguide/mgmap.cfm?path=/gis/maps/mapguide/dotmap65.mwf&scriptpath=mgmapinitnullAPI.inc>).



Direct, indirect and cumulative impacts of industrial development of many of the parcels BLM has haphazardly identified could be devastating to geologic, hydrologic, cultural, historic, and biologic resources and their functions in maintaining bio-diversity and resilience in the face of climate change. As a policy, BLM should not propose any parcel for consideration without first thoroughly surveying it

for cultural and historic significance as well as consulting with expert biologists in academia, AGFD, and the USFWS, regarding biologic resources and local jurisdictions regarding their land use planning processes.

Quoting the BLM website (http://www.blm.gov/wo/st/en/prog/blm_special_areas/NLCS.html), "the Bureau of Land Management's National Landscape Conservation System (NLCS) contains some of the West's most spectacular landscapes. It includes over 886 federally recognized areas and approximately 27 million acres of National Monuments, National Conservation Areas, Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers, National Scenic and Historic Trails, and Conservation Lands...

...The NLCS also reveals and protects our cultural legacy. It safeguards American Indian cliff dwellings and cultural sites, and preserves the remaining traces of our Nation's historic trails and pathways. The mission of the National Landscape Conservation System is to conserve, protect, and restore these nationally significant landscapes that are recognized for their outstanding cultural, ecological, and scientific values.

The NLCS works to conserve the essential fabric of the West. NLCS areas are part of an active, vibrant landscape where people live, work and play. They offer exceptional opportunities for recreation, solitude, wildlife viewing, exploring history, scientific research, and a wide range of traditional uses.

These are places that spark the imagination. Their spacious beauty has drawn people to the West for generations. The NLCS sustains for the future - and for everyone - these remarkable *landscapes of the American spirit.*"

We agree. It should be apparent that any placement of industrial alternative energy factories within these "landscapes of the American spirit" is contrary to the intent of their designation and would compromise the very values for which they are revered and held in trust for current and future generations.

Therefore, the Friends of Ironwood Forest find that the possibility that a solar industrial complex could be placed near or within view of the boundaries of the Ironwood Forest National Monument is clearly inappropriate, inconsistent, and should never be considered in any alternative proposed by the BLM or any branch of the US government.

Thank you for your careful consideration of our comments,

Lahsha Brown, Executive Director

Thank you for your comment, April Sall.

The comment tracking number that has been assigned to your comment is SolarD11778.

Comment Date: April 27, 2011 18:23:03PM
Solar Energy Development PEIS
Comment ID: SolarD11778

First Name: April
Middle Initial: L
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Address 2:
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City: Oak Glen
State: CA
Zip: 92399
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Desert Siting Criteria Memo June 29_FINAL_SENT.pdf

Comment Submitted:

April 26, 2011

Delivered via electronic submission to the BLM Solar PEIS website (<http://solareis.anl.gov>) and U.S. mail.

Linda Resseguie, BLM Solar PEIS Project Lead
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Argonne, IL 60439

Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Thank you for the opportunity to comment on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS). The Wildlands Conservancy (TWC) also signed on to a larger group of environmental comments but would like to submit the following comments specific to our organization and position. TWC is a 501c3 non-profit conservation organization with the dual mission to preserve the beauty and biodiversity of the earth and to fund outdoor education programs for the youth. TWC has preserved more land in California with private funds than any other conservation organization and owns the largest nonprofit preserve system in California (CA). TWC is an advocate for the preservation of the unique and sensitive lands of the Mojave Desert, and we request that the following comments be applied to the PEIS to maintain the conservation, historic, and recreation values of these public lands.

TWC is very supportive of responsible renewable energy and eliminating our dependence on fossil fuel energy sources and reducing our carbon footprint. TWC leads by example with point of use renewable energy. Our first preserve was established off-the-grid and self-sufficient in 1995. Since that time we have installed photovoltaic solar arrays or wind mills on the majority of our preserves. We feel it is imperative that the siting of renewable energy projects and the greening of California's energy supply be accomplished while protecting our treasured landscapes and fragile ecosystems. TWC also has a vested interest in the current renewable energy discussion and corresponding developments being proposed on federal lands within the California desert region.

TWC is passionate about land conservation and preserving functioning ecosystems and initiated the largest private land acquisition project in U.S. History, The Catellus Land Purchase. Determined to prevent one of the great deserts of the world from being severed by development TWC raised more than \$45 million in private funds and gifted it to the American people. This gift was to ensure preservation of a 140-mile stretch of the Mojave Desert that includes a spectacular landscape of eroded granite mountains, seemingly endless valleys, heroic rock formations, cinder cones and sand dunes. The purchase of over 600,000 acres in the CA Desert connected Joshua Tree National Park to Mojave National Preserve with public conservation lands. These lands were gifted to the Department of Interior (DOI) for management with the understanding that they were purchased for conservation. President Bill Clinton, Vice President Al Gore, DOI Secretary Bruce Babbitt and BLM Director Tom Fry all praised and congratulated TWC on the conservation benefits of this legacy purchase. Just 4 years after the completion of the project, applications for industrial renewable energy development began to cover the CA Desert and threaten to undo this legacy conservation project.

The Department of the Interior and the Department of Energy created a 'land rush' in the CA desert beginning with the Energy Policy Act of 2005. Shortly afterward, BLM announced its goal to produce 15,000 megawatts of renewable energy on public lands by 2015. While we support the overall initiative to green America's energy supply, DOI and DOE did not create a framework and siting criteria to encourage responsible projects in the most appropriate locations and as a result a speculative rush followed. Economic incentives for industry were numerous including: the low cost of 'leasing' public lands for projects, government American Recovery and Reinvestment Act (ARRA) grants and guaranteed loans, 'fast-tracked project status, etc. By 2007 over 1.2 million acres of the California desert were under application for industrial development and many of those applications were in areas with highly sensitive resources and proposing inefficient or unproven technology. Frustrated desert residents and enthusiasts were assured by BLM that the PEIS would be a planning document that would designate the best places for solar development on public lands and so far the draft greatly missed that mark.

The Preferred Alternative (PA)

The current preferred alternative is not only an enormous step backwards in the progress toward the development of a responsible renewable energy program, but it would be a waste of resources to continue with the PEIS if that remains the preferred alternative (PA). If the DOI continues to propose the preferred alternative, the potential for solar on 22 million acres in the west, then the PEIS has become a mere smokescreen for a planning document and is not the comprehensive planning document mandated by National Environmental Protection Act (NEPA). This preferred alternative would essentially be continuing the current status quo of accepting and processing applications for development on most public lands (National Parks, Wilderness and other Congressional designations being the only exclusions from development), with no integration of the 2010 independent science report that recommends renewable energy development on disturbed and degraded lands and that wildlands ecosystems remain intact. Recent emerging studies dramatically elevate the value of the Mojave Desert as a carbon sequestration bank and put in question the public benefit and green-house gas results of utility scale renewable energy development on undisturbed lands in the Mojave.

DOI began the NEPA process with a scoping process in 2009 for designating solar enterprise zones (SEZ's) on approximately 350,000 + acres in the California Desert Conservation Area (CDCA). Now in the first draft of the PEIS DOI has changed to a PA that includes the SEZ's plus the additional 22 million acres in the western 6 states, which completely changes the original intent and objective of the initial scoping Notice of Intent and public comments. In addition, the inclusion of the 1.7 additional acres in CA covers many of the lands in the Catellus lands Purchase that were gifted for conservation and include the proposed Mojave Trails National Monument. Lastly, because the planning area has been increased by more than 6 times of the original project area, we recommend that the DOI by virtue of NEPA, redo the scoping process.

SEZ's

It is TWC's position that DOI should change the preferred alternative to the Solar Energy Zones (SEZ) alternative only (Alternative). Furthermore, the SEZ's still need to be reduced and revised (see our September 2009 comments) for solar energy development to provide for long-term conservation and ecosystem functioning within the California Desert Conservation Area (CDCA). Also the current draft does not account for how pending solar applications will be incorporated into the PEIS or potential zones etc. and thus how cumulative impacts will be assessed and minimized.

In an effort to facilitate the BLM's daunting task of identifying suitable public lands for solar development, a number of environmental organizations including TWC have worked together to develop a desert siting criteria memo specifically designed for use by the BLM in the California Desert Conservation Area (CDCA) back in 2008-9. Those criteria were intended to aid in identifying lands both within and outside the SESA's that are lower in environmental resources and sensitivity and thus, more appropriate for industrial development. In the recent draft of the PEIS DOI appears to have discounted those and all other conservation and science recommendations by not including the recommended alternative that utilizes disturbed and degraded lands and instead selecting the current PA. This siting criteria memo is attached again and should be revisited and utilized in the Solar PEIS and SEZ designation if DOI is going to uphold any of its conservation mission.

Summary

The current PA in the Draft Solar PEIS is detrimental to all of the conservation work that has been done in the western deserts and does not reflect any of the knowledge scientists and land managers have gained over recent decades in the fields of conservation biology and ecosystem management. The environmental community has tried to work diligently alongside BLM over the past 2 years to help identify disturbed and degraded lands, including public lands that would provide the least conflicts for development and minimize irreversible ecosystem damage to our fragile deserts. Unfortunately these efforts seem are absent in the current draft of the PEIS and PA.

In 2010 DOI approved several "fast-track" projects, several of them with severe environmental damage and costs and despite the information about numerous sensitive resources upon breaking ground, these projects have been allowed to continue on their previous requirements without any revisions or adjustments to project footprints, mitigation or overall approval. Also since 'The BLM will continue to process existing renewable energy applications both within and outside the solar energy study areas' development is continuing in a crude framework. The DPEIS does not address how these pending, nor future applications will be treated in relation to the SEZ's in CA.

There are many proposed uses, and much competition for, the public lands in the desert including, but not limited to conservation, recreation, mineral exploration, military expansion, and renewable energy. While these are not all exclusive uses, BLM is charged with making many of these management decisions and allocations. Therefore, with regard to renewable energy, DOI should thoroughly evaluate the use of already disturbed lands (both private and public), and local distributed RE generation such as solar PV on rooftops of commercial and residential buildings to incorporate many alternatives and solutions into America's energy model. As TWC has stated before, prioritization should be given to previously degraded and destroyed lands before compromising the untouched, pristine desert landscapes that contribute to the legacy of the Western Frontier.

In closing, we need to reiterate that we are highly supportive of renewable energy generation, specifically solar, in the California Desert. The current PEIS model, however, is not only unnecessary and irreversible; it is an irresponsible use of our public lands.

There are diverse alternatives to consider, and later implement, to reach our renewable energy goals.

The fate of our precious land is entrusted to the DOI. We ask that you thoughtfully weigh the consequences of this decision. Thank you for the opportunity to provide insight and comment regarding the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

Sincerely,

April Sall
The Wildlands Conservancy, Conservation Director

Audubon California
California Native Plant Society * California Wilderness Coalition
Center for Biological Diversity * Defenders of Wildlife
Desert Protective Council * Mojave Desert Land Trust
National Parks Conservation Association
Natural Resources Defense Council * Sierra Club * The Nature Conservancy
The Wilderness Society * The Wildlands Conservancy

Renewable Siting Criteria for California Desert Conservation Area

Environmental stakeholders have been asked by land management agencies, elected officials, other decision-makers, and renewable energy proponents to provide criteria for use in identifying potential renewable energy sites in the California Desert Conservation Area (CDCA). Large parts of the California desert ecosystem have survived despite pressures from mining, grazing, ORV, real estate development and military uses over the last century. Now, utility scale renewable energy development presents the challenge of new land consumptive activities on a potentially unprecedented scale. Without careful planning, the surviving desert ecosystems may be further fragmented, degraded and lost.

The criteria below primarily address the siting of solar energy projects and would need to be further refined to address factors that are specific to the siting of wind and geothermal facilities. While the criteria listed below are not ranked, they are intended to inform planning processes and were designed to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. They were developed with input from field scientists, land managers, and conservation professionals and fall into two categories: 1) areas to prioritize for siting and 2) high conflict areas. The criteria are intended to guide solar development to areas with comparatively low potential for conflict and controversy in an effort to help California meet its ambitious renewable energy goals in a timely manner.

Areas to Prioritize for Siting

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
 - Lands that have been “type-converted” from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).¹
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:²
 - Allow for the expansion of renewable energy development onto private lands.
 - Private lands development offers tax benefits to local government.
- Brownfields:
 - Revitalize idle or underutilized industrialized sites.
 - Existing transmission capacity and infrastructure are typically in place.

- Locations adjacent to urbanized areas:³
 - Provide jobs for local residents often in underserved communities;
 - Minimize growth-inducing impacts;
 - Provide homes and services for the workforce that will be required at new energy facilities;
 - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.⁴

High Conflict Areas

In an effort to flag areas that will generate significant controversy the environmental community has developed the following list of criteria for areas to avoid in siting renewable projects. These criteria are fairly broad. They are intended to minimize resource conflicts and thereby help California meet its ambitious renewable goals. The criteria are not intended to serve as a substitute for project specific review. They do not include the categories of lands within the California desert that are off limits to all development by statute or policy.⁵

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant⁶ populations of federal or state threatened and endangered species,⁷ significant populations of sensitive, rare and special status species,⁸ and rare or unique plant communities.⁹
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.¹⁰
- Lands purchased for conservation including those conveyed to the BLM.¹¹
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes.¹²
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas.¹³
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.¹⁴
- National Historic Register eligible sites and other known cultural resources.
- Locations directly adjacent to National or State Park units.¹⁵

EXPLANATIONS

¹ Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

² Based on currently available data.

³ Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

⁴ The term "federally designated corridors" does not include contingent corridors.

⁵ Lands where development is prohibited by statute or policy include but are not limited to:

National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Recreation Areas; National Monuments; private preserves and reserves; Inventoried Roadless Areas on USFS lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers a; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites.

⁶ Determining “significance” requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

⁷ Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units.

⁸ Significant populations/occurrences of sensitive, rare and special status species including CNPS list 1B and list 2 plants, and federal or state agency species of concern.

⁹ Rare plant communities/assemblages include those defined by the California Native Plant Society’s Rare Plant Communities Initiative and by federal, state and county agencies.

¹⁰ ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The CDCA Plan has designated specific Wildlife Habitat Management Areas (HMAs) to conserve habitat for species such as the Mohave ground squirrel and bighorn sheep. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

¹¹ These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

¹² Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

¹³ Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be: 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies and found to have defined “wilderness characteristics.” The proposal has been publicly announced.

¹⁴ The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts; aquatic and riparian species may be highly sensitive to changes in groundwater levels.

¹⁵ Adjacent: lying contiguous, adjoining or within 2 miles of park or state boundaries. (Note: lands more than 2 miles from a park boundary should be evaluated for importance from a landscape-level linkage perspective, as further defined in footnote 12).

Thank you for your comment, Cory Lytle.

The comment tracking number that has been assigned to your comment is SolarD11779.

Comment Date: April 28, 2011 13:35:23PM
Solar Energy Development PEIS
Comment ID: SolarD11779

First Name: Cory
Middle Initial:
Last Name: Lytle
Organization: Lincoln County NV- Planning Department
Address: PO Box 329
Address 2:
Address 3:
City: Pioche
State: NV
Zip: 89043
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Lincoln County NV Planning Department Solar PEIS comment letter 4-28-11.pdf

Comment Submitted:



Lincoln County Planning Department
Post Office Box 329
Pioche, Nevada 89043

Phone 775 962 5345 Fax 775 962 5347

April 12, 2011

Solar Energy Draft Programmatic EIS
Attn: Ms. Heidi M. Hartmann, Document Manager
Argonne National Laboratory
9700 Cass Avenue – EVS/240
Argonne, Illinois 60439

RE: Comments to Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Hartmann:

The Lincoln County Planning Department (Department) appreciates this opportunity to provide Public Scoping comment on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

General Comments

General Comment 1. The Lincoln County Planning Department (Department) **supports** the “Solar Energy Zone Program Alternative” (SEZ Program) and **opposes** the “Solar Energy Development Program Alternative” (preferred alternative) for reasons and criteria listed below.

Many local stakeholders and agency representatives have previously identified lands in Lincoln County that meet suitability requirements for solar energy development. These lands also meet the criteria of “low potential for conflict” found in IM 2011-16.

The SEZ Program Alternative will limit the exorbitant amount of time, money and energy (on behalf of the energy developer, Lincoln County, local and regional stakeholders, State and Federal agencies) that goes into making sure that solar development rights-of-way are “smart from the start” and sited in appropriate locations.

General Comment 2. In terms of total proposed and feasible acreage, the Department **does not** support SEZ designation and solar energy development in excess of the capacity of existing and/or reasonably foreseeable power transmission facilities. In terms of location, these would be the utility corridors located throughout Lincoln County and designated by the LCCRDA and the SWIP. SEZ designations should be limited in size to reasonably foreseeable line capacity in which the generated electricity can be transported.

Given the current and proposed transmission line capability located within Dry Lake Valley and Delamar Valley, the “reasonable and foreseeable” total transmission capacity will not exceed 2000 MW. This is primarily because of line length and other pertinent factors. One must remember the 2000 MW rating represents total transmission capability. If a generous assumption of 50% of the line capacity is that of solar energy and the calculated solar energy production of 9 acres per MW is utilized, the total acreage that should be designated as a SEZ in Lincoln County **should not** exceed 9,000 – 10,000 acres total. Again these figures are estimations, albeit generous.

Therefore, the Department strongly recommends that the Final PEIS and any related Record of Decision identify no more than 10,000 acres of BLM-administered lands be identified for SEZ designation in Lincoln County.

General Comment 3. The Department, the Board of Lincoln County Commissioners, and local stakeholders have identified a portion of the Ely Springs Cattle Allotment located within the proposed Dry Lake Valley North SEZ that is very suitable for solar energy development. In addition, the owner of the grazing permit for the Ely Springs Cattle Allotment supports solar development within the allotment and the owner’s adjacent private land.

The Department emphasizes that solar energy development on BLM administered land should be implemented in a manner that is “smart from the start.” The development should be designed relevant to transmission capability, located in areas that avoid and minimize impacts to other beneficial multiple use and beneficial natural and cultural resources, and at the same time compliment local economics and bolster our energy portfolio. The location in Lincoln County described above embraces all of these “smart from the start” principles.

The Ely Springs Cattle Allotment within the Dry Lake Valley North SEZ is also very practically situated in terms of addressing issues such as transportation management, potential transmission line “tie-in”, and waste generation management. From a development standpoint, this area provides an effective clustering of solar potential. Locating centralized development of solar in this area provides for efficient and economical long-term operation and maintenance. In addition, the potential remains for several small or medium-scale developments to co-locate grid tie-in capabilities. This of course, is a critical aspect of solar development that is very costly.

General Comment 4. The Department strongly recommends that the Final PEIS and any related Record of Decision classify the remaining acreage within the proposed Dry Lake North SEZ as “lands excluded from utility-scale solar energy development.” Solar development on remaining acreage within the proposed Dry Lake North SEZ does not “minimize adverse impacts to other resources” including, but not limited to: water resources, soil resources, vegetation resources, visual resources, recreation, livestock grazing, wildlife and county socioeconomics. Solar development in the remaining portion of the proposed Dry Lake Valley North SEZ would have unacceptable impacts to the above listed resources.

General Comment 5. The Department strongly recommends that the Final PEIS and any related Record of Decision classify the entire proposed Delamar Valley SEZ as “lands excluded from utility-scale solar energy development”. The proposed Delamar Valley SEZ does not “minimize adverse impacts to other resources” including, but not limited to: water resources, soil resources, vegetation resources, visual resources, recreation, livestock grazing,

wildlife and county socioeconomics. Solar development in any portion of the proposed Delamar Valley SEZ would have unacceptable impacts to the above listed resources.

General Comment 6. The Department strongly recommends that the Final PEIS and any related Record of Decision classify the entire proposed East Mormon Mountain SEZ as “lands excluded from utility-scale solar energy development”. The proposed East Mormon Mountain SEZ does not “minimize adverse impacts to other resources” including, but not limited to: water resources, soil resources, vegetation resources, visual resources, recreation, livestock grazing, wildlife and county socioeconomics. Solar development in any portion of the proposed East Mormon Mountain SEZ would have unacceptable impacts to the above listed resources.

Specific Comments

Attachment A contains the Lincoln County Planning Department comments to specific chapters and sections of the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

IN SUMMARY

The BLM Ely District Record of Decision and Approved Resource Management Plan 2008 states the following: **“Goals – Renewable Energy: Provide opportunities for development of renewable energy sources such as wind, solar, biomass and other alternative energy sources while minimizing adverse impacts to other resources.”**; p. 73; (BLM/NV/EL/PL-GI08/25+1793)

The Lincoln County Public Lands Policy Plan 2010, Section 20 – Energy Development, states the following:

Policy 20-1:

The development and coordinated “siting” of renewable, alternative, and traditional energy generation and transmission is encouraged. Coordinated planning is needed to integrate related Federal, State, and local planning documents and processes and expedite the permitting and evaluations needed for project approvals. This planning and coordination should occur at the project scoping phase or other preliminary process.

Policy 20-2:

Renewable and alternative energy should be a priority and utilized in a manner that compliments other environmental resources and considers cumulative effects in a given area. Efforts should be undertaken to ensure a balance between renewable energy development and the protection of other resources that make the County attractive to residents and visitors.

Policy 20-3:

Areas that have been identified which contain valuable high concentrations of natural and/or cultural resources within the County by the PLUAC, Lincoln County Planning Department, and Board of Lincoln County Commissioners, should be restricted from commercial energy development.

The Lincoln County Planning Department strongly recommends the following:

- 1) Support the “Solar Energy Zone Program Alternative” (SEZ Program) and **oppose** the “Solar Energy Development Program Alternative” (preferred alternative).
- 2) Support solar development on **10,000 acres within the Ely Springs Cattle Allotment**. This allotment is located in the proposed Dry Lake Valley North SEZ.
- 3) Support classifying the remaining acreage within the proposed Dry Lake North SEZ as “lands excluded from utility-scale solar energy development.” (approx. 66,000 acres)
- 4) Support classifying the entire proposed Delamar Valley SEZ as “lands excluded from utility-scale solar energy development.” (approx. 16,000 acres)
- 5) Support classifying the entire proposed East Mormon Mountain SEZ as “lands excluded from utility-scale solar energy development.” (approx. 9,000 acres)

The Lincoln County Planning Department maintains the items listed above represent the most feasible and sustainable alternatives for solar development in Lincoln County from both a local standpoint and that of a potential developer. The acreage supported by the Department directly coincides with the “potential” availability and reasonable foreseeable ability to transport energy that is produced.

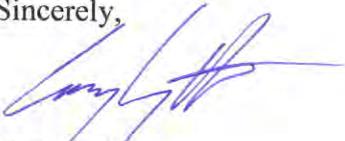
The acreage supported by the Lincoln County Planning Department also avoids and/or minimizes impacts to other beneficial multiple use and beneficial natural and cultural resources. Maintaining a “smart from the start” approach to this process will yield positive and sustainable results for all who are involved.

The acreage supported by the Lincoln County Planning Department should have no impact on the overall feasibility of solar energy production within Lincoln County, nor should it encumber the renewable energy goals of the State of Nevada or the current Federal Administration.

The Lincoln County Planning Department looks forward to working with BLM, DOE, Argonne National Laboratory and their staffs in preparing a Final PEIS which facilitates utility-scale solar energy development on BLM-administered lands. Lincoln County supports solar development in the right location and logistical method. Proper planning and coordination with local entities at the scoping phase will avoid or minimizes impacts to other multiple uses and beneficial resources that are critical to our county.

Please feel free to contact the Lincoln County Planning Department with questions or concerns.

Sincerely,



Cory Lytle
Lincoln County Planning Department

Thank you for your comment, claudia sall.

The comment tracking number that has been assigned to your comment is SolarD11780.

Comment Date: April 28, 2011 14:20:09PM
Solar Energy Development PEIS
Comment ID: SolarD11780

First Name: claudia
Middle Initial:
Last Name: sall
Organization: california desert coalition
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: BLM_Solar DPEIS_Comments_CDC-final_28April2011_cs[1].pdf

Comment Submitted:

I am submitting a 2-page comment letter from California Desert Coalition. The file format is pdf



CALIFORNIA DESERT COALITION

P.O. Box 1508
Yucca Valley, CA 92286
www.CaDesertCo.org

April 28, 2011

Linda Resseguie, BLM Solar PEIS Project Lead
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Ave. - EVS/900
Argonne IL 60439

RE: Comments on Draft Programmatic EIS (DPEIS): Solar Energy Study Area

Dear Ms Resseguie:

The California Desert Coalition (CDC) provided scoping comments for the Solar Energy Development Programmatic EIS in September 2009 and is pleased to provide comments on the Draft Programmatic EIS: Solar Energy Study Area.

CDC is a citizens' advocacy group formed in 2007 to oppose the Los Angeles Department of Water & Power's (LADWP's) preferred alignment for its Green Path North transmission line project. Although the LADWP withdrew from Bureau of Land Management (BLM) its application for the Green Path North transmission line, CDC on behalf of the public continues to participate in the monitoring of renewable energy development in the California desert.

Scoping Comments

Despite our work and the extensive contributions from other public benefit organizations, we are disappointed that none of our scoping comments and recommendations has been incorporated in the DPEIS, specifically:

1. Existing Solar Applications be Disallowed outside of SESA's
2. Proposal for a Disturbed Lands Alternative.
3. Elimination of the need for the designation of additional transmission corridors by siting SESA's near existing roads and existing transmission line routes.

In our scoping comments, we noted that SESA's will not contribute to Energy Policy Act of 2005, do not comply with Goal #2 of the Department of Energy (DOE) plan favoring distributed energy, and that the Energy Policy Act of 2005 has suggested but not mandated that BLM produce renewable energy quotas on public lands. DOE, however, does offer a model on siting of renewable energy project in disturbed lands when it states that "PV when built in brownfields . . . could supply the nation with 90% of its power".

Lands being Proposed for Solar Development

When CDC provided scoping comments for the solar PEIS, the planning area was described by Department of Interior (DOI) was about 350,000 acres of SESA's in the Pisgah, Iron Mountain, Riverside East, and Imperial East. Only 18 months later, a new proposed preferred alternative (PA) has appeared with a DPEIS planning area that has dramatically exploded into an area six

times the original size, now an additional 22 million acres. What has caused this trice doubling appears to have happened as an internal document within the Department without the guiding benefit of the public scoping process and outside of public scrutiny. The public was not prepared in the scoping process for this unexpected alternative, nor was it the intent of the PEIS which was to direct how solar development on public lands was to proceed. Although the public widely participated in providing comments, the introduction of the PA is evidence that the exchange of information from BLM was not reciprocal. Now the previous scoping comment process is not adequate for or relevant to this new PA with its grossly expanded planning area. This PA must be taken off the table; otherwise, the scoping process per NEPA requirements must be repeated.

In the scoping process, many, many voices articulated that a Disturbed Lands Alternative should be included as an alternative. This alternative is markedly absent in the DPEIS. In its place is the bloated PA. In addition lands in the SESA's have since the scoping period been proposed for wilderness protection: no recognition has been given to their impending revised status and no SESA's have been modified or eliminated. For the reasons cited by The Wildlands Conservancy, we recommend that:

- Iron Mountain SESA be eliminated
- Pisgah SESA be significantly reduced or eliminated
- Riverside East be eliminated
- Imperial East SESA been reduced to avoid the cited impacts

Emerging Science in the Mojave Desert

In the fall of 2010, a panel of independent science advisors prepared a detailed report to the BLM, California Energy Commission, and state and federal wildlife agencies for the constructing and managing of renewable energy projects. The scientists said that undisturbed open spaces and important wildlife habitat should not be permanently sacrificed when other alternatives exists, i.e. big solar, wind and other energy projects should be built on "disturbed land" such as denuded former farms or on the land along roads, canals and power lines. They outlined specific principles for siting and designing renewable energy projects and principles for mitigation. If the Department and the Bureau had consulted with the independent science panel, certainly their findings would have been different than to create a design model that added substantially more undisturbed lands rather than modifying the original model presented to the public for review by providing a disturbed land alternative. Despite available resources, clearly DOI has chosen to leave out current science wisdom in the DPEIS.

In addition to this report are emerging scientific studies that point to the potential importance of carbon storage in deserts. Concern is expressed that where caliche (calcium carbonate) has developed, removing native vegetation, disturbing the soil surface and especially wetting the soils could add up to a release of that stored carbon in the caliche. This then clouds the certainty that a given solar array will end up really saving carbon or result in carbon releases that exceed their savings.

We call upon the DOI to draw on this science that supports the Disturbed Land Alternative and that also recommends against the preferred alternative (PA) that would develop more than 22 million acres of undisturbed, carbon-storing desert land.

Revisit to 1980 CDCP

The present DPEIS with its Proposed PA is a piecemeal planning process prejudiced to favor utility scale development of renewable energy instead of an impartial analysis of that

development. As evidence by the recent postponement at Ivanpah, resource values have taken second seat to energy development, and there was a failure to complete adequate biological surveys and a failure to analyze impacts. This expedited approach in this case compromised resource values and is the same approach taken in the DPEIS where the planning has become piecemeal rather than comprehensive as mandated by NEPA. In general, the deficiencies are so numerous in the DPEIS, that we recommend that the DPEIS be scrapped altogether, and perhaps use the existing CDCP as a the planning document for renewable energy

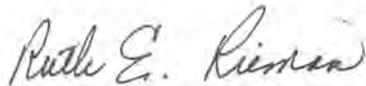
Conclusion

From the start, the DPEIS focus has been narrow rather than broad. It dismisses alternatives like distributed energy, conservation, and disturbed lands and is prejudiced to accommodating utility size scale development on undisturbed public lands. It has ignored direction from DOE regarding development of renewable energy on “brownfields” and not employed the scientific study developed specifically for DOI/BLM use that would direct them to already disturbed lands and to lands that would produce distributed energy. Sadly, we conclude that the siting of renewable energy has been more of a political football than a decision vetted by NEPA requirements and in the best interests of the public good. The failure of the Department to adequately provide siting criteria for renewable energy leaves the public with no alternative than to litigate the final EIS document and that failure will compound into delaying the process that will yield direly needed benefits of renewable energy for the American people.

NEPA requires BLM to consider a broad range of alternatives and BLM has failed to do that. Despite all the scoping comments given to provide guidance on the DPEIS, BLM has failed to use that information. Science has recommended a Disturbed Lands Alternative and BLM has failed to hear that recommendation. Instead, BLM has come up with a surprising, internally produced preferred alternative that neither serves the public nor effectively manages our public lands. This DPEIS is fundamentally flawed and the NEPA process must be re-started.

We continue to participate in the effort to protect the future of our citizens and their environment, the California Desert, and will be pleased to know that our efforts have been regarded and our work reviewed.

Sincerely,

A handwritten signature in cursive script that reads "Ruth E. Rieman".

Ruth E. Rieman, Vice Chair
California Desert Coalition

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11781.

Comment Date: April 28, 2011 16:00:24PM

Solar Energy Development PEIS

Comment ID: SolarD11781

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment: To Whom It May Concern.doc

Comment Submitted:

To Whom It May Concern:

In the summer of 1992, I moved from Los Angeles, CA to The Coachella Valley, I was only five at the time. I grew up here in Eastern Riverside County and came to love it and all it has to offer. Although it doesn't have the amusement parks, grand concert venues, or beaches that Los Angeles has to offer but it offers other things like the nature. Here in the desert we can go hiking, camping or even have nature walks; can you honestly do that in the city? You can take a walk outside and enjoy the nice, fresh, unpolluted air and clear blue skies. At night you are able to take a walk outside and go stargazing. You can go to the Natural Museum and see all the animals. Only putting these solar units in will greater damage our community and our history. Our precious animals will become extinct and our desert will no longer be as it once was. People from all over the world come to our desert to relax and see what this environment has to offer. Most of those tourists come down to hike in the mountains, or to go horseback riding. I have come to love the desert and its sense of calm. It would be detrimental if you destroyed that.

Thank you,

Arlene Arvizu

Thank you for your comment, Raymond Hiemstra.

The comment tracking number that has been assigned to your comment is SolarD11782.

Comment Date: April 28, 2011 17:32:45PM
Solar Energy Development PEIS
Comment ID: SolarD11782

First Name: Raymond
Middle Initial:
Last Name: Hiemstra
Organization:
Address: 214 19th st #5
Address 2:
Address 3:
City: Huntington Beach
State: CA
Zip: 92648
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a property owner in the California desert and a taxpayer concerned about government subsidies to private companies I respectfully submit the following comments.

1. There is plenty of privately owned land available for these projects to be located on. This property, which is often already disturbed, can be purchased at reasonable market rates. I oppose subsidizing these or any other energy projects with the gift of free public land. This warps the true cost of developing the energy source and robs private property owners of a potential source of income. These projects need to be able to stand on their own economically.
2. I am specifically opposed to the construction of concentrated solar projects that require cooling water. It is no secret that water is in short supply in the desert and that there will be serious negative impacts to plants and wildlife throughout the area due to the lowering of the water table. The result will be that the power plants will dry up springs and reduce the availability of water for vegetation. Only photovoltaic based technology should be used in the desert, if any is used at all.
3. Common sense tells us that regardless of any agreements to restore the desert land used for solar projects these lands will be permanently altered and unable to function as it did before development. The first priority for siting of solar project should be the rooftops of urban areas using photovoltaic cells. Secondly, private property should be used, and thirdly, previously disturbed desert land should be used. The use of undisturbed desert land should only be used as a last resort and then only at a high cost to compensate the taxpayers for the loss of the valuable function of this land for wildlife and recreation.

In closing, it is my opinion that the use of desert lands for concentrated solar projects at this time is premature and unnecessarily destructive. Urban solar should be the focus of any government subsidized solar efforts with desert solar pursued only after significant advances in technology allow for a smaller footprint and less impact of the desert environment.

Thank you for considering my comments

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11783.

Comment Date: April 28, 2011 19:41:46PM
Solar Energy Development PEIS
Comment ID: SolarD11783

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Greetings!

I've been reading quite a bit on this subject, I'm a perfectionist and have a hard time sending my opinions because I know there is much more to learn.

Our public lands are a valuable resource. They are valuable in their wildness. I am 54, and there is less and less wild land for people to touch, to experience. We as humans need that space. We need open space that can be open, not just bits that are untouchable museum pieces.

There is so much damaged and disturbed land for solar. City roofs, parking lots, tailings piles -- more than enough for the solar plans. As a people we do not need to subsidize more energy corporations, we need to develop tools for people's energy independence, not putting more corporations on the dole.

Please, save our future, save my granddaughters' future, save our heritage, our public lands, minimize solar on the more wild solar lands, let parking lots bid against each other for these projects!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11784.

Comment Date: April 29, 2011 07:13:14AM

Solar Energy Development PEIS

Comment ID: SolarD11784

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization: Outdoor Alliance

Address: [Withheld by requestor]

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment: Outdoor Alliance Solar PEIS Comments.pdf

Comment Submitted:

OUTDOOR ALLIANCE

April 29, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: Bureau of Land Management and Department of Energy's Solar Programmatic Environmental Impact Statement

Dear Solar Energy PEIS Comment Review Staff:

Please accept the Outdoor Alliance's (OA) comments on the Bureau of Land Management (BLM) and the Department of Energy's (DOE) Solar Programmatic Environmental Impact Statement (SPEIS). The Outdoor Alliance supports responsible and sustainable renewable energy development. When pursued thoughtfully, renewable energy projects can coexist with human-powered outdoor recreation. These projects also play a critical role in decreasing the impact of climate change on public lands. We recognize all energy development has ecological and recreational impacts, and we commend your sensitivity to this issue by considering and limiting the impacts to ecosystems, habitat, wildlife and human-powered recreation.

Pursuant to the BLM's new Solar Energy Program and the SPEIS, the OA supports efforts to identify appropriate solar energy development on BLM-administered lands. However, we have specific comments and concerns related to the preferred alternative for your consideration.

Outdoor Alliance

Outdoor Alliance, a coalition of six national, member-based organizations is devoted to conservation and stewardship of our nation's public lands and waters through sustainable human-powered outdoor recreation. Outdoor Alliance includes the Access Fund, American Canoe Association, American Hiking Society, American Whitewater, International Mountain Bicycling Association, and Winter Wildlands Alliance. We represent the interests of the millions of Americans who hike, paddle, climb, mountain bike, ski and snow shoe on our nation's public lands and waters. Collectively, our direct membership is over 100,000, with a network of almost 1,400 clubs covering every state in the country.

Outdoor Alliance has extensive experience working with federal land management agencies and managers across the country concerning recreation and conservation policies. Renewable energy development on public lands is of particular interest, especially on BLM-administered lands where a substantial number of OA members recreate. Recreation opportunities on BLM lands in any of the six southwestern states offer some of the most highly-valued experiences in the country, whether hiking the Old Spanish National Historic Trail, paddling the Rio Chama Wild and Scenic River in New Mexico, climbing at Colorado's Shelf Road or Utah's Indian Creek Canyon, or mountain biking Utah's Hurricane Cliffs. These places, and many others like them are a condition precedent for the \$730 billion active outdoor recreation economy and the associated 6.5 million domestic jobs.



OUTDOOR ALLIANCE

BLM's Preferred Alternative: Solar Energy Development Program

Outdoor Alliance appreciates the BLM's efforts to exclude categories of land not suitable for utility-scale solar development, such as the National Landscape Conservation System (NLCS), Areas of Critical Environmental Concern (ACECs), lands with wilderness characteristics, National Recreation Trails, National Historic and Scenic Trails (NHSTs), Wild, Scenic, and Recreational Rivers, and Special Recreation Management Areas (SRMAs), to name a few. Outdoor Alliance has long valued the high-quality recreation opportunities found specifically within these categorical exclusions, which represent some of the best human-powered recreation in the American West.

Outdoor Alliance is, however, concerned about the 0.25 mile corridor from the centerline of an NHST or from the ordinary high water mark on either side of a Wild, Scenic, and Recreational River. Likewise, we recommend buffers be created along the boundaries of all SRMA's. One quarter of a mile is inadequate to address the impacts posed by solar development near these recreation opportunities, and we recommend at least a 0.5 mile buffer to better incorporate, among other impacts, viewsheds and ambient noise associated with solar projects.

We are encouraged to see reliance on existing, new, and upcoming renewal of Land Use Plans in the overall Solar Energy Program integration. We feel that this is crucial for success, and trust that the BLM's Recreation and Visitor Use program services will be fully engaged during this process.

Assessment of Potential Environmental Impacts

Outdoor Alliance has serious and particular concerns regarding the assessment of potential environmental impacts for the Solar Energy Development Program preferred alternative. There is a lack of consideration and detailed analysis required for the specific impacts that could occur related to human-powered outdoor recreation. Considering the social, quality of life and economic dimensions of outdoor recreation, especially in the American West, a more thorough analysis of the direct, indirect, and cumulative impacts on recreation is warranted.

Outdoor Alliance disagrees with the across the board recreation exclusion within lands used for solar energy development, potentially excluding recreation on 22 million acres of BLM land. We do not agree that solar development projects and recreation activities are *per se* mutually exclusive. We do believe there will be examples where the two can co-exist. We therefore suggest greater flexibility in project siting and some accounting for the possibility of continued recreational uses within solar development projects. This is especially true considering the additional acres of recreation impacted related to transmission lines and linear development.

The current SPEIS makes general, broad, permissive, and sweeping statements related to recreation impacts, suggesting they were not fully considered. For example, the SPEIS states "recreational experiences could be adversely impacted in areas proximate to solar energy projects and related transmission", further stating recreation "impacts potentially could be dispersed across the 22 million acres" identified in the preferred alternative (Executive Summary at 16). We suggest more detailed analysis of actual recreation impacts.



OUTDOOR ALLIANCE

As mentioned above, the SPEIS categorically excludes BLM –administered lands not suitable for utility-scale solar development. National Historic and Scenic Trails are one such exclusion; however, the environmental impacts assessment fails to include NHSTs with other categorical development exclusions (Executive Summary at 15). If NHSTs are intended to be included as a categorical exclusion, then they must be included in the list describing all other exclusions throughout the SPEIS. The same argument relates to the visual resources analysis -- NHSTs are excluded from the categorical exclusion list, and must be included (Executive Summary at 23).

Reasonably Foreseeable Solar Energy Development

In light of California’s new Renewable Portfolio Standard (RPS) of 33% by 2020, we believe there is time for a revision to California’s Reasonably Foreseeable Solar Energy Development (RFSED) analysis. We understand your original models were designed in a manner to account for changes in state RPS’, but California’s new 33% RPS is a 13% increase over its current RPS, which we believe would significantly alter the estimated number of acres of BLM land that would be developed in California. This is especially important since California’s new 33% RPS will take place within the 20-year SPEIS timeframe.

Design Features for Recreation Impacts

Section A.2.2.6 of Appendix A states “[s]olar facilities shall not be placed in areas of unique or important recreation resources.” (Appendix A at A-39). We agree and appreciate your sensitivity to special recreation resources; however this statement needs additional clarification to address which “areas of unique or important recreation resources” are meant to be included in this statement. While one could infer this relates to specific categorical exclusions of solar development, it could also apply to other undefined resources. The BLM should define “important recreation resources” and the Outdoor Alliance would be pleased to provide consultation on this definition.

Thank you for your time and consideration of these comments.

Best regards,

Brady Robinson
Executive Director, Access Fund

Wade Blackwood
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Gregory Miller
President, American Hiking Society

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Mark Menlove
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Thank you for your comment, Sallie MCGUIRE.

The comment tracking number that has been assigned to your comment is SolarD11785.

Comment Date: April 29, 2011 11:54:02AM
Solar Energy Development PEIS
Comment ID: SolarD11785

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Comment Submitted:

**Standard Review Form for
Draft Solar Energy Development PEIS (Issued December 2010)**

Reviewer's Name: Sallie McGuire **Reviewer's Organization:** USACE, Regulatory, SPL

Reviewer's email address: Sallie.mcguire@usace.army.mil **Reviewer's Telephone numbers:** (602) 230-6950

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Regulatory/waters of the U.S.

Section(s) or Chapter(s) Reviewed: Chapter 5

EIS Section	Page/Line	Comment/Suggested Revision	Action (for use by ANL)
5.2.1	5-4/12-13	Address conversions from aquatic to terrestrial habitats as impact	
5.2.1	5-4/20	Should also address truncation of wildlife habitat connectivity	
5.9.3.1	5-47/12-24	Concern for developers only applying hydrology as a single parameter when considering waters if the U.S.	
Sidebar: "Protecting Desert Streams in a Desert Landscape"	5-42	The most relevant part of the CWA for protecting intermittent and ephemeral streams is Section 404, which requires a permit with the U.S. Army Corps of Engineers (USACE) before any dredged or fill materials are placed into [delete quotations] "jurisdictional waters" [delete rest of sentence]for the purpose of minimizing any adverse impacts.	
"	"	Delete sentence: "The difficulty in applying the permitting process of Section 404 is in the determination of what constitutes jurisdictional waters"	
"	"	Recent U.S. Supreme Court decisions (Rapanos v. United States and Carabell v. United States) have [DELETE complicated]complicated [REPLACE with "changed"] the process of identifying jurisdictional waters with respect to intermittent and ephemeral streams by requiring them to have a "significant nexus" to the more traditionally defined navigable waters (see EPA and USACE [2007] for further details regarding this distinction) in order to fall under jurisdiction of Section 404 of the CWA	

Thank you for your comment, Helen O'Shea.

The comment tracking number that has been assigned to your comment is SolarD11786.

Comment Date: April 29, 2011 17:21:45PM
Solar Energy Development PEIS
Comment ID: SolarD11786

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Attachment: Solar DPEIS Comments California Final (NRDC and Partners 4_29_11).pdf

Comment Submitted:

Attached please find the comments of the Natural Resources Defense Council and partners on the California section of the Solar PEIS.

April 29, 2011

Delivered via electronic submission to the BLM Solar PEIS website (<http://solareis.anl.gov>) and U.S. mail.

Linda Resseguie, BLM Solar PEIS Project Lead
Solar Energy PEIS
Argonne National Laboratory
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Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

Please accept and fully consider these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of the Audubon Society, California Native Plant Society, California Wilderness Coalition, Californians for Western Wilderness, Defenders of Wildlife, the National Parks Conservation Association, the Natural Resources Defense Council, Point Reyes Bird Observatory Conservation Science, Sierra Club, The Wilderness Society, and The Wildlands Conservancy. We appreciate the opportunity to comment.

I. Introduction	2	iii. Issues for project review	
II. Purpose and Need	3	a. wildlife	28
III. Alternatives	4	b. cumulative impacts	29
A. Appropriate Alternative: Modified SEZ alternative	4	c. cultural resources	29
B. Unacceptable Alternative: SDP alternative	5	iv. Opportunities for environmentally responsible solar development	30
C. New SEZs	6	Pisgah	30
IV. Overarching issues	8	I. Overview	30
A. Impacts to water resources	8	II. Sensitive Natural Resources & Additional Analysis	31
B. Protection of Habitat Connectivity Areas	9	i. Overarching issues	31
C. Sand Transport Areas	10	a. Current data	31
D. Management of CDCA	11	b. Water	31
E. Fencing	13	c. Conservation Lands	32
F. Cultural Resources	14	d. Wildlife and flora	32
G. Golden Eagles	14	e. Cultural	35
H. Native Plants	15	ii. Recommended boundary adjustment	35
I. Desert Tortoise Relocation	15	iii. Issues for project review	35
J. Soil erosion	15	iv. Opportunities for environmentally responsible solar development	36
V. SDP lands inappropriate	18	Iron Mountain	36
A. Citizens' Proposed Wilderness Lands	19	I. Overview	36
B. Ivanpah Valley	19		
VI. Solar Energy Zones	20		

Imperial SEZ	21	II. Sensitive Natural Resources & Additional Analysis	36
I. Overview	21	i. Overarching issues	36
II. Sensitive Natural Resources & Additional Analysis	22	a. Habitat Connectivity	36
i. Overarching issue	22	b. Wildlife and flora	37
a. Water	22	c. Water	37
ii. Recommended boundary adjustment	22	c. Wilderness	37
iii. Issues for project review		d. Historical and Cultural resources	37
a. wildlife	22	ii. Recommended boundary adjustment	38
b. cumulative impacts	24	iii. Issues for project review	38
c. cultural resources	24	iv. Opportunities for environmentally responsible solar development	38
iv. Opportunities for environmentally responsible solar development	25	VII. Potential Additional Solar Energy Zones	38
Riverside East	25	VIII. Best Management Practices	38
I. Overview	25	a. Prohibit wet-cooled technologies	38
II. Sensitive Natural Resources & Additional Analysis	26	Appendix A: DRECP Independent Science Advisors Report	41
i. Overarching issues	26	Appendix B: Citizens Proposed Wilderness and the PEIS in California	42
a. Current data	26	Appendix C: Daggett Triangle and West Mojave Potential Development Areas	43
b. Water	26	Appendix D: Chocolate Mountains Potential Development Area	44
c. Biological connectivity	26	Appendix E: Rare Plants, Sensitive Plant Species, And Plant Species of Concern	45
ii. Recommended boundary adjustments and exclusion areas	27	Appendix F: Sand Transport Studies	50

I. Introduction

Clearly, our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by global warming, imperil the integrity of our wildlands and wildlife as never before. To sustain our wildlands, our wildlife and our human communities, the undersigned believe the nation must transition away from fossil fuels as quickly as possible. To do this, we must eliminate energy waste, moderate demand through energy efficiency, conservation, and demand-side management practices, and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and thorough review under the National Environmental Policy Act is an essential part of determining which of the many proposed utility-scale projects should be permitted to go forward.

We strongly believe that long-term, the environmentally responsible success of the Bureau of Land Management’s (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most appropriate locations, thus limiting environmental impacts and

reducing obstacles to construction of the most appropriate projects. The Draft Solar Programmatic Environmental Impact Statement (DRAFT PEIS) offers just such an opportunity, and we look forward to working with the BLM to ensure that: 1) appropriate Solar Energy Zones (SEZ) are identified and designated; 2) solar projects are guided to those zones; 3) a process is developed for identifying and designating new zones as appropriate; and 4) additional policy needed to support an environmentally responsible solar energy development program on our public lands is developed.

These comments are focused on the elements of the PEIS that address California in particular.

II. Purpose and Need

There is a considerable amount of solar energy project planning and development underway in California. As of February 2011, there were at least 33,382 MW of solar energy generation facilities planned, proposed and or permitted in California. Below is a summary of these facilities by land ownership and location.

Projects on federal (public and military bases) Statewide	20,540 MW
Projects on private land Statewide	12,842 MW
Total Statewide	33,382 MW

Within the California Desert Conservation Area (CDCA)

The summary of solar projects is as follows:

Projects on federal (public and military bases)	20,100 MW
Projects on private land	4,252 MW

We call attention to the fact there are a large number of solar projects planned, proposed or permitted on public land in the CDCA. Of the 20,100 MW of projects on federal land, 19,100 MW are on public lands.

The purpose and need for the proposed action and alternatives should address the need for renewable energy development in California and specifically in the CDCA. This issue needs to be fully considered with regard to 1) Energy needs and grid integration issues, including but not limited to energy storage and transmission capacity in California, 2) Relationship to the Energy Policy Act of 2005, 3) Secretarial Order for development of 10,000 MW of renewable energy from public lands, and 4) BLM's legal, regulatory and policy responsibilities for management of Public Lands within the CDCA.

The DRAFT PEIS has failed to provide an adequate foundation to support its assumption that 75% of solar development will occur on BLM lands. We recommend the Bureau re-assess its assumptions for California at a minimum, taking into consideration several factors, including but not limited to:

- The significant amount of solar electric generation proposed on marginal and abandoned agricultural land: Given the acres of low habitat value, low resource mechanically disturbed (agricultural) land that appears to be available for solar development in the Central

Valley, it seems unreasonable to assume that more solar energy would be developed on BLM land than on private land. This is especially the case given the high priority California has placed on renewable energy development throughout the state, not just on BLM-administered land.

- The potential for additional disturbed and agricultural land conversion in areas with insolation levels between 5.0 and 6.5 kilowatt-hours per square meter per day. (Note: public lands under consideration for solar energy development were limited to those with at least 6.5 kilowatt-hours per square meter per day, which is considered an “ideal” rating.)
- It is also important to note that all of the BLM-approved solar projects on BLM-administered land are currently the subject of federal court litigation. Many smaller projects proposed on private land that is less environmentally sensitive have been undergoing environmental review with Negative Declarations or Mitigated Negative Declarations allowing for a faster development schedule. Moreover, the BLM in California reports that it is seeing few new ROW applications and that, more often than not, the new applications that it has received are applications for gen-ties crossing public lands, rather than for solar power plants.
- It is similarly important to take into consideration the pace and volume of distributed generation in California as this will impact the need for utility scale projects over time. We expect that small-to-midscale and rooftop solar will increase rapidly over the next decade in California; there is strong support from the current Governor and legislature for improved pricing mechanisms and other policy shifts to support this growth.

Given the reduced environmental effects of solar projects on previously disturbed agricultural and other private lands as compared to undisturbed pristine desert, it is not only likely that less than 75% of the solar development in California will be on BLM-administered lands, it is even possible that solar development on private land in the state could overtake that of BLM-administered lands over the next couple of years.

In conclusion, the very aggressive forecast for solar development on public lands in California as demonstrated through the RFD Scenario clearly supports a comprehensive zone-based approach rather than the preferred alternative.

III. Alternatives

A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative

The SEZ Alternative would designate 24 Solar Energy Zones (SEZ) across the six states included in the DRAFT PEIS. The SEZs are areas that have been identified by BLM according to criteria which place a priority on excellent solar resources, flat land and proximity to existing roads and electrical transmission lines, and limited conflicts with important wildlife habitat, wildlands, recreation areas and other resources and values. The SEZ Alternative would require that solar projects be built in these low-conflict areas. By focusing on the places with the best chances for

successful projects, the Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine the SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs and identify and complete additional analysis that will facilitate efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM's solar program. The SEZs currently under consideration in the DRAFT PEIS include more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, the modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

Analysis and adoption of this hybrid alternative in the final PEIS will allow the BLM to fulfill its obligations with regard to the statutory standards established in the Federal Land Policy and Management Act for the CDCA as well as the policies contained in the CDCA Plan while achieving federal and state renewable energy goals. More specifically, analysis of this option would provide greater protection to the public lands and resources in the CDCA while its adoption will not only protect those lands and resources but also avoid their unnecessary and undue degradation as required by FLPMA.

B. The BLM should not adopt the Solar Development Program (SDP) alternative

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SDP Alternative risks facing the same problems which have plagued the BLM's oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SDP Alternative as its Preferred Alternative, and we urge the BLM to select a comprehensive zone-based approach instead.

The SDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to development – this is over 100 times more land than what the agency's own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean

air and water. Section III includes details on some of the places that would be particularly inappropriate and problematic and yet would be open for solar development under the SDP Alternative.

This outdated approach could impede the BLM's solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the effort to carefully choose low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a comprehensive zone-based approach as the Preferred Alternative in the final PEIS. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources "fixing" bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate

As noted above, the SEZs as currently drawn include more than twice as much land as the BLM forecasts will be developed during the 20 year life of the PEIS, and even with expected refinements, will provide an excellent foundation on which to build the BLM's solar program.

We believe that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM's solar program continues to grow in an environmentally responsible way, the agency should create a process for designating new SEZs as appropriate in the future. This process must be designed to accommodate the ongoing state/federal processes currently underway to identify development areas in California (e.g., DRECP and scoping already in progress on the West Chocolate Mountains renewable energy zone¹). By creating a process that prioritizes SEZ designation on lands with suitable solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SDP Alternative.

In the process of identifying and designating new zones in the CDCA, the BLM should prioritize the following categories of lands for consideration as new zones:

¹ *Proposed West Chocolate Mountains Renewable Energy Evaluation Area*. In a February 10, 2010 Notice of Intent (NOI) in the *Federal Register*, the BLM El Centro Field Office announced its intent to prepare an EIS to consider an amendment to the CDCA Plan to identify whether 21,300 acres (86.2 km²) of BLM-administered lands within the West Chocolate Mountains area should be made available for geothermal, solar, or wind energy development. The Evaluation Area lies about 25 mi (40 km) north of the proposed Imperial East SEZ in Riverside County, east of Niland and northeast of El Centro, California.

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
 - Lands that have been “type-converted” from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).²
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the California Desert Conservation Area.³
 - Allow for the expansion of renewable energy development onto private lands.
 - Private lands development offers tax benefits to local government.
- Brownfields and contaminated or previously-contaminated sites:
 - Revitalize idle or underutilized industrialized sites.
 - Existing transmission capacity and infrastructure are typically in place.
- Locations adjacent to urbanized areas:⁴
 - Provide jobs for local residents often in underserved communities;
 - Minimize growth-inducing impacts;
 - Provide homes and services for the workforce that will be required at new energy facilities; and
 - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.⁵

In addition, the BLM should also utilize screens as “filters” to identify appropriate areas, including the following criteria:

- Zones comprised of Lands classified for Intensive Use, Unclassified lands, and lands classified for disposal.
- Exclusion of lands falling within California Essential Habitat Connectivity Areas (Spencer et. al 2010⁶).
- Exclusion of lands falling within BLM-designated ACECs, Critical Habitats, Unusual Plant Assemblages and Wildlife Habitat Management Areas.
- The potential for distributed generation to provide a cost effective and expeditious alternative to remotely located, transmission-dependent solar farms.

² Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

³ Based on currently available data.

⁴ Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

⁵ The term “federally designated corridors” does not include contingent corridors.

⁶ Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

Additionally, in designating new zones, the BLM should fully explore opportunities for “conjunctive use,” i.e., for joint utilization of private and adjacent federal lands.

IV. Overarching issues that should be addressed for solar development in California

A. Impacts to water resources

The California desert is an arid environment and many of the basins that contain excellent solar resources are not adjudicated and are already in overdraft. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to both the quantity and quality of water resources and the ecosystems, habitat and species that depend on them.

Quantity

The California Energy Commission’s policy regarding water use for solar thermal technologies states that the Commission “will approve the use of fresh water for cooling purposes by power plants only where alternative water supply sources and alternative cooling technologies are shown to be ‘environmentally undesirable’ or ‘economically unsound.’”⁷ There has been acceptance of this policy in California among the solar industry,⁸ where alternatives considered to date have included use of brackish water as well as dry-cooling.⁹

In some basins with little or no available water, only dry cooled or non-cooled technologies are currently feasible and water restrictions in the California desert are likely to become more stringent. However, cooling technologies may improve, and there may be opportunities to use some water for wet/hybrid/dry cooled projects if municipal wastewater can be utilized.

The BLM should explicitly adopt water use policies in California that are consistent with the CEC policy but are stronger in their evaluation of alternative water supply sources in that they would prioritize *environmental* rather than economic impacts in their analysis of feasibility.

Quality

In the CDCA, the BLM policy for management of surface and groundwater according to Multiple Use Class is as follows:

- **Limited Use Class:** Areas designated in this class will be managed to provide for the **protection and enhancement of surface and groundwater resources**, except for instances of short-term degradation caused by water development

⁷ California Energy Commission, Preliminary Staff Assessment, Beacon Solar Energy Project, Application For Certification (08-AFC-2), Kern County (Posted April 1, 2009) (hereinafter “Beacon Staff Draft”), p. 4.9-5.

⁸ See, e.g., RETI Phase 1B Report, p. 3-3, describing agreement of all RETI stakeholders, including solar generators, to the assumption, for RETI purposes, that dry-cooling would be used except when reclaimed water from communities of a certain size is available.

⁹ In the case of the Beacon project, CEC analysis revealed that dry-cooling could “reduce ... consumption of potable water by up to 97 percent.” Beacon Staff Draft, p. 1-6. In addition, the analysis revealed that not only were both of these options economically feasible, but also that dry cooling might “actually result in lower project operating costs.” Id., p. 4.9-48.

projects. Best management practices, developed by the Bureau during the planning process outlined in the Clean Water Act Section 208, and subsequently, will be used to avoid degradation and to and comply with Executive Order 12088. (CDCA Plan, Table 1, Multiple Use Class Guidelines) (Emphasis added)

- Moderate and Intensive Use Classes: Areas designated in this class will be managed to **minimize degradation of water resources**. Best management practices, developed by the Bureau during the process outlined in the Clean Water Act, Section 208, and subsequently, will be used to keep impacts on water quality minimal and to comply with Executive Order 12088. (CDCA Plan, Table 1, Multiple Use Class Guidelines) (Emphasis added)

The BLM must adopt water use policies in the final PEIS that are consistent with the specific management policies for water resources in the CDCA and that are consistent and supportive of CEC water use policies.

B. Protection of Habitat Connectivity Areas

Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. Special consideration must be given to desert national parks in terms of their value as large, protected landscapes and opportunities that still exist to connect them to other protected lands. Designation of solar zones should not preclude such opportunities.

The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

The Desert Renewable Energy Conservation Plan (DRECP) will also be looking at the issue of habitat connectivity and reserve design while the Solar PEIS is being finalized, however the DRECP will not be completed until after the ROD is issued for the PEIS. In order to not preclude optimum conservation opportunities in the DRECP including protection of key habitat connectivity areas, the BLM should adopt a no-regrets plan of avoiding known key habitats in the CDCA pending completion of the DRECP. In order to support our recommendation regarding this, we have attached the Independent Science Advisors Report from the DRECP as **Appendix A**.

We recommend that the BLM:

- 1) Exclude –California Essential Habitat Connectivity Areas” (Spencer et. al 2010¹⁰) in the CDCA from lands available to solar development

Additional connectivity areas being identified by the US Fish and Wildlife Service and California Department of Fish and Game, particularly for recovery of the desert tortoise, should also be excluded from development. BLM should incorporate this new information from the Fish and Wildlife Service into the final PEIS by identifying exclusion areas within the SEZs as appropriate.

- 2) Improve analysis of impacts and proposed mitigation to landscape-scale habitats that link large blocks of intact habitat that support and sustain Special Status Species.

For public lands affected in California, we recommend that the following sources of information on habitat connectivity be used to develop a more accurate, complete and refined impact assessment, which should help guide the development of more focused and effective mitigation measures, such as impact avoidance.

<http://www.scwildlands.org/projects/caltrans.aspx>

<http://www.scwildlands.org/projects/desert.aspx>

<http://www.scwildlands.org/projects/jtree.aspx>

http://www.scwildlands.org/reports/CEHC_Plan_MASTER_030210_3.pdf

http://www.scwildlands.org/reports/SCML_SanBernardino_Granite.pdf

http://www.scwildlands.org/reports/Missing_Linkages.pdf

<http://www.dfg.ca.gov/habcon/connectivity/>

All habitat connectivity corridors identified in the above sources and BLM’s own management plans must be avoided for development of solar projects and associated infrastructure until the DRECP is finalized at which point a fuller picture of the importance of these areas will be available.

C. Sand Transport Areas

An element of habitat connectivity unique to the desert is sand transport corridors and the sand dune ecosystems that rely on them. Sand dunes provide habitat for a suite of rare species that are evolutionarily adapted to exploiting the constantly shifting sands, including fringed-toed lizards and endemic insects and plants. Dunes in the deserts typically form as a result of eolian (wind-blown) processes, where sand particles are moved with the prevailing winds. These eolian

¹⁰ Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Stritholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

processes form sand transport corridors. Blockage of even a portion of the sand transport corridors will impact the “downstream” dunes systems upon which rare species rely and may eventually eliminate them.

To date, three solar projects and at least one substation project have had to significantly reconfigure their footprints or relocate to try to avoid these important sand transport corridors and minimize the impacts to this rare habitat type. The DRAFT PEIS currently fails to acknowledge this unique process and rare habitat.

The final PEIS should, to the extent possible, identify sand transport corridors (both the source areas and “sink” areas) within the CDCA. Muhs et al. (2003) document some of the sand transport corridors that actively move substrates across the landscape in the western deserts. Additional delineation of the sand transport corridor is specifically available for the proposed Riverside East CREZ, which has a large sand transport corridor running through it (ESA/PSW 2011). Models have also been developed to identify conservation areas that are essential to maintain sand transport corridors (Barrows 1996).

The final PEIS, Record of Decision and the new solar program should exclude sand transport areas from consideration for solar development. These exclusion areas should be specifically called out in the geographic description of the California SEZs.

D. Management of the California Desert Conservation Area (CDCA)

As part of FLPMA, Congress designated 25 million acres of southern California as the California Desert Conservation Area (“CDCA”). 43 U.S.C. § 1781(c). Congress declared in FLPMA that the CDCA is a rich and unique environment teeming with “historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources.” 43 U.S.C. § 1781(a)(2). Congress found that this desert and its resources are “extremely fragile, easily scarred, and slowly healed.” *Id.* For the CDCA and other public lands, Congress mandated that the BLM “shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.” 43 U.S.C § 1732(b).

Section 601(b) of FLPMA established the management standards for the CDCA: *“It is the purpose of this section to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality.”*

The CDCA Plan includes a management framework and plan for specific wildlife species of concern and their habitats, which is designed to stabilize and enhance these resources through implementation of various conservation actions, including impact avoidance and minimization requirements associated with multiple uses of the public lands.

The PEIS should address the management standards for the CDCA as the framework within which to analyze the effects of the proposed action and each of the alternatives. Given the statutory uniqueness of the CDCA, it is especially critical that the PEIS address the effects of the proposed action and alternatives on the management standards established in FLPMA. We

recommend that particular attention be given to the “future protection” and “maintenance of environmental quality” standards. We strongly recommend that the current condition and trend of public lands and their biological resources in the CDCA be included in the analysis, and that it include a robust cumulative impact analysis.

To the maximum extent possible the PEIS must contain an analysis of the effects of each alternative on the CDCA Plan policies for management of biological resources, including whether or not the effects of the alternatives would preclude BLM from fulfilling its management obligations for biological resources.

The CDCA Plan, as amended, includes various requirements for long-term management of wide-ranging species, including but not limited to the Desert Tortoise, Mojave Fringe-toed Lizard and Desert Bighorn Sheep. (CDCA Plan, page 31). The PEIS must include an analysis of the effects of the alternatives on BLM’s commitment to stabilize protect wide-ranging species in the CDCA. This is especially important considering that BLM has not prepared range-wide plans for the Mojave Fringe-toed Lizard and Desert Bighorn Sheep, or for other wide-ranging species such as the Golden Eagle, Prairie Falcon, Burrowing Owl, LeConte’s Thrasher, American Badger and Desert Kit Fox. This analysis must also address the cumulative effects of multiple land uses on BLM’s responsibility to conserve these wide-ranging species.

The DRAFT PEIS fails to recognize and analyze the effect of the proposed action and alternatives on certain resource management plan designations in the CDCA, including 1) Limited Multiple Use Classes, 2) Moderate Multiple Use Classes, 3) designated Wildlife Habitat Management Plan areas, and 4) designated Special Areas. These designations in the CDCA Plan, as amended, form part of the overall wildlife conservation framework for public lands, which are described as follows:

- **Limited Multiple Use Class** areas are intended to protect —...sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.” (CDCA Plan, page 13) Furthermore, the CDCA Plan requires that BLM exercise judgment in allowing consumptive uses only up to the point that sensitive natural and cultural values might be degraded. (CDCA Plan, page 21)
- **Moderate Multiple Use Class** areas are intended to provide —...controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety or present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources which permitted uses may cause.” (CDCA Plan, page 13)
- **Wildlife Habitat Management Plan** areas are those public lands where detailed Habitat Management Plans (HMPs) are —...developed specifically for wildlife habitats or species which require intensive, active management programs. In the Desert Plan, HMPs can be placed in any multiple-use class. Multiple-use class guidelines set the limits for the

recommendations that can be included in an HMP, Habitat Management Plans would be of lower priority than ACECs and would compete with other activity and use plans for preparation and implementation.” (CDCA Plan, page 29)

- **Designated Special Areas** are those public lands in the CDCA highlighting —.habitats and species known to be important for special consideration in the environmental assessment process for any kind of project.” (CDCA Plan, page 29)

The affected environment and environmental impacts sections of the DRAFT PEIS for public lands in the CDCA that would be affected by the proposed action and alternatives need to be revised to include designated areas in the CDCA described in items 1 through 4, above. In addition, the BLM must include in the FINAL PEIS a no-regrets plan of avoidance of known key habitats in the CDCA pending completion of the Desert Renewable Energy Conservation Plan.

E. Fencing

In the state-specific volumes of the DRAFT PEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the BLM preferred alternative, however a different standard for fencing is set forth. Specifically, on line 36, page 128 of Volume 2 it states that —Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.”

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent

regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it's important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

F. Cultural Resources

These comments on the proposed SEZs in California offer limited commentary on cultural resources. They do not address these issues in depth because we lack the necessary expertise to do so. With that said, we strongly believe the BLM must do a better job going forward of considering these resources, consulting with tribes, and complying with the applicable laws regarding cultural resources. Not only are these resources extraordinarily important but the litigation filed last year proves the need for the Bureau to conduct more robust analysis than was completed during the first round of ~~fast track~~ projects.

The DRAFT PEIS should clearly state that a Record of Decision on the final PEIS does not preclude or substitute for the continuing process of consultation with parties in order to comply with Section 106 of the National Historic Preservation Act during subsequent project specific EIS determinations, and that requirements to meet applicable part of Section 106 have not yet been made.

In order to comply with both the requirements and intent of the NHPA and other obligations for consultation, the Solar PEIS must set out more specific requirements and commitments for inventory and consultation, as described in the programmatic comments on the PEIS submitted by The Wilderness Society et al.

G. Golden Eagle

The DRAFT PEIS correctly predicts the presence of Golden eagle in all of the proposed SEZs in California. Golden eagle (*Aquila chrysaetos*) is a fully protected species under The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). "Take" of Golden eagle means "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb." "Disturb" means "to agitate or bother a Bald Eagle or a Golden Eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." Loss of foraging habitat that results in a decrease in productivity or nest abandonment is considered "take". Golden eagle and Golden eagle habitat may be found in grasslands, shrublands, pinyon-juniper woodlands, and ponderosa pine forests, and occasionally in most other habitats, especially during migration and winter. Golden eagles nest on cliffs and sometimes trees in rugged areas, with breeding birds ranging widely over surrounding areas.

BLM should require solar developers to follow USFW Interim Golden Eagle Technical Guidance Protocols of March 25, 2010 in determining the presence of Golden Eagle on a project site and within a 10 miles radius outside of a project site in consultation with USFW Service and CDFG. Take of Golden eagles and other raptors protected by the Migratory Bird Treaty Act should be avoided. The PEIS is lacking in its assessment of this species.

H. Native Plants

The California desert supports a wide variety of plants that have uniquely adapted to the desert ecosystem and must be considered in the PEIS. The California Native Plant Society has provided draft lists of vegetation types known or likely to occur in the four proposed SEZs. These vegetation types include many plant species that are rare, sensitive or species of concern. The list is provided as **Appendix E**.

I. Desert tortoise translocation/relocation

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “TRANSLOCATION OF DESERT TORTOISES (MOJAVE POPULATION) FROM PROJECT SITES: PLAN DEVELOPMENT GUIDANCE” (U.S. Fish and Wildlife Service, August 2010).¹¹

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.¹²
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.¹³
- Translocation plans should be finalized before project approvals, and made public for review.

J. Soil erosion and associated vegetation impacts

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a

¹¹http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx

¹²<http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

¹³ Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.

complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1 Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it doesn't define the density of soil crusts that would be sufficient to put an area off limits. Many areas where soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it's not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states —.exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.”

The DRAFT PEIS also states that —In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeded should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeded mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The Final PEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the Final PEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FINAL PEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al (2008) in a recently released research report on desert ephemeral and intermittent streams offered the following:

–Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.”¹⁴

The BLM should include analysis of potential impacts associated with these issues in the final PEIS, as well as measures to avoid, minimize or mitigate such impacts.

¹⁴ Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

V. Lands in Solar Development Program (SDP) alternative that are inappropriate for development

A significant portion of the area identified as open for solar development in the SDP Alternative is inappropriate for solar development and should be excluded from development. Beyond the need to exclude these areas from development under any alternative, the presence of these types of land in the SDP Alternative further underscores the need to select the SEZ Alternative and create a process for designating new zones as appropriate. We have included here a number of examples of areas within the SDP Alternative that are inappropriate for development.

In California, the SDP Alternative would permit development on a number of land designations with high conservation values. This alternative includes 1,766,543 acres of BLM managed lands in California while excluding lands with slopes greater than or equal to 5%, National Landscape Conservation System Lands, and the following additional areas: locations with solar insolation levels of less than 6.5 kWh/m²/day, Areas of Critical Environmental Concern, critical habitat for USFWS designated threatened and endangered species, Desert Wildlife Management Areas, Flat Tailed Horned Lizard, Coachella Valley Fringe-Toed Lizard and Mojave Ground Squirrel Designated Habitat, Right-of-Way Exclusion and Avoidance Areas, No Surface Occupancy Areas, and Special Recreation Management Areas. This approach results in a sprawling proposal that isolates existing conservation investments and precludes fragile desert biota connectivity. In addition, directing development only to lands with greater than 6.5kWh/m²/day insolation levels precludes opportunities to locate solar facilities on lands that are closer to load centers and/or are previously disturbed whose insolation values are lower than 6.5kWh/m²/day but still feasible for solar generation.

For example, the lands included in the Solar Development Program Alternative that are adjacent to the Pisgah SEZ to the east would impact existing occupied habitat for a robust population of the threatened desert tortoise, which currently provide a crucial genetic link between the existing conservation investments of the Ord-Rodman Desert Wildlife Management Area (DWMA), the Superior Cronese DWMA (both of which were established for desert tortoise conservation and recovery) and the Mojave National Preserve. Isolating these existing conserved areas will genetically isolate desert tortoises within them, lowering the biological fitness of this species that is currently sustaining significant population declines. In order to provide for recovery and maintain robust populations, inbreeding must be prevented by allowing for ample genetic connectivity and flow, which requires landscape scale connectivity. This is one of the reasons we support a comprehensive zone-based approach.

Additionally, over 400,000 acres of undisturbed private lands east of Pisgah were acquired with both public and private money (over \$45 million) and donated to the Department of Interior for conservation purposes. The SDP alternative encompasses important lands within this conservation acquisition, including the proposed Mojave Trails National Monument (including the existing Amboy Crater National Natural Landmark) as well as the Castle Mountains potential addition to Mojave National Preserve and the Bowling Alley proposed wilderness addition to Death Valley National Park. The DRAFT PEIS fails to even mention these important conservation investments and fails to analyze the impacts of the proposal.

Another example of the failure of the DRAFT PEIS to identify important conservation overlays is the Wildlife Habitat Management Areas (WHMAs) that were established under the BLM's 2002 Northern and Eastern Colorado Plan Amendment¹⁵ (Map 2-18, and Map 2-21). These WHMAs were identified in order to ensure desert bighorn sheep and other rare species' protection and connectivity. Numerous WHMAs are located within not only the SEZ but the Solar Development proposal areas. Because this important overlay was not even identified in the DRAFT PEIS, it also fails to analyze the avoidance and impacts these WHMAs.

Finally, another example of inappropriate inclusion of important biotic resources in the SDPA is sand transport corridors and regionally rare resources that they support which are detailed earlier in these comments. The SDPA fails to take into account the importance of these unique desert landscape features.

The conservation community has partnered with the DOI and others and worked hard to provide landscape level connectivity in the fragile California deserts. The Solar Development alternative will sacrifice the remaining opportunities by unsustainably developing key habitats and connectivity issues, yet the DRAFT PEIS fails to even identify these resources, provide reasonable alternatives or analyze impacts. Failing to do so here at the programmatic level, will cause significant problems and delays at the site specific level – problems and delays that could be avoided if adequately addressed in the DRAFT PEIS.

A. Citizens' Proposed Wilderness Lands

Citizens' Proposed Wilderness (CPW) lands are lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources, invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical and solar energy development inappropriate for these lands.

By our analysis, significant acreages of Citizens Proposed Wilderness are included in both the preferred alternative and the Solar Energy Zone alternative for California: 94,408 acres of CPW lands are included in the Solar Energy Zone alternative and a total of 104,446 CPW acres are included in the preferred alternative. These lands have been identified as suitable for wilderness designation and are not appropriate for solar development. A chart and map detailing these overlaps are provided as **Appendix B**.

B. Ivanpah Valley

The Ivanpah Valley in California's San Bernardino County and [Nevada's Clark County](#) is an important and sensitive ecosystem. The area is an extremely good example of lands not suitable as a SEZ and should be removed from BLM's inventory of potentially suitable lands and **from further consideration for solar energy development projects due to the high occurrence of sensitive resources, the vulnerability to cumulative impacts, and general inconsistency with**

¹⁵ <http://www.blm.gov/ca/news/pdfs/neco2002/>

criteria for siting solar facilities in the desert.

Conservation organizations are preparing a report detailing the significant ecological and cultural values in the Ivanpah Valley that would be unnecessarily degraded by additional renewable energy development on public lands, but among them are:

- Rich with diverse plant and animal life, including addition a healthy population of desert tortoises, rare plant species, several rare bat species, the elusive and rare Gila monster, and rare bird species, including golden eagles, and desert bighorn sheep, who traverse the valley when traveling among the surrounding mountain peaks.
- Vulnerability to loss of scarce groundwater, drawing down water tables and harming wildlife.
- Impacts on [adjacent] [Mojave National Preserve](#). Among the consequences would be loss of scenic views, diversion of water from the preserve, and obstruction of a wildlife corridor that allows wildlife to move between the preserve and other protected areas.
- Presence of areas sacred to Native American people.

Although BLM issued a permit in this area to Brightsource for a 370 MW project in this area in 2010, it is not an appropriate area for intensive solar energy development. Analysis of the Ivanpah Solar Project revealed that, in combination with foreseeable future projects, it would result in adverse and unavoidable cumulative visual impacts and represent a substantial change and impairment of a natural landscape that is largely intact.

We recommend removing the Ivanpah Valley from future consideration for solar development due to the high occurrence of sensitive resources, vulnerability to cumulative impacts, and general inconsistency with criteria for siting solar facilities in the desert.

VI. Solar Energy Zones

The proposed SEZs in California include two areas with the potential to be appropriate SEZs (Imperial and East Riverside), and two areas that are inappropriate for designation as SEZs (Iron Mountain and Pisgah). The SEZ analysis in California fails to consider areas in the West Mojave and Chocolate Mountain areas that the conservation community has previously proposed to the Bureau of Land Management for consideration. Maps of these areas are included as **Appendix C and D**. Please see the detailed comments below for more information on the proposed SEZs in California, including details on our potential support for two of the SEZs.

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions and exclusion areas, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, recommended mitigation measures, and corrections.

These recommendations are intended to help the BLM make the SEZs as useful as possible in

facilitating responsible and efficient permitting of projects there. The recommendations are not intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, and there are in fact significant concerns about a few of the SEZs, we strongly caution against interpreting the detailed nature of these comments to imply opposition to the SEZs across the board. Rather, we underscore the importance of focusing on the SEZs rather than the additional acreage included in the SDP Alternative in California. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SDP Alternative has not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on many of the SDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

The BLM has identified 339,090 acres in four Solar Energy Zones in the desert region of southern California. Of these four zones, two have very high levels of resource conflicts which are detailed below, and two are more appropriate for development. One of those two, East Riverside, would benefit from recommended modifications included in these comments below. In addition, we strongly encourage the BLM to look at the possibility of creating additional zones in the West Mojave and the Chocolate Mountains area as additional lands are needed for solar development over time. The BLM should also assess the possibilities for conjunctive use of BLM lands with adjacent private lands through the DRECP process in which counties can identify appropriate private lands for solar development.

Each of the four current proposed zones are analyzed below

Imperial SEZ

I. Overview

The proposed Imperial East solar energy zone (SEZ) has a total area of 5,722 acres and is located in Imperial County in southeastern California, near the United States–Mexico border. I-8 runs east–west along the northeast edge of the proposed SEZ, while State Route 98, a two-lane highway, passes through the southern edge. San Diego lies 120 miles to the west, and Yuma, Arizona, 29 mi (47 km) to the east via I-8. A 115-kV transmission line intersects the southwest corner of the SEZ, and a 500-kV line is located about 0.4 mi to the south, running east-west.

The zone has comparatively low resource values in addition to characteristics that make it appropriate for development, namely existing transmission and road infrastructure, and we support the designation of this area as a SEZ provided the BLM considers our concerns and incorporates our recommendations into the final siting, design and mitigation measures.

II. Sensitive Natural Resources and Recommended Additional Analysis

i. Overarching issues the BLM must address:

Water

The California desert is an extremely arid environment. Many of the basins that contain excellent solar resources are not adjudicated and are already in overdraft. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

The Imperial SEZ does not have any perennial surface waters, but does have several ephemeral streams and intermittent ponds.

ii. Recommended boundary adjustments

At this time we are not recommending any boundary adjustments to the Imperial SEZ.

iii. Issues requiring special attention at project-level review

Wildlife

While we support the designation of the Imperial SEZ, there are still many mitigation measures that should be implemented to minimize possible negative impacts on local wildlife. All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 and the Programmatic Design Features in Appendix A, section A.2.2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act).

Flat-tailed Horned Lizard: The presence of Flat-tailed Horned Lizard in the SEZ area requires particular attention in both the PEIS and project level review. The proposed Imperial SEZ falls within the BLM-designated East Mesa Flat-tailed Horned Lizard Wildlife Habitat Management Area (70) (CDCA Plan, Map. No.3 Planned Management Areas for Fish and Wildlife). Management directives for this area are contained in Table 2, Planned Management Areas for Fish and Wildlife. Although Map. No. 3 appears to identify Management Area 70 only as an Area of Critical Environmental Concern (ACEC); it is associated with the Wildlife Habitat Management Area and the ACEC. Table 2 confirms this dual-management area designation.

Furthermore, in 2003, BLM and numerous other agencies approved the Flat-tailed Horned Lizard Rangewide Strategy as a means to conserve this at-risk species throughout its currently occupied range, with conservation emphasis targeted at four designated management areas. This management strategy confirms that BLM prepared and has implemented specific plans for conservation of the Flat-tailed Horned Lizard and its habitat, including the following that overlap the proposed Imperial East Solar Energy Zone: the "Southern East Mesa ACEC Management Plan" (BLM 1982a) and "East Mesa Wildlife Habitat Management Plan" (BLM 1982b), both of which were completed in 1982. The two plans covered adjacent areas and included similar measures.

The Flat-tailed Horned Lizard Rangewide Management Strategy¹⁶ contains approved measures regarding proposed multiple land use activities that BLM should adopt as SEZ-specific design features in the analysis and mitigation strategy proposed by BLM for this SEZ:

Within FTHL habitat, the area of disturbance of vegetation and soils shall be the minimum required for the project. [If possible, specify a maximum disturbance allowable based on the specifics of the project.] Clearing of vegetation and grading shall be minimized. Wherever possible, rather than clearing vegetation and grading the ROW, equipment and vehicles shall use existing surfaces or previously disturbed areas. Where grading is necessary, surface soils shall be stockpiled and replaced following construction to facilitate habitat restoration. To the extent possible, disturbance of shrubs and surface soils due to stockpiling shall be minimized.

Within and outside of MAs, limit the loss of habitat and effects on FTHL populations through the application of effective mitigation and compensation.

Outside of (the management areas) FTHL habitat receives a degree of protection through mitigation and compensation and through the previously established habitat management plans that affect public lands outside of (the management areas) (Appendix 2). Specifically, signatories to the conservation agreement ensure that adverse effects of projects they authorize outside of (management areas) are mitigated and that residual effects are compensated in accordance with a standard formula (see Mitigation and Compensation). The funds obtained through compensation are used to consolidate land ownership within the (management areas) or to enhance habitat.

Activities in potential habitat corridors between MAs and the RA shall be regulated or mitigated so that at least occasional interchange of FTHLs occurs among adjacent populations. Potential habitat corridors include lands between West Mesa and Yuha Desert MAs and between West Mesa MA and Ocotillo Wells RA (see Corridors). In addition, activities in the Yuha Desert and Yuma Desert MAs that would prevent interchange of FTHLs across the International Border shall be prohibited.

The BLM must analyze to the maximum extent possible the effect of designating an Imperial East SEZ on the Flat-tailed Horned Lizard and through the management policy framework established for this species and its habitat through the Flat-tailed Horned Lizard Rangewide Management Strategy. Furthermore, any mitigation measures proposed for solar development activities within this SEZ must conform to the policies established in the management strategy. In addition, the BLM must adopt SEZ-specific design features for the Imperial SEZ that conform with The Flat-tailed Horned Lizard Rangewide Management Strategy.

¹⁶Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 78 pp. plus appendices.

Golden Eagle: The PEIS accurately predicts the presence of Golden Eagles in all four proposed SEZs in California, including the Imperial SEZ. As mentioned in the introduction to these comments, golden eagle (*Aquila chrysaetos*) is a fully protected species under The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). BLM should require solar developers to follow USFW Interim Golden Eagle Technical Guidance Protocols of March 25, 2010 in determining the presence of Golden Eagle on a project site and within a 10 miles radius outside of a project site in consultation with USFW Service and CDFG.

Cumulative Impacts

The proposed SEZ lies in East Mesa, within the CDCA and the Sonoran Desert. In 2008, the county population was 180,493, while the surrounding two-county region in Imperial County and Yuma County, Arizona had a total population of 387,798.

The greatest source of likely cumulative impacts is other renewable energy projects – solar, wind and geothermal – and associated infrastructure such as substations and gen-tie transmission lines. In addition to the proposed solar and wind projects, the EIS for the Imperial Valley Solar Project, located near the proposed SEZ, identified eight mixed use residential and commercial development projects, the pedestrian border fence, continued growth of use of open OHV areas, and several other projects that could also contribute to cumulative impacts in the SEZ, id. B.3-10. While not all of these projects are being permitted by the Bureau, all reasonable efforts must be made to obtain information regarding their potential impacts and construction timing so that a full picture of cumulative impacts can be presented in the final PEIS.

Cultural and Historic Resources

The DRAFT PEIS affirms that only one archaeological survey has been conducted within the Imperial East SEZ in the northwest corner of the SEZ, according to GIS data available from the El Centro Field Office. No sites within the SEZ were recorded from that survey; however, several sites were recorded northwest of the SEZ. Two sites within the SEZ are identified adjacent to State Route 98. The PEIS also recounts that the archaeological work conducted in the area is primarily associated with the All-American Canal Lining Project in the early 1990s. According to the 1994 Final Environmental Impact Statement for the project, the area along the canal south of the SEZ is an area of known high density of both prehistoric and historic cultural resources.

In light of the potential for additional cultural and historic sites in the vicinity of the proposed zone, and the lack of survey information within the zone, we are recommending a two-phased approach to increase the quality and amount of data in a relatively cost effective and timely manner. The first is to develop a predictive model using existing data from surrounding areas within the same physiographic and cultural areas. The model should allow the agency to better extrapolate what kinds, location, and quality of sites will likely occur in the SEZs in areas that are to be inventoried. The second part includes completing a sample survey to bring the percentage of the inventory up. This will help

the agency with selection and boundary adjustments before the final PEIS is completed. The agency will be more likely to predict issues that may arise during the required Section 106 compliance. This will also assist the developer to avoid areas that are likely to contain significant cultural resources and the subsequent costs of data recovery or project adjustment.

In addition the environmental review for any projects permitted within approved SEZs must include the complete assessment, avoidance and mitigation of cultural impacts, rather than conducting the cultural resource analysis separately and outside of the public review process. Any need for confidentiality regarding specifics of cultural and historic resources would of course be honored during this review.

iv. Opportunities for environmentally responsible solar development

I-8 runs east–west along the northeast edge of the proposed SEZ, while State Route 98, a two-lane highway, passes through the southern edge. The All-American Canal runs parallel to the southern boundary of the proposed SEZ, about 0.3 mi (0.5 km) from the boundary. Two hydropower facilities exist along the canal, along with associated dams and substations.

A 115-kV transmission line intersects the southwest corner of the proposed SEZ, and a 500-kV line is located about 0.4 mi (0.6 km) to the south, running east-west. There is an operating geothermal plant about 3 mi (4.8 km) northwest of the proposed SEZ. The existence of highway access and transmission capacity provide opportunities for solar development with limited needs for additional major infrastructure. We encourage BLM to ensure developers utilize existing infrastructure to the extent possible.

Riverside East

I. Overview

The Riverside East SEZ is the largest of all the proposed SEZs, with a total area of 202,896 acres (821 km²). It is located in Riverside County in southeastern California, within the Chuckwalla Valley and the southern portion of Palen Valley. The eastern portions of the proposed SEZ are located in the Palo Verde Mesa and McCoy Wash watershed. The eastern boundary of the SEZ is about 6 mi (10 km) west of the Arizona border. The western boundary abuts and surrounds a portion of Joshua Tree National Park.

This proposed zone has 15 pending project applications. In addition, two large scale solar projects were permitted inside the proposed zone this past year, and two more large scale solar projects are likely to be permitted in 2011 prior to the completion of the Solar PEIS.

While the BLM is projecting an 80% buildout scenario for the purposes of analyzing the zone, the issue that needs to be analyzed in the PEIS is the actual carrying capacity of the zone given the current level of project activity. More precisely, the BLM must look at what level of development can be accommodated without causing unacceptable impacts to wildlife and wildlands and other desert resources. In order to answer this question, further analysis is needed

on opportunities and constraints within the zone with respect to landscape level processes and functions like connectivity and sand transport.

Provided the appropriate boundary modifications and exclusion areas are made and the concerns below can be addressed at a project-specific level, we support the designation of this area as a Solar Energy Zone.

Sensitive Natural Resources and Recommended Additional Analysis

i. Overarching issues

Current Data

Biological resources information on species and their habitats within and adjacent to the proposed zone needs to be updated based on EISs for large-scale solar projects within the region that were approved by BLM in 2010 and for those under consideration for approval in 2011. This information is associated with the following proposed and already permitted solar energy projects: Solar Millennium Blythe, Solar Millennium Palen, Genesis Ford Dry Lake, and Desert Sunlight. Combined, the environmental study area for these projects includes approximately 20,000 acres of public land, and the detailed biological inventory data and reports compiled for these projects should be used in preparing an updated understanding of habitats and species that occur within the proposed zone, and the analysis of impacts.

Water

The California desert is an extremely arid environment. Many of the basins that contain excellent solar resources are not adjudicated and are already in overdraft. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

In the proposed Riverside East SEZ, there is a large, dry wash on the northwestern boundary that functions as an ephemeral stream, the large McCoy Wash is located in the eastern portion of the proposed SEZ, and the National Wetlands Inventory has identified freshwater emergent wetlands and riverine wetlands within the SEZ. The DRAFT PEIS appears to call for—but not require —“Avoidance of wetlands within the SEZ”. And specifically —“Ground disturbance near McCoy Wash, Palen Lake, Ford Dry Lake and wetlands should be avoided or minimized to the extent practicable.” We support this concept but recommend that the BLM require this avoidance rather than merely suggest it.

Biological Connectivity

In addition to analyzing internal wildlife corridors, the PEIS needs to address the issue of north south connectivity across the Riverside East SEZ. This is especially important in view of the linear nature of the SEZ, in combination with its sheer size. The analysis should not only consider the current movement patterns within and

across the SEZ, but also the landscape level areas that will likely be necessary to ensure flora and fauna within and without the SEZ can move and adapt to climate change. Given the avoidance areas, needed migration corridors and other resources within the Riverside East Zone, the PEIS should be changed to reflect that less than 80% of the SEZ can/will be developed.

ii. Recommended boundary adjustments and exclusion areas

In order to avoid significant impacts to important desert resources, the following types of lands in the Riverside East SEZ should be excluded from development:

- Microphyll Woodlands, especially in McCoy Wash watershed, Chuckwalla Valley and Palen Valley
- Wildlife Habitat Management Plan Areas
- Sand Dunes and Sand Transport Corridors
- Habitat Connectivity Areas

The BLM should exclude the above types of lands from development in the Riverside East SEZ using as a guide BLM documents such as, but not limited to, the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) Plan and publicly available sand transport studies (a list is provided as **Appendix F**).

Microphyll Woodlands: As proposed, this SEZ overlaps Wildlife Habitat Management Areas designated in the CDCA Plan, and would heavily impact Microphyll Woodlands found in washes located within the SEZ. These woodlands are classified as an Unusual Plant Assemblage in the CDCA Plan. In order to minimize impacts to Microphyll Woodlands, we recommend that the BLM adjust the eastern and northeastern boundary to avoid the McCoy Wash watershed, and the northwestern boundary to exclude the Microphyll Woodlands in upper Chuckwalla Valley and Palen Valley.

Wildlife Habitat Management Areas: In addition, BLM should create exclusion areas for the Wildlife Habitat Management Plan Areas identified in the CDCA Plan that fall within the SEZ boundary.

Sand Dunes and Sand Transport Corridor: The Riverside East SEZ in California also encompasses a large sand transport corridor that has already caused significant project reconfigurations for three solar projects and at least one substation. The sand transport corridor and sand dunes in the Riverside East SEZ represent the southernmost range of the Mojave fringe-toed lizard. The population in the southern most part of its range is unique because it survives at the lowest elevation and with the least amount of precipitation, adaptations that will serve the species well in light of global climate change. The northern range – Amargosa River Distinct Population Segment of the Mojave fringe-toed lizard (*Uma scoparia*) is already the subject of a petition for Endangered Species Act protection due to threats from off-road vehicles and other factors.¹⁷ Further impacts to the sand habitat and sand transport corridors in the range of the lizard may require additional

17

http://www.biologicaldiversity.org/species/reptiles/Mojave_fringetoed_lizard/endangered_species_act_profile.html

Endangered Species Act protection for this species. The sand transport corridors within the Riverside East SEZ, including those already identified through project specific analyses (see Genesis Solar Energy Project PA/FEIS, August 2010; and Worley Parsons 2010c and OTHERS) should be excluded from the SEZ.

In addition, we recommend that the BLM assess opportunities for conjunctive use with low-resource private lands adjacent to the proposed Riverside East SEZ.

iii. Issues requiring special attention at project-level review

Biological Resources

While we support the designation of the Riverside East SEZ contingent upon BLM incorporating our recommendations into the final siting, design and mitigation measures, there are still many mitigation measures that should be implemented to minimize all possible effects on local wildlife. All of the mitigation measures in Volume 1, Chapter 5, section 5.10.5, as well as in Table 5.10-2 and the Programmatic Design Features in Appendix A, section A.2.2 should be made requirements for development by the BLM (in addition to the measures which are required by other federal laws like the Endangered Species Act).

Four special status species that will require particular attention in the proposed Riverside East SEZ are the desert tortoise and bighorn sheep, Mojave fringe-toed lizard (state) and Golden Eagle. There is Desert Tortoise Critical Habitat outside of designated ACECs in the western and southern areas of the SEZ. In addition, there are connectivity and biological linkages for desert tortoise between the Northern Colorado and Eastern Colorado Recovery Units and between the Chuckwalla and Chemehuevi Critical Habitat Units.

The proposed SEZ has also been identified as a probable bighorn sheep movement corridor and the final PEIS must address this issue in its analysis of the biological resources in the Riverside East SEZ. The proposed SEZ is also traversed by sand dunes supporting Mojave fringe-toed lizard and other sensitive sand-dependent species. The DRAFT PEIS is lacking in its assessment of this species, the sand dunes and the ecosystem processes that support the sand dune system.

The PEIS accurately predicts the existence of golden eagle in the proposed Riverside East SEZ. As mentioned in the introduction to these comments, the golden eagle (*Aquila chrysaetos*) is a fully protected species under The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). BLM should require solar developers to follow USFW Interim Golden Eagle Technical Guidance Protocols of March 25, 2010 in determining the presence of Golden Eagle on a project site and within a 10 miles radius outside of a project site in consultation with USFW Service and CDFG. Take of Golden eagles and other raptors protected by the Migratory Bird Treaty Act should be avoided. The PEIS is notably lacking in its assessment of this species.

Cumulative Impacts

The proposed Riverside East SEZ is located in Riverside County in southeastern California, within Chuckwalla Valley and the southern portion of Palen Valley. The eastern portions of the proposed SEZ are located in the Palo Verde Mesa and McCoy Wash watershed and the entirety of the zone is located in the California Desert Conservation Area (CDCA).

The eastern boundary of the site is about 6 mi (10 km) west of the Arizona border. The western boundary abuts and surrounds a portion of Joshua Tree National Park. In 2008, the county population was 84,443. The closest large cities are Moreno Valley, San Bernardino, and Riverside (all located slightly more than 100 mi [161 km] west of the proposed SEZ on I-10). While there may be some development pressure from desert communities, the most likely source of cumulative impacts in the Riverside East SEZ is from solar and wind projects and associated infrastructure such as new substations and transmission.

As previously discussed in the overview of the Riverside East SEZ, this area is already heavily subscribed with applications for renewable energy projects and if these projects move forward there will undoubtedly be cumulative impacts from power generation in addition to other non-energy related activities being proposed for the area.

Cultural and Historic Resources

The Riverside East SEZ has many cultural and archaeological resources not all of which have been documented. In light of the potential for additional cultural and historic sites in the vicinity of the proposed zone, and the lack of survey information within the zone, we are recommending a two-phased approach to increase the quality and amount of data in a relatively cost effective and timely manner. The first is to develop a predictive model using existing data from surrounding areas within the same physiographic and cultural areas. The model should allow the agency to better extrapolate what kinds, location, and quality of sites will likely occur in the SEZs in areas that are to be inventoried. The second part includes completing a sample survey to bring the percentage of the inventory up. This will help the agency with selection and boundary adjustments before the final PEIS is completed. The agency will be more likely to predict issues that may arise during the required Section 106 compliance. This will also assist the developer to avoid areas that are likely to contain significant cultural resources and the subsequent costs of data recovery or project adjustment.

In addition the environmental review for any projects permitted within approved SEZs must include the complete assessment, avoidance and mitigation of cultural impacts, rather than conducting the cultural resource analysis separately and outside of the public review process. Any need for confidentiality regarding specifics of cultural and historic resources would of course be honored during this review.

Specific cultural and historic resources likely to be impacted in the proposed Riverside East SEZ include:

- prehistoric habitation sites, mesquite processing sites and lakeshore sites in the Sidewinder Well ACEC and Palen Dry Lake ACEC¹⁸
- Colorado Desert aboriginal trails
- Possible Papago Creation site north of Desert Center¹⁹
- Portions of historic Camp Rice (World War II Desert Training Center) that has been recommended eligible for the National Register of Historic Places²⁰

In addition, the South McCoy Mountains and Ford Dry Lake may contain important cultural resources.

III. Opportunities for environmentally responsible development

I-10 runs east–west along the southern boundary of the SEZ, State Route 177 runs north–south through the western section, and Midland Road crosses the northeastern portion of the SEZ. U.S. 95 runs north–south about 3 mi (5 km) from the eastern boundary of the SEZ. An existing 500-kV transmission line runs east-west along I-10 and parallel to the southern proposed SEZ boundary. In addition, a 230-kV line passes through the far western section of the proposed SEZ, a 69-kV line passes through the eastern portion of the proposed SEZ, along with other transmission lines.

The proximity of major interstates and existing and approved (Devers II) transmission infrastructure provide opportunities for solar development with limited needs for additional major infrastructure. We encourage BLM to ensure developers utilize existing infrastructure to the extent possible. In addition we encourage the Bureau to incorporate conjunctive use with existing adjacent converted lands within the SEZ.

Pisgah SEZ

I. Overview

This proposed SEZ is comprised of 23,950 acres of public land within the central Mojave Desert region. This area is a focal point of biological landscape connectivity between the western and eastern Mojave Desert Regions and is rich in biological resources. As such it is regionally significant in sustaining biological diversity and gene flow at the landscape level. The

¹⁸Mojave Desert Land Trust. (2008). *A Constraints Study of Cultural Resource Sensitivity within the California Desert*. Unpublished manuscript. p. 34. Attachment C.

¹⁹Location has been identified based upon public concern for the location. Research regarding the site needs to be conducted. Mojave Desert Land Trust. (2008). p.45.

²⁰Part of the World War II (WWII) Desert Training Center/ California–Arizona Maneuver Area

description of the affected environment and impacts of proposed development in the DRAFT PEIS are not based on the best available information for this specific area.

Recent surveys associated with solar projects permitted in 2010 confirmed that solar development in this area would entail loss of habitat and displacement of many wildlife species, including the state and federally threatened desert tortoise, special-status reptiles, special-status mammals, migratory birds, and numerous rare plant species. **The BLM should remove the proposed Pisgah SEZ from further consideration because of its location within an area of essential habitat connectivity.** Designation of this area as a SEZ is incompatible with the BLM's conservation responsibilities under the Endangered Species Act, Federal Land Policy and Management Act, and its own wildlife resource manuals. While we believe strongly that the Pisgah SEZ is not appropriate for development of solar energy, we do recommend that the BLM consider a limited base of lands near the Pisgah Zone identified as the Daggett Triangle in **Appendix C**. These lands were identified by environmental stakeholders in 2009 as potentially appropriate for development and should be assessed in conjunction with adjacent private lands, potentially through the DRECP process.

II. Sensitive Natural Resources and Recommended Additional Analysis

i. Overarching issues

Current Data

Not reflected in the DRAFT PEIS for this proposed zone is the BLM's approval of the Calico Solar Energy Project in 2010 and the abundant documentation of biological resources within the much of the proposed zone that were identified during Final EIS for the Calico project. Incorporated by reference are the entire CEC proceedings on the Calico project. Specifically, in order to designate this SEZ, the PEIS should address new information for the occurrence, distribution, habitat quality, and habitat connectivity for the following 12 Special Status Species: Emory's Crucifixion-thorn, Small-flowered Androstephium, White-margined Beardtongue, Arroyo Chub, Mohave Tui Chub, Desert Tortoise, Mojave Fringe-toed lizard, Southwestern Pond Turtle, Burrowing Owl, Golden Eagle, Bendire's Thrasher, and Nelson's Bighorn Sheep.

Water

The California desert is an extremely arid environment. Many of the basins that contain excellent solar resources are not adjudicated and are already in overdraft. Given the importance of water for proper ecosystem function, it is critical that the BLM ensures that solar development does not allow unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

The Pisgah SEZ specifically contains a significant drainage from the Cady Mountains that has not yet been mapped by the National Wetlands Inventory. This unmapped drainage should be further analyzed, including its importance for the numerous special status species in the vicinity.

Conservation Lands

The proposed SEZ includes between 775 and 1700 of donated lands or lands acquired with Land and Water Conservation Fund (“LWCF”) funds. We are extremely concerned that LWCF lands are included in the proposed SEZ and wary of the precedent it sets for future projects on BLM lands. The use of donated and acquired lands is not just bad policy; it is contrary to the intent of the land donors and the public, and a violation of BLM guidance:

Lands acquired by BLM under donation agreements, acquired for mitigation/compensation purposes and with LWCF funds, are to be managed as avoidance/exclusion areas for land use authorizations that could result in surface disturbing activities.²¹

Wildlife and Flora

The proposed Pisgah SEZ is rich in biological resources and project surveys for the recently permitted Calico solar project have provided additional, more current data on biological resources than was previously available to the BLM. The proposed Pisgah SEZ falls within an area of essential habitat connectivity that links together the Desert Tortoise Recovery Units in the Western Mojave, Eastern Mojave and Northern Colorado deserts. Furthermore, this habitat connectivity area links the natural landscape blocks and native species occurring in the Bristol, Cady, Rodman, Newberry and Ord Mountain areas.

Desert Tortoise: The importance of the area for the recovery of the desert tortoise was reflected in the biological opinion for the Calico solar project issued by the U.S. Fish and Wildlife Service (USFWS) on 10/15/2010. This opinion contains important information about the Desert Tortoise and its habitat within the proposed Pisgah SEZ that is very relevant to the development of the solar PEIS.

In its opinion on the Calico Solar Project, the USFWS advised BLM of recommended conservation measures for the Desert Tortoise intended to promote the recovery of this federally threatened species. Specifically, the Service’s recommendation states:

We recommend that the Bureau amend the California Desert Conservation Area Plan to prohibit further large-scale development (e.g., solar energy facilities, wind development, etc.) within the Pisgah Valley. We offer this recommendation because the Fish and Wildlife Service has determined that maintaining a functional corridor through the Pisgah Valley is critical for the long term recovery of the desert tortoise. The importance of this corridor is heightened given the need to allow for the shifting distribution of the desert tortoise and the potential adverse effects of climate change (Service 201 Of). While re-design of this project has reduced adverse effects to connectivity, given the uncertainty surrounding

²¹ Bureau of Land Management. 2009. Instruction Memorandum No. CA-2009-020 (May 27, 2009): Interim Policy on Management of Donated Lands and Lands Acquired with Land and Water Conservation Funds (LWCF). California State Office, Sacramento, California. 2 pp.

this issue, and the critical nature of this connection, we believe a conservative approach is warranted.

Surveys conducted for the proposed Calico Solar Project site revealed a very dense and thriving population of juvenile and adult desert tortoises within the proposed Calico Solar Project footprint.²² CEC Staff estimated that the 6,215 acre site likely contained approximately 189 adult and juvenile desert tortoises, and the total population on site could be as high as 281 tortoises. In addition, CEC Staff estimated that 436 eggs were present in the project footprint. Desert tortoise densities in the northern portion of the proposed Calico Solar Project are very high and well over the average tortoise density of 4.7 tortoise/km² identified by the West Mojave Plan.

The area surveyed as part of the Calico Solar Project process represents only a portion of the proposed Pisgah SEZ. It is very likely that the dense population of desert tortoise discovered on the Calico Solar Project site extends throughout the Pisgah Valley.²³

In addition to the direct impacts to desert tortoise populations, development of the proposed Pisgah SEZ would cut off critical habitat corridors that are essential for desert tortoise connectivity. During the Calico Solar Project hearings, the U.S. Fish and Wildlife Service and other wildlife experts identified the Pisgah Valley as an important connectivity corridor between populations for several important desert tortoise recovery areas. CEC Staff testified that the Project would fragment habitat by severing linkages and impeding north-south habitat movement for species such as the desert tortoise. Critical desert tortoise habitat exists directly adjacent to the proposed Pisgah SEZ in the Newberry-Rodman DWMA, which is directly southwest of the Pisgah Valley. Development in the proposed Pisgah SEZ would completely sever connectivity between desert tortoise populations in this critical habitat from the dense populations of desert tortoise identified in the northern portion of the Pisgah Valley near the base of the Cady Mountains.²⁴ Fragmenting these populations would threaten the long-term genetic viability of the desert tortoise as a species.

Bighorn Sheep: Development of the proposed Pisgah SEZ would result in significant impacts to Nelson's bighorn sheep, a federal sensitive species. Signs of bighorn sheep were observed within the proposed Pisgah SEZ, and the area is also important for the regional movement of bighorn sheep across its range in the Mojave. During the Calico Solar Project proceeding, expert testimony on bighorn sheep explained the importance of this regional movement:

The project site is on a direct line between the south end of the

²² CEC Staff's Second Errata to the Supplemental Staff Assessment, August 17, 2010, pp. 2-6, available at: <http://www.energy.ca.gov/sitingcases/calicosolar/documents/index.html>.

²³ Cashen, Scott Rebuttal Testimony, Exhibit 424 (CURE), p. 6, available at <http://www.energy.ca.gov/sitingcases/calicosolar/documents/index.html>.

²⁴ The BNSF rail-line and Interstate 40 do not currently sever connectivity for desert tortoise because several large trestles, culverts and bridges allow for tortoise mobility underneath the rail-line and road in multiple locations along the southern edge of the Pisgah Valley.

*Cady Mountains and the north end of the Rodman Mountains. And connectivity among these [metapopulations] that we have been talking about, including the Cady Mountains...is contingent upon continued connectivity. So there is the potential for this project to disrupt metapopulation function and movement from the Cady Mountains to the south, and equally importantly, from the Rodman Mountains northward to the Cady Mountains.*²⁵

The Cady Mountains are an essential linkage corridor for both the bighorn sheep and other species.²⁶ A population of at least 300 bighorn sheep inhabits the Cady Mountains to the north of the proposed Pisgah SEZ. This group represents the westernmost subpopulation of bighorn sheep in the Central Mojave Metapopulation and, because of its size, has a greater potential to produce emigrants than most other subpopulations that comprise the Central Mojave Metapopulation. It is also the closest large population to the Newberry Mountains and Ord Mountains, which lie southwest of the proposed Pisgah SEZ, albeit on the south side of Interstate Highway 40 (and which should not be considered a total barrier to movement, based on observations of bighorn crossing such partial barriers elsewhere). Development of the Pisgah SEZ has the potential to impact animals immigrating into the Cady Mountains from the Newberry or Ord Mountains. Emigration, immigration, and gene flow are necessary components of metapopulation function, and likely occur at low rates within metapopulations of bighorn sheep. Development of the proposed Pisgah SEZ would sever one of the few remaining corridors between the Western Mojave Metapopulation and the Central Mojave Metapopulation, thereby negatively impacting the species as a whole.²⁷

Golden Eagle: The DRAFT PEIS accurately predicts the existence of golden eagle in the proposed Pisgah SEZ. As mentioned in the introduction to these comments, golden eagle is a fully protected species under The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). BLM should require solar developers to follow USFW Interim Golden Eagle Technical Guidance Protocols of March 25, 2010 in determining the presence of Golden Eagle on a project site and within a 10 miles radius outside of a project site in consultation with USFW Service and CDFG.

Mojave Fringe-Toed Lizard: The Mojave fringe-toed lizard is a BLM sensitive species and a California species of special concern. It has very specific habitat needs and persists only on habitat that contains fine sands. The Mojave fringe-toed lizard exists in genetically distinct population lineages at isolated locations, such as the Pisgah Valley. Therefore, development in the proposed Pisgah SEZ would have significant adverse impacts on a distinct and unique species. During the Calico Solar Project proceeding,

²⁵ Bleich, Hr'g Tr., Aug. 5, 2010, p.307, available at: <http://www.energy.ca.gov/sitingcases/calicosolar/documents/index.html>.

²⁶ Spencer, W.D., et. al., 2010, *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highway Administration.

²⁷ Bleich, Hr'g Tr., Aug. 5, 2010, p.307, available at: <http://www.energy.ca.gov/sitingcases/calicosolar/documents/index.html>.

CEC Staff concluded that the project would result in the extirpation of an entire population of Mojave fringe-toed lizards in the Pisgah Valley. The Pisgah SEZ also includes an important sand transport area linking the Mojave River Valley and Troy Dry Lake with the Pisgah region that is occupied by the Mojave Fringe-toed Lizard, as documented in the Calico Solar Project FEIS/SA.²⁸

Rare Plants: The Pisgah SEZ is particularly rich in rare plant species and contains very good occurrences of white margin beard tongue in northeastern part of the proposed zone and in the adjacent Lavic Lake/Pisgah Crater. Other rare and special status plant species noted in an ecological assessment conducted by The Nature Conservancy (TNC) include *Androstephium breviflorum*, and *Castela emoryi*, a CNPS-listed species.

The white-margined beardtongue (*Penstemon albomarginatus*) is an exceedingly rare desert flower that exists in only a few scattered locations. The Pisgah Valley is one of those locations. Development in the proposed Pisgah SEZ would result in significant impacts to white-margined beardtongue, which is listed as a California Native Plant Society “B” special status species. The California Native Plant Society has stated that the proposed Calico Solar Project, which is within the Pisgah SEZ, may significantly contribute to the extinction of the species because the project would fragment and isolate the few remaining populations of white-margined beardtongue. Further development in the Pisgah SEZ would only exacerbate this danger.

Cultural and Historical Resources

Sensitive cultural resources sites are present within the Pisgah SEZ, including trails out of the Cady Mountains towards Cronese Dry Lake and obsidian chipping sites. Troy Lake on the western edge of the SEZ has not been surveyed to professional standards. This area contains geoglyphs, habitation sites, lithic scatters, rock art, and isolated hearths on both sides of Interstate 40. Troy and Cronese Dry Lakes need to be thoroughly inventoried. Research regarding the site needs to be conducted.²⁹

ii. Recommended boundary adjustments

We recommend that this study area be removed entirely from consideration due to the high level of resource conflicts that render the zone un-suitable for solar development.

iii. Issues requiring special attention at project-level review

The issues of connectivity and habitat linkage that make the Pisgah SEZ unsuitable for development cannot be sufficiently addressed at the project level and our recommendation is that the zone be removed from consideration and that no project applications should be allowed to be filed in this area.

III. Opportunities for environmentally responsible development

²⁸ <http://www.energy.ca.gov/sitingcases/calicosolar/documents/index.html>

²⁹ Mojave Desert Land Trust. (2008). p.45.

Given the abundance of natural resources and habitat connectivity in the Pisgah SEZ, we do not believe this area provides any opportunities for environmentally responsible development. We do however note that there may be lands that are appropriate for development in the adjacent area identified as the Daggett Triangle in **Appendix C**. These lands were identified by environmental stakeholders in 2009 as potentially appropriate for development and should be assessed in conjunction with adjacent private lands, potentially through the DRECP process.

Iron Mountain SEZ

I. Overview

The proposed Iron Mountain SEZ is comprised of 106,522 acres of public land in Ward Valley, a broad valley in the Mojave desert bounded by the Turtle Mountains to the east and the Iron Mountains to the west. The Old Woman Mountains and the Palen-McCoy WAs, with some peaks higher than 5,000 ft (1,524 m), also lie nearby. The area is very isolated and remote and importantly, there is no transmission access within or near this SEZ. **The BLM should remove the proposed Iron Mountain SEZ from further consideration due to the high occurrence of sensitive resources and general inconsistency with criteria the conservation community has developed for siting solar facilities in the desert.** The conservation community expressed this recommendation in scoping comments for the PEIS and the California Energy Commission has previously urged BLM to remove this SEZ as well.

The BLM is currently holding an application for a first in line project in the proposed SEZ, the Ward Valley solar thermal project, that when assessed using the BLM's own criteria, is high conflict due to its adjacency to the Turtle Mountains Wilderness. This is exemplary of the types of conflicts that would be seen if this area were approved as a SEZ.

II. Sensitive Natural Resources and Recommended Additional Analysis

i. Overarching issues

Habitat Connectivity

Essential habitat connectivity linkage habitat occurs within the proposed Iron Mountain SEZ, providing habitat for general species occupation and movement across the various habitats in the region. Specifically, it is called the Chocolate Mountains – Turtle Mountains – Ward Valley connectivity area. (Spencer et. al 2010, Appendix B-5, B-52. Natural Landscape Block 72 (Cadiz-Vidal Valleys) falls within the proposed SEZ. (Spencer et. al 2010, Appendix C-4).

The Turtle, Old Woman and Granite Mountains all of which are adjacent to or very near to the proposed Iron Mountain SEZ, support and sustain Desert Bighorn populations. The Iron Mountains are considered a focal point for movements of this species to and from these permanent herd areas. The California Department of Fish and Game has recently determined that the Iron Mountains support a population of 25 Desert Bighorn Sheep, further reinforcing the interconnectivity of these mountain ranges for this species.

This area also provides important connectivity and biological linkage in the ecotone between the Mojave and Colorado Deserts which is important for the desert tortoise, bighorn sheep and other wide-ranging species.

Wildlife and Flora

The proposed SEZ is also located within a BLM-designated multi-species wildlife habitat management area (Northern and Eastern Colorado Desert amendments to the CDCA Plan, 2002, Map 2-21). Desert tortoise, Mojave fringe toed lizard, desert rosey boa, and desert night lizard are all present within the proposed SEZ. The western edge of the proposed SEZ overlaps with known range of bighorn sheep. In addition, there is a very good occurrence of the dune interior verbena – a Fish and Wildlife Service special status and BLM special management plant species.

Golden eagle: The DRAFT PEIS accurately predicts the existence of golden eagle in the proposed Iron Mountain SEZ. As mentioned in the introduction to these comments, the golden eagle is a fully protected species under The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). BLM should require solar developers to follow USFW Interim Golden Eagle Technical Guidance Protocols of March 25, 2010 in determining the presence of Golden Eagle on a project site and within a 10 miles radius outside of a project site in consultation with USFW Service and CDFG.

Water

As with the other SEZs designated in California, the Iron Mountain SEZ has very limited water resources available. The DRAFT PEIS fails to adequately address impacts to a significant drainage in the proposed SEZ which functions as an ephemeral stream. The Environmental Protection Agency recently documented the importance of ephemeral streams in the desert southwest.³⁰

Wilderness

The Iron Mountain SEZ includes 10,007 acres of Citizens Proposed Wilderness (see **Appendix B**). Development in these proposed wilderness areas is inappropriate and would preclude opportunities to connect Joshua Tree National Park with the Mojave Preserve.

Historical and Cultural Resources

The Iron Mountain SEZ has been identified by Native American tribes as having great cultural significance. In addition, there is a possible conflict with Patton's Iron Mountain Divisional Camp ACEC. The richness of cultural resources known and expected to be in this area render it unsuitable for development.

ii. Recommended boundary adjustments

³⁰ Levick, L., J. Fonseca, D. Goodrich, M. Hernandez, D. Semmens, J. Stromberg, R. Leidy, M. Scianni, D. P. Guertin, M. Tluczek, and W. Kepner. 2008. The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest. U.S. Environmental Protection Agency and USDA/ARS Southwest Watershed Research Center, EPA/600/R-08/134, ARS/233046, 116 pp.

We recommend eliminating this SEZ due to the high occurrence of sensitive resources and general inconsistency with criteria the conservation community has developed for siting solar facilities in the desert. The conservation community expressed this recommendation in scoping comments for the PEIS and the California Energy Commission has previously urged BLM to remove this SEZ as well. This clearly inappropriate zone should not have been carried forward into the draft PEIS.

iii. Issues requiring special attention at project-level review

The natural resource conflicts and remote and undistributed nature that make the Iron Mountain SEZ unsuitable for development cannot be sufficiently addressed at the project level and our recommendation is that the zone be removed from consideration and that no project applications should be allowed to be filed in this area.

VII. Potential Additional Solar Energy Zones

In 2009 and 2010, conservation stakeholders in California identified lands potentially appropriate for solar development in the California desert and provided maps of these areas to the Bureau of Land Management. These areas are more suitable for solar development, and have lower resource conflicts, than the Iron Mountain and Pisgah SEZs proposed in the PEIS.

One of these areas, the Chocolate Mountains, is currently being evaluated by BLM as a potential Renewable Energy Zone or REZ, which would include solar development. A second, important area to analyze that is not currently being evaluated by the BLM through any ongoing process, including the PEIS, is the West Mojave. The solar industry and elected officials from California have also indicated great interest in seeing a BLM analysis of appropriate lands in the West Mojave, and the BLM should establish a process for reviewing areas not analyzed in the PEIS that may be appropriate for solar development.³¹ And as mentioned previously, lands adjacent to the proposed Pisgah SEZ known as the Daggett Triangle should also be analyzed for potential suitability as a development area. Maps showing lands recommended for analysis are provided as **Appendices C and D**.

VIII. Best management practices

Prohibit the use of wet-cooled or other water-intensive technologies: Water is a major concern in the desert regions of California where the proposed SEZs are located, and we urge the BLM to take a proactive approach to this issue in the PEIS. Electric generation from solar (and other) thermal power plants is most efficient when a source of cooling – typically water – is available to remove waste heat from the thermal cycle.

³¹ Despite general agreement about the solar opportunities within the West Mojave area, the PEIS identified very few BLM lands in the West Mojave as potentially available for solar development right of way applications. We recommend the BLM broaden the scope of its review within the West Mojave for suitability for solar development beyond those lands identified in the PEIS as part of the process for evaluating a new West Mojave solar zone. As indicated by the attached map (Appendix C), we believe there are more acres available for possible development in the West Mojave than indicated in the PEIS.

Unfortunately, the SEZs that are the focus of the PEIS are located in arid areas where intense competition already exists between the use of limited supplies of water for urban areas, fossil fuel production and agriculture. Permitting water-cooled production of energy from solar resources would add to that competition. The BLM should explore ways to avoid these results in the PEIS, including the options identified below:

Adopt a policy which would prohibit the use of wet-cooling for power plants. The California Energy Commission (CEC) ~~will~~ approve the use of fresh water for cooling purposes by power plants only where alternative water supply sources and alternative cooling technologies are shown to be environmentally undesirable or economically unsound.³² The BLM should adopt a policy that is more robust than the CEC and does not permit use of freshwater based on economic rationales.

Thank you for your thorough consideration of these comments.

Sincerely,

Helen O'Shea, Deputy Director, Western Renewable Energy Project
Natural Resources Defense Council
111 Sutter Street, 20th Floor
San Francisco, CA 94104

Dan Taylor, Director of Public Policy
Audubon California
765 University Avenue
Sacramento, CA 95825

Greg Suba, Conservation Program Director
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P.O. Box 210474
San Francisco, CA 94121-0474

Kristi Davis, Executive Director
California Wilderness Coalition
P.O. Box 11094
Oakland, CA 94605

Jeff Aardahl, California Representative
Defenders of Wildlife

³² California Energy Commission, Preliminary Staff Assessment, Beacon Solar Energy Project, Application For Certification (08-AFC-2), Kern County (Posted April 1, 2009) (hereinafter —Beacon Staff Draft”), p. 4.9-5.

1303 J Street, Suite 270
Sacramento, CA 95814

David Lamfrom, California Desert Program Manager
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Denver, CO 80202

April Sall, Conservation Director
The Wildlands Conservancy
P.O. Box 395
Pioneertown, CA 92268

Appendix A. Desert Renewable Energy Conservation Plan Independent Science Advisors Report

Due to the length of The Independent Science Advisors Report we are not attaching the entire document with these comments. The whole document is available at:

<http://www.energy.ca.gov/2010publications/DRECP-1000-2010-008/DRECP-1000-2010-008-F.PDF>

Appendix B. Citizens Proposed Wilderness and the PEIS in California

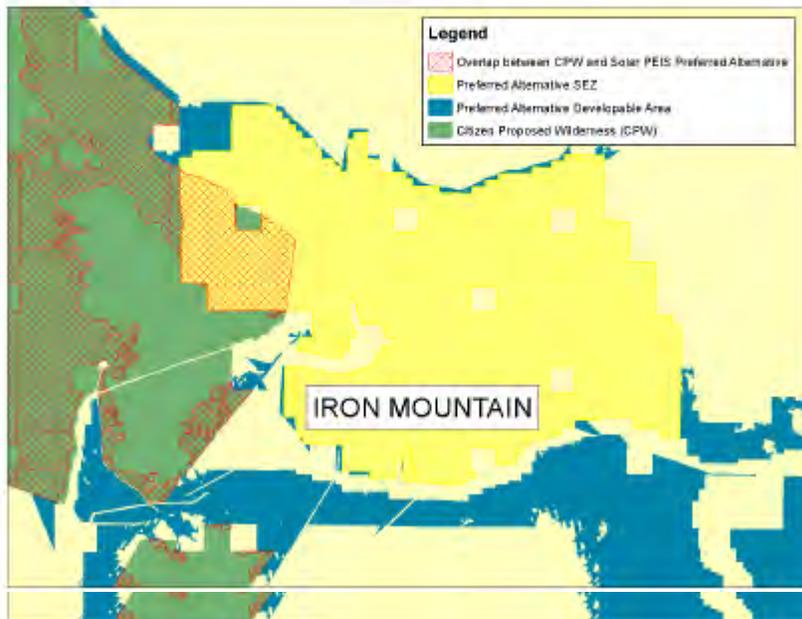
CALIFORNIA

Eight CPW areas were found to overlap the Solar PEIS preferred alternative in California. The CPW information is sourced to the California Wilderness Coalition.

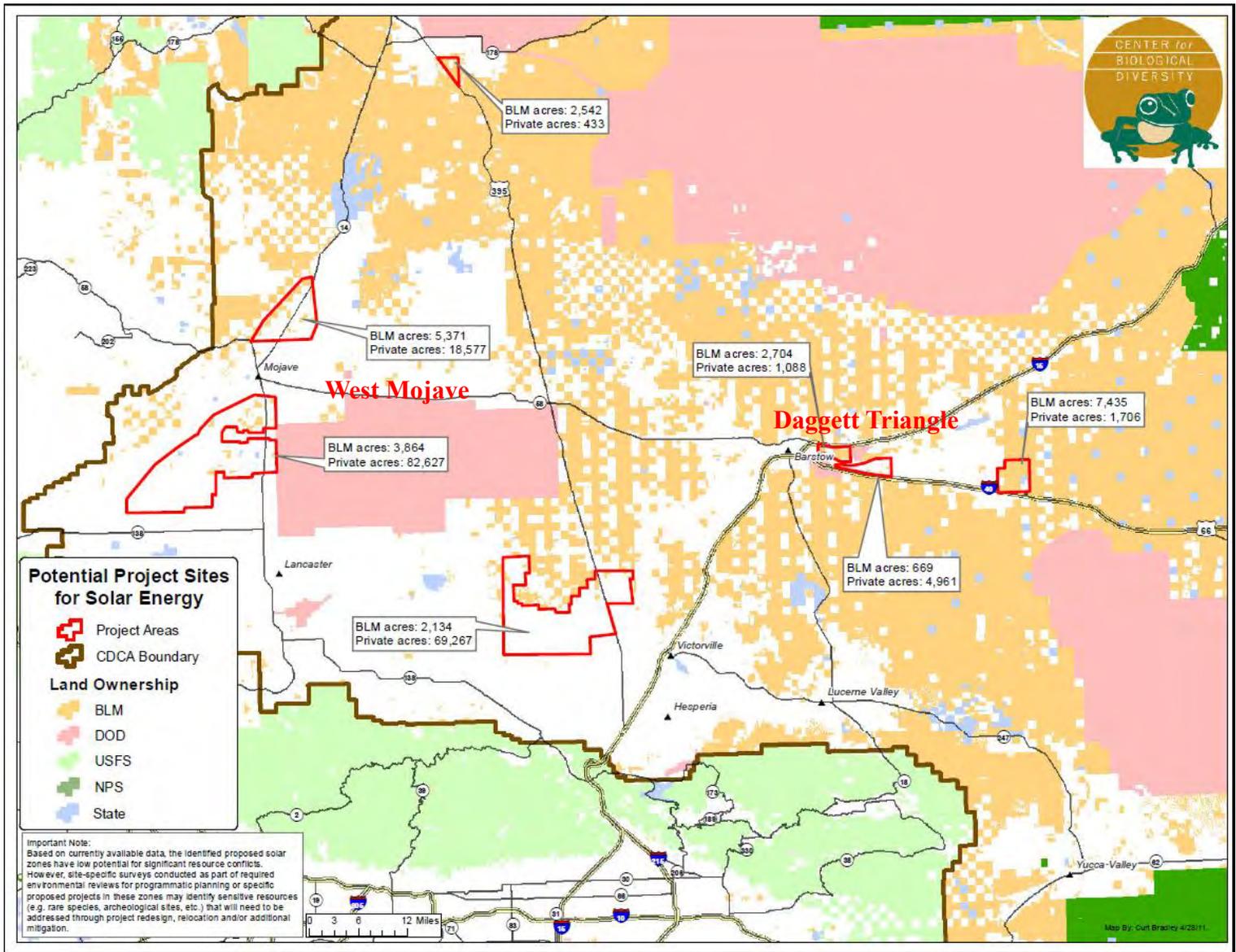
California Citizen Proposed Wilderness Area	Acres of Overlap with Preferred Alternative Developable Area, Not SEZ
Avawatz (BLM - Desert)	9,463.7
Cady Mountains Wilderness Area - Proposed, BLM - Desert	1,164.9
Death Valley National Park Wilderness Area Additions - Proposed, BLM - Desert	1,995.3
Excelsior (Inyo National Forest)	30.1
Iron Mountain (BLM - Desert)	74,003.8
Palen-McCoy Mtns	6,547.4
Volcanic Tablelands (Bureau of Land Management)	77.4
White Mountains (Inyo National Forest)	951.4

SEZ OVERLAP WITH CPW

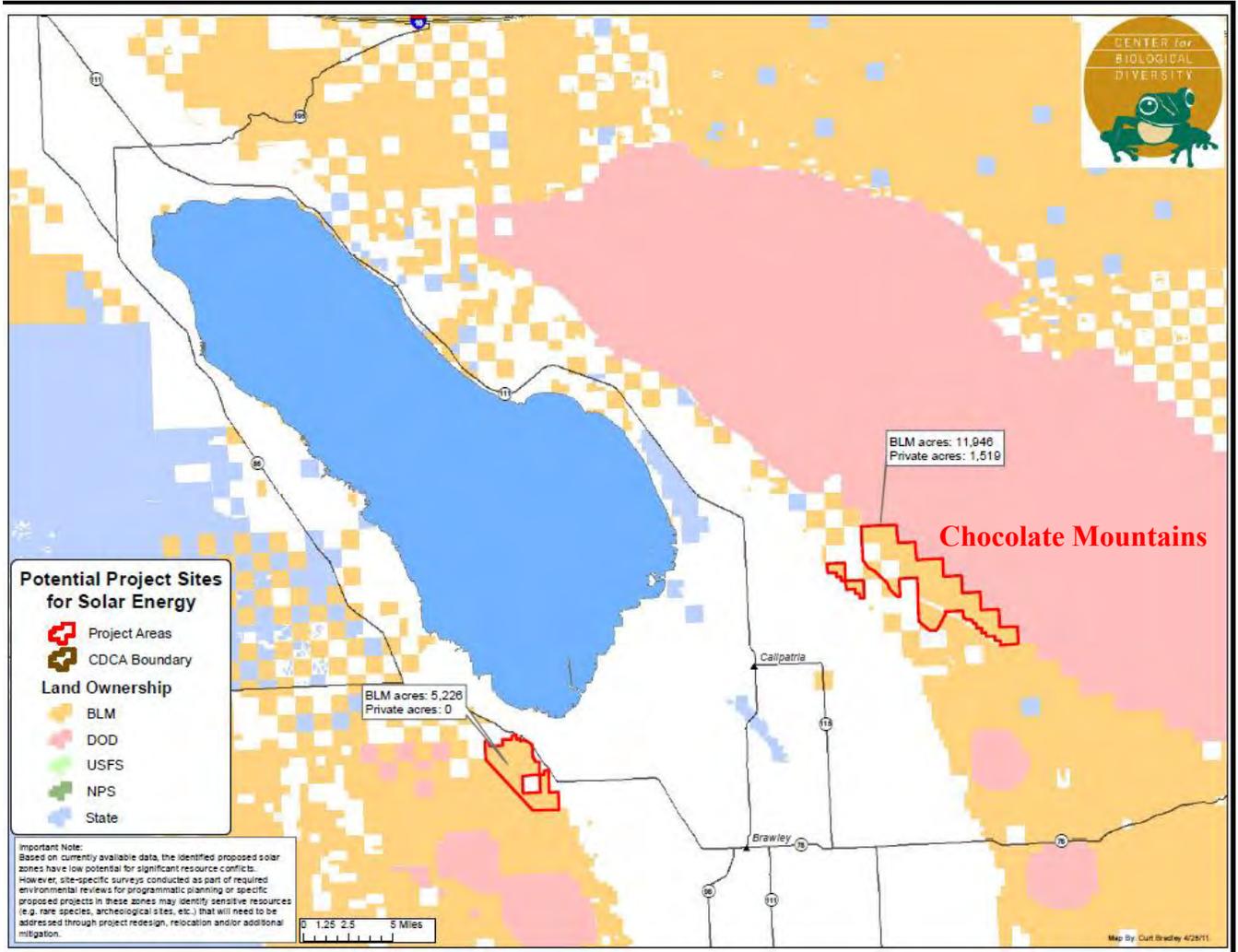
Three of the Solar PEIS SEZs were found to overlap CPW: Pisgah - CA (31 acres of overlap), Iron Mountain - CA (10,007 acres) and Mason Draw - NM (1,810 acres). The wilderness overlap with the Pisgah SEZ is very slight, perhaps a boundary uncertainty. Maps of the Iron Mountain and Mason Draw SEZs are given below.



Appendix C. West Mojave and Daggett Triangle Potential Development Areas



Appendix D. Chocolate Mountains Potential Development Area



Appendix E – Rare Plants, Sensitive Plant Species, and Plant Species of Concern in Each Proposed California SEZ

Alliances – Draft List of Vegetation Types Known or Likely to Occur in the Imperial East SEZ and Environs
California Native Plant Society, February 2011

The alliances and associated listed below include those known to occur within the BLM Solar Energy Zone (SEZ) and those known to occur within 10 kilometers of the SEZs (and therefore have potential to be present in the SEZ). The list for Imperial East was derived from observation in late 2010; thus, additional information could be acquired for this location.

* = Considered as Statewide Rare or of High Priority for Inventory (with State Rarity ranking of S3 or below). Also, see the DFG [natural communities](#) list, which addresses high ranking of vegetation types.

Imperial East SEZ

Tree Dominated:

Prosopis glandulosa* Shrubland Alliance

Prosopis glandulosa / *Pluchea sericea* – *Atriplex canescens**

Shrub Dominated:

***Ambrosia dumosa* Shrubland Alliance**

Ambrosia dumosa – *Ericameria linearifolia* (provisional type based on observation)

***Larrea tridentata* Shrubland Alliance**

Larrea tridentata

Larrea tridentata – *Ericameria linearifolia* (provisional type based on observation)

***Larrea tridentata*-*Ambrosia dumosa* Shrubland Alliance**

Larrea tridentata – *Ambrosia dumosa*

Larrea tridentata-*Ambrosia dumosa*-*Ephedra (californica)**

Larrea tridentata – *Ambrosia dumosa* / *Pleuraphis rigida**

Pluchea sericea* Shrubland Alliance

Alliances – Draft List of Vegetation Types Known or Likely to Occur in the Pisgah SEZ and Environs

CNPS, February 2011

This list was derived from data included in the Mojave Desert Ecosystem Program (see the report by Thomas et al. 2004 and associated MDEP GIS files). The alliances listed below include those known to occur within this BLM Solar Energy Zone (SEZ) and those known to occur within 10 kilometers of the SEZ (and therefore have potential to be present in the SEZ).

* = Considered as Statewide Rare or of High Priority for Inventory (with State Rarity ranking of S3 or below). Also, see the DFG [natural communities](#) list, which addresses high ranking of vegetation types.

Tree Dominated:

Chilopsis linearis* Woodland Alliance

Prosopis glandulosa Woodland Alliance*

Shrub Dominated:

Allenrolfea occidentalis Shrubland Alliance*

Ambrosia dumosa Shrubland Alliance

*Some associations may be rare in area

Atriplex canescens Shrubland Alliance

Atriplex polycarpa Shrubland Alliance

Atriplex spinifera Shrubland Alliance *

Bebbia juncea Provisional Shrubland Alliance

Castela emoryi Shrubland Special Stands

Coleogyne ramosissima Shrubland Alliance

Ephedra nevadensis Shrubland Alliance

Larrea tridentata Shrubland Alliance

Larrea tridentata – *Ambrosia dumosa* Shrubland Alliance

Larrea tridentata – *Encelia farinosa* Shrubland Alliance

Hymenoclea salsola shrubland Alliance

Suaeda moquinii Shrubland Alliance*

Yucca schidigera Shrubland Alliance

Herbaceous:

Pleuraphis rigida Herbaceous Alliance *

Dicoria canescens – *Abronia villosa* Herbaceous Alliance*

(Likely type in areas mapped as Dunes)

Alliances – Draft List of Vegetation Types Known or Likely to Occur in the Iron Mountain SEZ
and Environs

CNPS, February 2011

This list for Iron Mountain region was derived largely from data collected in preparation of the Northern & Eastern Colorado Desert Coordinated Management Plan (see [NECO classification report](#) by Evens and Hartman 2007). The alliances and associated listed below include those known to occur within the BLM Soloar Energy Zone (SEZ) and those known to occur within 10 kilometers of the SEZs (and therefore have potential to be present in the SEZ).

* = Considered as Statewide Rare or of High Priority for Inventory (with State Rarity ranking of S3 or below). Also, see the DFG [natural communities](#) list, which addresses high ranking of vegetation types.

Iron Mountain SEZ

Tree Dominated:

Parkinsonia florida* – *Olneya tesota* Woodland Alliance

Parkinsonia florida – *Psoralea argemone* / *Hymenoclea salsola**

***Psoralea argemone* Woodland Alliance**

Psoralea argemone / *Ephedra (californica)* – *Hymenoclea salsola*

***Tamarix* spp. Woodland Semi-Natural Stands**

(may include plantings)

Shrub Dominated:

***Ambrosia dumosa* Shrubland Alliance**

Ambrosia dumosa – *Ephedra (californica)* sandy*

Ambrosia dumosa / *Brassica tournefortii*

***Ephedra californica* Shrubland Alliance**

Ephedra (californica) – *Psoralea argemone*/*Pleuraphis rigida**

***Larrea tridentata*-*Ambrosia dumosa* Shrubland Alliance**

Larrea tridentata – *Ambrosia dumosa* – *Krameria grayi*

Larrea tridentata – *Ambrosia dumosa* / *Pleuraphis rigida**

Larrea tridentata – *Ambrosia dumosa* – *Atriplex polycarpa*

Larrea tridentata – *Ambrosia dumosa*/*Brassica tournefortii*

Suaeda moquinii* Shrubland Alliance

Suaeda moquinii – *Atriplex canescens* – *Atriplex polycarpa**

Suaeda moquinii/sparse playa*

Herbaceous Dominated:

***Brassica (tournefortii)* Herbaceous Semi-Natural Stands**

Pleuraphis rigida* Herbaceous Alliance

Pleuraphis rigida / *Ambrosia dumosa**

Alliances & Associations – Draft List of Known or Likely to Occur Vegetation Types in the East
Riverside SEZ and Environs
CNPS, February 2011

This list was derived largely from data collected in preparation of the Northern & Eastern Colorado Desert Coordinated Management Plan (see [NECO classification report](#) by Evens and Hartman 2007), and from additional data collected in 2011 during a CNPS vegetation mapping workshop at Palen Lake. Because the vegetation communities throughout the entire East Riverside Solar Energy Zone (SEZ) are not yet mapped, the alliances and associated listed below include those known to occur within the SEZ and those that occur within 10 kilometers of the SEZ (and therefore have potential to be present in the SEZ).

* = Considered as Statewide Rare or of High Priority for Inventory (with State Rarity ranking of S3 or below). Also, see the DFG [natural communities](#) list, which addresses high ranking of vegetation types.

Tree Dominated Types:

Parkinsonia florida* – *Olneya tesota* Woodland Alliance

Parkinsonia florida / *Larrea tridentata* – *Peucephyllum schottii**

Parkinsonia florida - *Olneya tesota**

Parkinsonia florida / (*Psorothamnus emoryi*, *Pleuraphis rigida*) (provisional dune type)*

Parkinsonia florida - *Olneya tesota* / *Hyptis emoryi**

*Parkinsonia florida**

Parkinsonia florida / *Hyptis emoryi**

*Olneya tesota**

Olneya tesota / *Psorothamnus schottii**

Prosopis glandulosa* Woodland Alliance

Prosopis glandulosa – *Atriplex* spp.*

Psorothamnus spinosus* Woodland Alliance

Psorothamnus spinosus / *Ephedra (californica)* - *Ambrosia salsola*

Shrub Dominated Types:

Allenrolfea occidentalis* Shrubland Alliance

*Allenrolfea occidentalis**

Allenrolfea occidentalis - *Suaeda moquinii**

***Ambrosia dumosa* Shrubland Alliance**

Ambrosia dumosa – *Ephedra californica**

Ambrosia dumosa / *Pleuraphis rigida**

***Atriplex canescens* Shrubland Alliance**

Atriplex canescens

***Atriplex polycarpa* Shrubland Alliance**

Atriplex polycarpa Sparse Playa

***Atriplex spinifera* Shrubland Alliance ***

*Atriplex spinifera**

***Encelia farinosa* Shrubland Alliance**

Encelia farinosa

***Larrea tridentata* Shrubland Alliance**

Larrea tridentata

Larrea tridentata – *Atriplex polycarpa*

Larrea tridentata / Cryptogamic crust

Larrea tridentata / *Pleuraphis rigida**

***Larrea tridentata* – *Ambrosia dumosa* Shrubland Alliance**

Larrea tridentata – *Ambrosia dumosa*

Larrea tridentata – *Ambrosia dumosa* – *Krameria grayi*

Larrea tridentata – *Ambrosia dumosa* – *Fouquieria splendens**

Larrea tridentata – *Ambrosia dumosa* – *Olneya tesota**

Larrea tridentata – *Ambrosia dumosa* – *Psoralea argophylla* *

Larrea tridentata – *Ambrosia dumosa* / Cryptogamic crust

***Larrea tridentata* – *Encelia farinosa* Shrubland Alliance**

Larrea tridentata – *Encelia farinosa*

Larrea tridentata – *Encelia farinosa* – *Ambrosia dumosa*

Pluchea sericea* Shrubland Alliance

*Pluchea sericea**

Suaeda moquinii* Shrubland Alliance

*Suaeda moquinii**

Suaeda moquinii – *Atriplex canescens**

Herbaceous Types:

***Brassica (tournefortii)* Herbaceous Semi-Natural Stands**

Brassica tournefortii / *Ambrosia dumosa*

***Pleuraphis rigida* Herbaceous Alliance ***

*Pleuraphis rigida** (in desert washes and on dunes)

Pleuraphis rigida / *Ephedra (californica)**

Dicoria canescens* – *Abronia villosa* Herbaceous Alliance

*Dicoria canescens**

Salsola tragus - *Oenothera deltoidea** (provisional dune type based on observation)

Petalonyx thurberi* Provisional Herbaceous Stands

(provisional sandy type based on observation in area and recent data collection on NPS lands)

Wislizenia refracta* Herbaceous Special Stands

Miscellaneous Land Use Types:

Simmondsia chinensis plantations and other agricultural field

Appendix F. Sand Transport Studies

Due to the length of the following three sand transport studies, the documents have been provided to the BLM on CD-ROM:

Barrows, C.W., M.F. Allen, J.T. Rotenberry 2006. Boundary processes between a desert sand dune community and an encroaching suburban landscape. *Biological Conservation* 131: 486-494.

ESA/PWA 2011. Geomorphic Assessment and Sand Transport Impacts Analysis of the Colorado River Sub Station. Prepared for California Public Utilities Commission and Aspen Environmental. Revised February 2, 2011. Pgs. 49

Muhs, D.R., R.L. Reynolds, J. Been and G. Skipp 2003. Eolian sand transport pathways in the southwestern United States: importance of the Colorado River and local sources. *Quaternary International* 104: 3-18.

Thank you for your comment, Roy Skinner.

The comment tracking number that has been assigned to your comment is SolarD11787.

Comment Date: April 29, 2011 17:37:28PM
Solar Energy Development PEIS
Comment ID: SolarD11787

First Name: Roy
Middle Initial:
Last Name: Skinner
Organization: First Solar, Inc.
Address: 353 Sacramento Street
Address 2: Suite 2100
Address 3:
City: San Francisco
State: CA
Zip: 94111
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: First_Solar_Comments_on_Solar_PEIS.pdf

Comment Submitted:

First Solar's comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in the Six Southwestern States are attached.



April 29, 2011
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue, EVS/900
Argonne, IL 60439

Re: First Solar Comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

To whom it may concern:

First Solar appreciates the opportunity to provide comments on the Draft Programmatic Environmental Impact Statement (PEIS).

As the world's leading manufacturer of thin-film solar photovoltaic modules and the nation's leading independent developer of utility scale solar generating assets, First Solar has completed site design and permitting for major projects in a broad spectrum of jurisdictions, including over 300 MW of capacity located on lands managed by the Bureau of Land Management (BLM). In addition First Solar has another 550 MW on BLM land to receive final permits in mid 2011, and up to 600 additional MW in 2012. As a result, First Solar has a direct commercial interest in the matters addressed in the draft PEIS as well as a significant interest in the ongoing development of policies guiding the siting and permitting of future projects on lands within the BLM's jurisdiction.

The federal government has implemented policies and programs to encourage accelerated development of renewable energy toward the objective of achieving reductions in carbon emissions and advancing energy independence. These include the federal loan guarantee program authorized under the Energy Policy Act of 2005, and the tax grant and investment tax credit program implemented under the American Recovery and Reinvestment Act of 2009. Development of utility scale solar projects on federal lands is essential to realizing these objectives. BLM and DOE policies for development of solar energy on federal lands must be consistent with the overall federal objectives by facilitating responsible solar development.

As stated in the draft PEIS, the BLM's Solar Energy Program is intended to achieve the following objectives:



- Facilitating near-term utility-scale solar energy development on public lands;
- Minimizing potential negative environmental, social, and economic impacts;
- Providing flexibility to consider a variety of solar energy projects (location, facility size, technology, and so forth);
- Optimizing existing transmission infrastructure and corridors; and
- Standardizing and streamlining the authorization process for utility-scale solar energy development on BLM-administered lands.

In its current form, however, the draft PEIS will fail to accomplish these objectives.

First Solar has contributed to, and concurs with, the comments jointly submitted by the Large-scale Solar Association (LSA), the Center for Energy Efficiency and Renewable Technologies (CEERT), and the Solar Energy Industries Association (SEIA). First Solar will not repeat these comments here. However, First Solar would like to emphasize, and further elaborate on, certain concerns addressed by the solar industry groups. In particular, First Solar would like to (1) express concern with the proposed exclusion of solar development from large areas of federal land throughout the southwest, and (2) stress the importance of BLM continuing to process existing right-of-way (ROW) applications, without regard to the timing or the final form of the PEIS.

Designating Broad Areas for Exclusion of Solar Development Unnecessarily Precludes Development within Optimal Solar Resource Areas

Sensitive and valuable natural resources should be protected. What the PEIS fails to recognize is that limited solar development is compatible with many of these resources, provided the projects incorporate proper design and mitigation that minimizes impacts to the resource.

An example of the ability to design solar projects that are compatible with other uses is First Solar's Silver State project in southern Nevada. The project is located within a Special Recreational Management Area (SMRA). The draft PEIS would preclude all development in SMRAs. However, the Silver State project is designed to coexist with the recreational uses. First Solar took the initiative to meet with recreational users in the area, and based on these discussions along with consultation with the local BLM office, designed the facilities to accommodate existing and future recreational requirements. By making these accommodations, the solar project and recreational uses are able to coexist without significantly impacting the uses designated by the SMRA.



Proposed development in sensitive resource areas should be evaluated on a case-by-case basis. The exclusion criteria identified in the PEIS should be used as a tool in siting solar projects, but not used as an absolute prohibition to development. In this way, the full potential for solar development can be realized, while protecting critical resources.

Existing ROW Applications are Critical to both the Near-Term and Long-Term success of Utility Scale Solar Development in the U.S.

Although the Preferred Alternative (Solar Energy Development Program Alternative), as proposed in the draft PEIS, would result in BLM continuing to process existing applications, numerous comments received at the PEIS public meetings focused on promoting the SEZ only alternative (Solar Energy Zone Program Alternative), an approach that would potentially result in precluding or delaying the development of a number of existing projects, currently well along in their permitting process. This would likely have a significant impact on the near-term development of solar power on federal lands, and, by definition, would be contrary to the stated objectives of the BLM's Solar Energy Program.

Many of the most advanced solar projects on BLM land are sited outside of the SEZs identified in the draft PEIS. For example, almost all of the utility scale solar projects currently in development on federal lands in Nevada are outside the SEZs proposed for Nevada in the draft PEIS. The attached figure shows the location of existing BLM ROW applications in Nevada in relationship to the SEZs identified in the draft PEIS.

Many of the existing ROW applications within the six western states covered by the PEIS are far along in the environmental review and permitting process. Some of these projects have power purchase agreements and priority positions in the transmission interconnection queue (e.g., First Solar's Stateline and Silver State projects). These projects are the most viable solar projects on BLM land in the near-term given their commercial viability and advanced state of development, and are necessary to maintain the utility scale solar industry's forward momentum.

Without timely review, many of the most viable projects would suffer significant financial impact, and ultimately could fail. Development of utility scale solar projects is a multi-year process. Delaying or denying these ROW applications because they are located outside SEZs would effectively set solar development back several years.



We ask that these advanced projects, including First Solar's Stateline and Silver State projects, be allowed to proceed on a priority basis, regardless of which PEIS alternative is selected by the BLM. BLM's staff resources should be focused on processing these existing applications to ensure that the advanced solar projects on federal land reach the market at the earliest possible time. Processing of new applications within proposed SEZs should not be at the expense of existing applications.

Many Existing ROW Applications are Strategically Located to Take Advantage of Existing Transmission Capacity

The viability of any utility scale project ultimately depends on the availability of a suitably located transmission interconnection of sufficient capacity to accommodate the full output of the proposed solar project. Utilities are not obligated to build generation tie-lines to connect solar projects to the utility transmission grid, and construction of lengthy generation tie-lines by the solar developer is prohibitive, both from a standpoint of cost and right of way acquisition.

As demonstrated in the solar industry comments on the PEIS, most of the SEZs proposed in the draft PEIS are located in areas that do not have access to the existing utility transmission grid, and therefore would be dependent on the planning, permitting and construction of new transmission facilities either to reinforce and expand the utility grid or to build long generation tie-lines, a process which typically takes anywhere from 7 to 10 years. The existing utility transmission system only has a few feasible near-term interconnection locations for solar projects, and many of the existing applications for BLM solar ROWs, including Silver State and State Line, are located at these locations. Therefore, achieving the government's stated goals of "facilitating near-term solar development" and "optimizing existing transmission infrastructure" necessitates an emphasis on developing solar projects at these locations. At the very least, it is critical that the PEIS not adopt policies that halt or slow-down development of advanced projects at locations with near term transmission availability.

Summary of Recommendation

1. The PEIS should be revised with consideration of the comments provided here and in the solar industry comments, and should be applied prospectively.
2. Areas designated in the PEIS for exclusion of solar development should instead be used to guide future solar development, and not categorically exclude development from all of these areas.



3. BLM should continue to process existing advanced ROW applications for solar development under existing procedures and guidelines, regardless of their location with respect to the proposed SEZs.

Thank you for considering First Solar's comments and recommendations on the draft PEIS. We believe that with the revisions proposed in the solar industries comment letter, as well as those we have outlined here, BLM can meet its Solar Energy Program objectives for solar development in the Southwest.

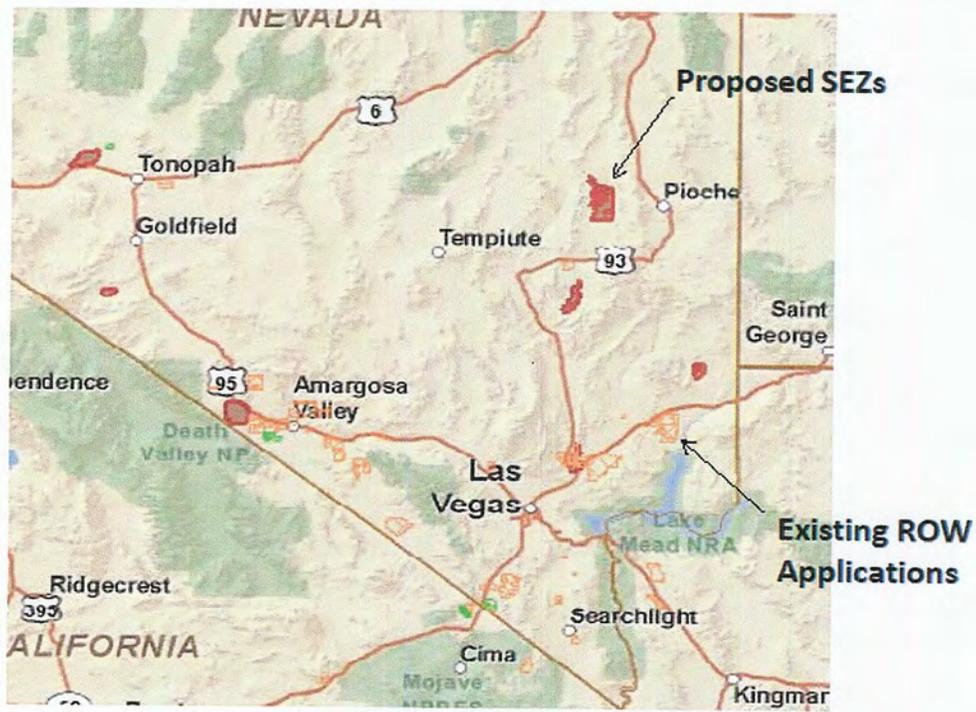
Sincerely,

A handwritten signature in blue ink that reads "Roy C. Skinner".

Roy Skinner
Director, Siting and Permitting



Location of ROW Applications in Nevada Compared to Proposed SEZs



Thank you for your comment, Katherine Michalak.

The comment tracking number that has been assigned to your comment is SolarD11788.

Comment Date: April 29, 2011 20:34:50PM
Solar Energy Development PEIS
Comment ID: SolarD11788

First Name: Katherine
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Comments, Katherine Michalak, Solar PEIS.doc

Comment Submitted:

Please see attachment.

Solar Energy PEIS: Argonne National Laboratory
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Katherine Michalak
PO Box 604
Crestone, CO 81131
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kmichalak@myfastmail.com

April 29, 2011

Regarding the Bureau of Land Management's Solar-on-public-lands PEIS:

Often, when it comes to controversial land use, environmentalists take an extreme position and are therefore written off to some extent. I happen to have strong reservations about the implementation of large scale centralized solar projects, but I would like to voice these concerns from an economic rather than strictly environmental perspective.

When any large project is undertaken, it makes sense to proceed in such a way as to make the most use possible of all available resources. Skyscrapers are built in order to make the most use of the limited land within a city, and subways to make double use out of transportation lines. When we look at the facts of the current issue, we see that over the next 50 years we'll need sustainable energy, most likely ever-increasing residential and commercial infrastructures, and also enough unspoiled natural areas so as to retain quality of life and tourism appeal. It makes sense to stretch our resources as far as possible, and this means double-using our developed areas for distributed PV solar whenever possible. This way, we'll retain more land which can be used for conscientious development over time if our population increases, and the quality of life in these new, as well as our existing developments, will not be compromised by industrial solar.

I realize that there are many financial challenges to distributed solar, but even so, the distributive approach is worth researching thoroughly with a goal to making it work if it all possible, because once we use up our resources—untouched lands—we can never regain them.

One of the challenges I see in abandoning the centralized approach is that this means also abandoning the corporations who are prepared to invest in making solar ideas a reality. However, these corporations have a history of behaving irresponsibly, and the easy way now may lead to major environmental and financial problems in the end.

I urge the BLM to consider carefully how to use their power within the government as a whole in regards to solar implementation.

Sincerely,

Katherine Michalak

Thank you for your comment, Greg Seymour.

The comment tracking number that has been assigned to your comment is SolarD11789.

Comment Date: April 30, 2011 09:51:00AM
Solar Energy Development PEIS
Comment ID: SolarD11789

First Name: Greg
Middle Initial:
Last Name: Seymour
Organization:
Address:
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City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: NWP Nevada DPEIS Comments.pdf

Comment Submitted:

Please see attached

April 29, 2011

Delivered via electronic submission to the BLM Solar PEIS website (<http://solareis.anl.gov>) and in hard copy format via U.S. mail.

Linda Resseguie, BLM Solar PEIS Project Lead
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue - EVS/240
Argonne, IL 60439

Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States—Nevada only

Dear Ms. Resseguie:

Please accept these comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) on behalf of The Nevada Wilderness Project and Nevada Conservation League. We appreciate the opportunity to comment. Both organizations have worked proactively and pragmatically to address solar development on public lands in Nevada and to support a transition to renewable energy with Nevada in the lead.

Of the more than 21 million acres in the preferred alternative, over 9 million, or 42 percent of the total, are in Nevada. This, along with increasing demand for renewable energy, places Nevada's public lands at ground zero for utility scale solar development. Nevada is ranked 11th in biological diversity of all states, has over 314 named mountain ranges, and has 52 designated wilderness areas and 62 wilderness study areas on BLM lands. To say that there are unique and important species, habitats and landscapes that can be affected by solar development within the preferred alternative in the DPEIS would be an understatement.

Additionally, our organizations were hopeful that the PEIS would develop an approach to concentrate development activities to zones in order to: 1) simplify process and workload on the BLM; 2) eliminate the current piecemeal approach and overhead of project-by-project reviews for state and federal agencies, conservation groups and other interested parties; and 3) to produce clear direction for industry on where solar development can proceed.

Because of these tremendously important resource concerns, we are asking that you fully consider a separate approach than any of the DPEIS alternatives and designate consensus solar energy zones with immediate identification of additional zones in an ongoing process to meet demand for utility scale solar energy development. Additional zone development would involve all stakeholders including, but not limited to, local interests, state and federal agencies, tribes, industry and conservation groups.

Thank you for your thorough consideration of our comments. Please contact either of us if you have any additional questions or would like to review detailed maps that can clarify sensitive wildlife concerns purposefully omitted from these public documents.

Sincerely,

Greg Seymour
Renewable Energy Program Coordinator
Nevada Wilderness Project
P.O. Box 571675
Las Vegas, Nevada 89157

and

Scot Rutledge
Executive Director
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817 South Main Street
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Table of Contents

- I. Introduction
- II. Alternatives
 - A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative
 - B. The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative
 - C. As part of the modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate
- III. Overarching Issues for Solar Development on Public Lands in Nevada
 - A. Water resources
 - i. Cumulative impacts to water resources
 - B. Water quality
 - C. Impacts to groundwater-dependent species and their habitats
 - D. Soil erosion and associated vegetation impacts
 - E. Soil diseases and toxins
 - F. Habitat connectivity, wildlife movement corridors, and fencing
 - G. Playa wetlands
 - H. Desert tortoise relocation
 - I. Cultural Resource Best Management Practices
 - J. Transmission, roads and other associated infrastructure
- IV. Lands in SEDP Alternative that are not appropriate for development
 - A. Recommended screening criteria for utility-scale solar development
 - B. Specific examples of lands in the SEDP Alternative in Nevada that are not appropriate for development
- V. Solar Energy Zones
 - A. Delamar Valley SEZ
 - i. Overview
 - ii. Overarching issues for this SEZ
 - iii. Recommended boundary adjustments
 - iv. Sensitive natural resources and recommended additional impacts analysis
 - v. Opportunities for environmentally responsible development
 - vi. Corrections
 - vii. Figure 1
 - B. Amargosa Valley SEZ
 - i. Overview
 - ii. Overarching issues for this SEZ
 - iii. Recommended boundary adjustments
 - iv. Sensitive natural resources and recommended additional impacts analysis
 - v. Opportunities for environmentally responsible development
 - vi. Corrections
 - C. Dry Lake Valley North SEZ
 - i. Overview
 - ii. Overarching issues for this SEZ
 - iii. Recommended boundary adjustments
 - iv. Sensitive natural resources and recommended additional impacts analysis
 - v. Opportunities for environmentally responsible development
 - vi. Corrections
 - vii. Figure 2

- D. Dry Lake SEZ
 - i. Overview
 - ii. Overarching issues for this SEZ
 - iii. Recommended boundary adjustments
 - iv. Sensitive natural resources and recommended additional impacts analysis
 - v. Opportunities for environmentally responsible development
 - vi. Corrections
 - vii. Figure 3
- E. East Mormon Mountain SEZ
 - i. Overview
 - ii. Overarching issues for this SEZ
 - iii. Recommended boundary adjustments
 - iv. Sensitive natural resources and recommended additional impacts analysis
 - v. Opportunities for environmentally responsible development
 - vi. Corrections

- F. Millers SEZ
 - i. Overview
 - ii. Overarching issues for this SEZ
 - iii. Recommended boundary adjustments
 - iv. Sensitive natural resources and recommended additional impacts analysis
 - v. Opportunities for environmentally responsible development
 - vi. Corrections
- G. Gold Point SEZ
 - i. Overview
 - ii. Overarching issues for this SEZ
 - iii. Recommended boundary adjustments
 - iv. Sensitive natural resources and recommended additional impacts analysis
 - v. Opportunities for environmentally responsible development
 - vi. Corrections

I. Introduction

Our nation’s growing addiction to fossil fuels, coupled with the unprecedented threats brought about by climate change, imperils the integrity of our wildlands and wildlife as never before. To sustain our wildlands, wildlife, and our human communities, the undersigned believe the nation must transition away from fossil fuels and toward a clean energy future as quickly as possible. To do this, we must eliminate energy waste; moderate demand through energy efficiency, conservation, and demand-side management practices; and rapidly develop and deploy clean, renewable energy technologies, including at the utility-scale. Renewable energy development is not appropriate everywhere on the public lands, however, and it is imperative for our future and the future of our wildlands and wildlife that we strike a balance between addressing the near-term impact of utility-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in areas

of low conflict, including already disturbed lands, and near existing transmission lines and other supporting infrastructure.

We strongly believe that the long-term, environmentally responsible success of the Bureau of Land Management's (BLM) solar energy program depends on developing policy and guidelines that guide projects to the most suitable locations, thus limiting environmental impacts and reducing obstacles to construction of the most appropriate projects. The DPEIS offers just such an opportunity, and we look forward to working with the BLM to ensure that the agency: 1) identifies and designates suitable Solar Energy Zones; 2) guides solar projects to those zones; 3) develops a process for identifying and designating new zones, as appropriate; and 4) develops additional policy needed to support an environmentally responsible solar energy development program on our public lands.

These comments are focused on the elements of the DPEIS that address or will influence solar development in Nevada, including broad policy issues.

II. Alternatives

A. The BLM should select as its preferred alternative a modified Solar Energy Zones (SEZ) Alternative

The SEZ Alternative would designate seven Solar Energy Zones in Nevada. The DPEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

With appropriate modifications, a modified SEZ Alternative offers the best way to develop a successful and environmentally responsible solar program for our public lands. One important modification regards the removal of problematic SEZs and the refinement of others. Not all of the currently identified SEZs are appropriate for development, and it is important that the BLM continue to refine the SEZ selection through the PEIS process – the comments included in section V are intended to help the BLM refine the SEZs in Nevada and identify and complete additional analysis that will enable efficient and environmentally responsible permitting of projects once the PEIS is finalized. By focusing on the places with the best chances for successful projects, a modified Solar Energy Zones Alternative will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers.

Beyond the benefits of focusing on the places with the best chances for successful solar development, it is important to note that the modified SEZ Alternative is an excellent starting point for the BLM's solar program. The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20-year life of the PEIS. Though the acreage of the SEZs should change through refinements in

the PEIS process, a modified SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. Another important modification to the SEZ Alternative is the creation of a robust and efficient process to designate new SEZs in the future. With our recommendation that the BLM create a process for designating new SEZs going forward, the BLM can easily use this starting point to build a roadmap to our clean energy future.

B. The BLM should not adopt the Solar Energy Development Program (SEDP) Alternative

While a modified SEZ Alternative offers great promise for building a successful, environmentally responsible solar program, the SEDP Alternative risks facing the same problems which have plagued the BLM's oil and gas program – projects spread scattershot across the West, damage to wildlife and wildlands, and costly conflicts, delays and litigation. We are extremely concerned that the BLM has chosen the SEDP Alternative as its Preferred Alternative, and we urge the BLM to select a modified SEZ Alternative as the Preferred Alternative instead.

The SEDP Alternative would jeopardize both our clean energy future and our western wildlands. The BLM should not carry forward a plan that opens approximately 22 million acres to energy development – this is over 100 times more land than what the agency's own analysis says is really needed, and includes many places that should be protected for wildlife habitat and clean air and water. Section IV includes details on some of the places in Nevada's 9.1 million acres that are particularly inappropriate and problematic and yet would be open for solar development under the SEDP Alternative.

This outdated and inefficient approach could impede the BLM's solar program just as it begins to take off. Opening such huge and potentially inappropriate areas for development without meaningful incentives to locate projects in zones undermines the carefully chosen low conflict/high resource SEZs, and will ultimately inhibit the development of the fledgling solar energy industry, causing major setbacks to our desperately needed transition to a clean energy economy.

For these reasons, the BLM should choose a modified SEZ Alternative as the Preferred Alternative. By focusing on areas where projects have the greatest chance for success, rather than wasting time and resources “fixing” bad proposals, the BLM can ensure that good projects move forward and our most sensitive wildlands and wildlife habitat are protected.

C. As part of a modified SEZ alternative, the BLM should develop a process for identifying and designating new SEZs, as appropriate

As noted above, the SEZs as currently drawn include more than three times as much land as the BLM forecasts will be developed during the 20-year life of the PEIS and, even with expected refinements, can provide a solid foundation on which to build the BLM's solar program.

We expect that there are also other lands outside of the current SEZs that may be appropriate for SEZ designation and subsequent project development. To ensure that the BLM's solar program continues to grow in an environmentally responsible way, the agency should create a process for

designating new SEZs as appropriate in the future. This will be particularly important for some states, such as Arizona, that currently have relatively few acres identified as SEZs. By creating a process that prioritizes SEZ designation on lands with excellent solar resources, close to existing roads and transmission lines, and few conflicts with natural and cultural resources, the BLM can carry its guided development model forward as the solar program continues to grow.

Development of a robust and efficient process to designate new SEZs will provide the benefits of continuing to identify and prioritize appropriate areas for development while avoiding the problems and controversy of the SEDP Alternative.

III. Overarching Issues for Solar Development on Public Lands in Nevada

BLM should address the issues below when considering siting or permitting any solar development on public lands in Nevada, whether inside or outside of a SEZ.

A. Water resources

The Southwest is an arid environment, where water is scarce and riparian and aquatic ecosystems are already stressed. The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated, and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development. *See* EPRI, *A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation* (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

Given the importance of water to human life and healthy ecosystems, it is critical that BLM ensures that solar energy development limits resource conflict and reduces energy production's vulnerability to water shortage by minimizing water use. Intensive water use also is contrary to the public interest in protecting sensitive landscapes, imperiled species and precious waters. We agree that "water use and water availability are key considerations" when selecting solar energy technology, DPEIS 3-13; water availability – both physical and legal – should dictate the choice and approval of solar energy technologies.

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,¹ to injury to other water rights holders, to injury to federal trust resources, or to adverse effects on special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. *See* DPEIS A-54, A-57. That said, we recommend BLM include a similar prohibition on project water use that affects federal trust resources such

¹ We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. "The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource."

as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce streamflow and drawdown aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry-cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has acknowledged in the DPEIS that wet cooling is not feasible within nearly every proposed SEZ. In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet-cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitat and species that depend on them.

For these reasons, we recommend requirements that limit impacts by basing the selection of solar energy technologies and the level of solar development on the available water supply; prohibit unacceptable impacts caused by water use, by, for example, denying an application if the water requirements of the proposed technologies would result in unacceptable impacts; and mitigate adverse impacts to water and ecological resources. BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire rights that offset and mitigate for adverse impacts to spring discharge, water levels, recharge, groundwater-dependent fish and wildlife, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

i. Cumulative impacts to water resources

The DPEIS fails to conduct a meaningful analysis of the cumulative impacts of solar energy development with its analysis of each SEZ, within flow systems and across the state as a whole. This is particularly true concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species and other public trust resources. Withdrawal of over thousands of acre-feet of water from these basins will intercept the source of the water that now maintains the numerous springs, seeps, marshes, streams, and riparian and

mesquite habitats that support the wildlife and plant resources including migratory birds and threatened and endangered species. Many of these habitats are federally protected wildlife refuges, national parks and monuments, and national recreation areas that are supported by federally held water rights.

For example, there is no analysis within each SEZ of the cumulative impacts of water use on fish and wildlife and their habitats. Despite having the data necessary to estimate the cumulative impacts of water use on groundwater-dependent species, BLM claims that the “[i]mpacts of groundwater depletion from solar energy development in the Amargosa Valley SEZ cannot be quantified without identification of the cumulative amount of groundwater withdrawals needed to support development on the SEZ.” DPEIS 11.1-194. BLM has estimated low and high water demands for construction and operation within the SEZ (see DPEIS Tables 11.1.9.2-1 and 11.1.9.2-2) and is capable of estimating water demands of nearby projects (see Table 11.1.22.2-2) – BLM simply needs to incorporate this information into a regional groundwater model that could project the impacts of groundwater pumping on species habitats but has failed to do so in the DPEIS. Compare BLM, Amargosa Farm Road Solar Energy Project Final EIS (2010) at Chapter 4.4, Appendix B (utilizing Death Valley Regional Flow System Model to evaluate effects of pumping 400 acre-feet per year (afy) on groundwater dependent species at Devil’s Hole and Ash Meadows). Failure to model these impacts renders BLM’s conclusion that “[t]he implementation of programmatic design features and complete avoidance or limitations of groundwater withdrawals from the regional groundwater system would reduce impacts on the groundwater-dependent species to small or negligible levels” unsupportable. DPEIS 11.1-194. *See also* DPEIS 11.2-185 (Delamar Valley SEZ); 11.3-178 (Dry Lake SEZ).

It is precisely at the scale of a programmatic EIS that BLM should assess the impacts of the loss of interbasin flow and examine the reasonably foreseeable cumulative impacts of water use for solar energy projects on groundwater-dependent species and their habitats. The BLM should include these analyses in the FPEIS.

The DPEIS also fails to discuss the potential for increased competition for water resources in the area, and the indirect socioeconomic and ecosystem impacts of allocating water to energy production. Such an analysis is particularly important to informing the impacts of allocating nearly all of a basin’s unallocated perennial yield to solar energy development, if indeed any perennial yield is unallocated, and of re-allocating existing uses to energy development. The FPEIS should include analysis of these potential impacts.

If water is imported from off-site for projects, the FPEIS should disclose the impacts of increased vehicle traffic and the likely off-site sources and potential impacts to those sites.

B. Water quality

The BLM should include additional analysis and discussion of existing water quality conditions, water treatment, and impacts to water quality in the FPEIS. The DPEIS provides a brief discussion of groundwater quality in the SEZs, but fails to provide any baseline information regarding surface water quality. There is no discussion of the size, type or extent of surface or

groundwater quality impacts due to sedimentation, runoff, contaminant spills, herbicide application or wastewater treatment.

In fact, the DPEIS provides little information that discerns any difference between wastewater treatment alternatives or how an alternative might be chosen. The FPEIS should disclose this information, including the contaminants in the wastewater as well as treatment methods, chemicals that may be stored or used, and the potentially affected acreage if treated on-site and the impacts of the increase in vehicle traffic if treated off-site.

The DPEIS also gives little detail regarding the need for or methods of treating water for potable uses, such as the chemicals to be used, and no information regarding the need to treat water for use in the steam and cooling cycles. This information should all be included in the FPEIS.

C. Impacts to groundwater-dependent species and their habitats

The impacts of groundwater withdrawals on spring, riparian and aquatic species located both near and far, within the Death Valley, White River, Virgin River Valley and Meadow Valley Wash Regional Flow Systems are of grave concern, particularly considering competing demands for the same water. Dominant hydrologic features of the White River and Death Valley flow systems are the large groundwater discharges from numerous carbonate springs scattered throughout the area; e.g., springs in Pahranaagat Valley and the Muddy Rivers Springs Area, and the Ash Meadows area, respectively. Groundwater withdrawal may lower aquifer levels and spring discharge, adversely affecting the nearby and down-gradient Pahranaagat, Moapa Valley and Ash Meadows National Wildlife Refuges, and springs and wetlands connected to the White River Carbonate Flow system, including the Hiko, Crystal, Ash, Moapa, Warm, Rogers and Blue Springs. The FPEIS should include analysis of potential impacts to these sensitive resources and include measures to avoid or minimize those impacts.

D. Soil erosion and associated vegetation impacts

We question the assumption that there should be full removal of existing vegetation in areas to be developed. Proposing development in this manner assumes use of a limited number of technologies with no changes in technology and does not acknowledge that projects can be done in sections and that some accommodation of the natural landscape must be considered.

Impacts to soil resources are some of the most challenging issues for solar projects proposed in the desert. Development of adequate drainage, erosion, and sediment control plans is a complicated, time consuming, and challenging task. Desert soils are particularly fragile, and development can have significant impact on soil crusts. Soil crusts and vegetation play a vital role in retaining desert topsoil; when areas are bladed, a complex of interrelated negative impacts occurs. Biological soil crusts, composed of a community of mosses, lichens, algae, fungi, and bacteria, form a textured, porous layer a few centimeters thick above the ground surface and a fibrous mat that extends below ground, holding topsoil in place, inhibiting the spread of invasive weeds, and facilitating nitrogen fixation and carbon cycling to enhance soil fertility. When these soils are disturbed, the desert land generates more dust and the area is more susceptible to

invasive plant species. Native plant communities as well as soil crusts could take many years to re-establish after disturbance in the arid, low productivity environment of the desert.

Volume 1, Chapter 5 (potential mitigation measures for all SEZs) makes the vague recommendation that disturbance to soil crusts should be avoided to the extent possible, but it does not define the density of soil crusts that would be sufficient to put an area off limits. In many areas soil crusts are sparsely scattered throughout the landscape due to years of disturbance by vehicles and cattle, and it is not clear in this context if destruction of the remaining soil crusts by development would be acceptable because they already have reached such a low density, or if they should be preserved to re-colonize these areas. Chapter 5 contains a short discussion of fugitive dust which states “exposed soil would provide a continual source of fugitive dust throughout the life of the facility, resulting in the long-term deposition of particulates onto plants in the vicinity. Such deposition could lead to long-term changes in plant community composition and productivity in the vicinity of a solar energy facility.” DPEIS p. 5-69.

The DPEIS also states that “In areas with highly erodible soils...wind erosion of disturbed soils could affect particulate air quality...based on the large area that could be disturbed and that the fact that stabilization is never fully effective, wind erosion during operation needs to be addressed in site-specific assessments during the ROW application process to assess the severity of these impacts.” DPEIS p. 5-147. Chapter 5 mentions that water is not a viable dust control agent in arid areas with water scarcity, that pavement cannot be installed everywhere, that dust suppressants cannot be sprayed everywhere, and that native vegetation should be replanted in temporarily disturbed areas (but not within the facility footprints). Roads and other high use areas as well as temporarily disturbed areas are addressed, but how dust management will be implemented across the large expanses of cleared areas with low traffic is not.

Soil disturbance should be minimized, and any reseeded should be done with native endemic species. Every effort to minimize introduction and spread of non-native species should be employed, including ensuring that reseeded mixtures are not polluted with non-native seed. Impacts of loss of native vegetation should be evaluated.

The FPEIS should include a thorough analysis of the impacts on the soils, including any biological soil crusts, as well as the potential for introducing non-native invasive plant species. We ask that BLM encourage solar developers to limit the impacts to soils and vegetation, minimizing and mitigating where impacts are unavoidable. To ensure robust environmental protections and timely completion of permitting documents and steps, it is critical that the BLM dedicate adequate time and resources early in the process to addressing these issues thoroughly.

Assessment of the existing plant community is essential; surveys of the sites should be done early and at several different times during the year, particularly for any sensitive species. Unfortunately, in a dry ecosystem some species are only present or active for a few weeks each year. In dry years, some plant species will not appear at all, although viable root systems are present underground. Therefore, any historical vegetation or wildlife surveys in these areas should inform the FPEIS.

Destruction of surface hydrologic function is another important impact that should be addressed in the FPEIS. Many potential development areas are located on extensive alluvial fans, containing many ephemeral drainages and incised washes in some cases.

Levick et al. (2008) in a recently released research report on desert ephemeral and intermittent streams, offered the following:

Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams by moving water, nutrients, and sediment throughout the watershed. When functioning properly, these streams provide landscape hydrologic connections; stream energy dissipation during high-water flows to reduce erosion and improve water quality; surface and subsurface water storage and exchange; ground-water recharge and discharge; sediment transport, storage, and deposition to aid in floodplain maintenance and development; nutrient storage and cycling; wildlife habitat and migration corridors; support for vegetation communities to help stabilize stream banks and provide wildlife services; and water supply and water-quality filtering. They provide a wide array of ecological functions including forage, cover, nesting, and movement corridors for wildlife. Because of the relatively higher moisture content in arid and semi-arid region streams, vegetation and wildlife abundance and diversity in and near them is proportionally higher than in the surrounding uplands. Ephemeral and intermittent stream systems comprise a large portion of southwestern watersheds, and contribute to the hydrological, biogeochemical, and ecological health of a watershed. Given their importance and vast extent, it is concluded that an individual ephemeral or intermittent stream segment should not be examined in isolation. Consideration of the cumulative impacts from anthropogenic uses on these streams is critical in watershed-based assessments and land management decisions to maintain overall watershed health and water quality.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

E. Soil diseases and toxins

Clearing and leveling of terrain associated with solar development will destroy soil structures such as biological soil crusts and desert pavements and often include near complete vegetation removal subjecting the soil surface to highly erosive winds. Disturbance of playa soils without biological soil crusts has the largest erosive impact as the crushing of the mineral crust leaves the soil surface unprotected (Belnap 2001).

In many areas of the six Southwestern States covered by the PEIS, there are soil-borne diseases and toxins in the dust generated by wind erosion that can be transported considerable distances from the disturbed site.

Valley fever

Coccidioides species is a fungus residing in the top 8 inches of some desert soils that causes a serious and potentially fatal disease known as “valley fever.” This fungus thrives in the alkaline desert soils in parts of Arizona, California, Nevada, New Mexico, Texas and Utah. The endemic zones are generally arid to semiarid, with mild winters and long hot seasons (Fisher et al. 2007).

Coccidioides sp. have a complex life cycle. In the soil, they grow as a mold with long filaments that break off into airborne spores when the soil is disturbed. The spores are extremely small, can be carried hundreds of miles by the wind and are highly contagious. Once inside the lungs, the spores reproduce, perpetuating the cycle of the disease.²

Anyone who inhales the spores that cause valley fever is at risk of infection. Some experts estimate that up to half the people living in areas where valley fever is common have been infected. People who have jobs that expose them to dust are most at risk — construction, road and agricultural workers, ranchers, archeologists, and military personnel on field exercises. Besides environmental exposure, other risk factors include having diabetes, immune deficiencies, and being non-white, which raises environmental justice concerns.³

Mineral aerosols

Perhaps contrary to popular belief, dust can travel great distances from its source, even across oceans and continents, sometimes having negative impacts on human health and distant ecosystems (Husar et al. 2001, Joy 2005, McClure 2009).

In North America, the southwestern deserts are the source of the majority of mineral aerosol emissions. Human activities in these regions have significantly increased the amount of wind erosion and hence dust production and deposition, with broad implications for biogeochemical cycling and impacts to arctic and mountain snowpack depths and melt rates (Neff et al. 2008). As the effects of global climate change continue to affect the six state region, it is very likely that desertification will intensify with the effect of increasing the probability of more dust being produced as vegetative cover decreases and soils dry (Morman 2010).

Scientists at the U.S. Geologic Service have been studying the sources and composition of dust across the desert southwest, from both natural and anthropogenic sources, including in terminal lake valleys in southern California and Nevada in which solar developments are being contemplated in the DPEIS (Reheis et al. 2009).

The studies are finding that dust from terminal lake basins could be transported hundreds of miles and could be a global source of metal-bearing and potentially toxic dust. Not only are they readily available, the dusts are also easily respired and are highly bioaccessible (Reheis et al. 2003, Morman 2010).

² <http://www.mayoclinic.com/health/valley-fever/DS00695>.

³ Ibid.

While there is some variability between dust sources, all include a mixture of arsenic, chromium, cadmium, lead, copper, nickel and zinc, all potentially toxic to humans (Reheis et al. 2009, Reheis et al. 2003, Morman 2010).

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

F. Habitat connectivity, wildlife movement corridors, and fencing

Various sources of information on habitat connectivity on a landscape level exist that identify key habitats linking large blocks of natural, protected habitat. Landscape-scale habitats that link large blocks of intact habitat that support and sustain all Special Status Species need to be included in the analysis of impacts in each of the alternatives, and in the development of impact avoidance mitigation measures. Such measures may require that areas proposed for solar energy development are fully avoided if they fall within an essential habitat connectivity area.

Regarding fencing, in the state-specific volumes of the DPEIS that address management directives specific to the proposed Solar Energy Zones, it is repeatedly stated that the fencing around solar energy developments should not block the free movement of mammals, particularly big game species. In the section that discusses guidelines for development for areas outside SEZs that are included in the SEDP Alternative, however a different standard for fencing is set forth. Specifically, the DPEIS states that “Fences should be built (as practicable) to exclude livestock and wildlife from all project facilities, including all water sites.” DPEIS p. A-57.

Further discussions with BLM staff have made it clear that the requirement to avoid blocking mammal movement was intended to apply to migration corridors and population-level effects on species, not to movements of individual mammals, similar to the categorical exclusions for renewable energy fencing recently proposed by DOE. For example, if a project within a SEZ spanned an important wildlife movement corridor, BLM would recommend it be built in two separate sections or phases, and that those individual facilities would have exclusion fencing around them but movement would be allowed between them. We are relieved to get this clarification, and the BLM should make this clear in the Final PEIS. This clarification negates most of the concerns that we have regarding non-exclusion fencing within projects which include:

- Animals enter the project area and are injured or killed by equipment
- Small mammals overpopulate disturbed ground in project footprints, causing raptors and other predators to be drawn to projects
- Listed species enter projects and are killed, resulting in take
- Large mammals start grazing on cleared land within projects, spreading invasive weeds through increased disturbance and seed transport into the project
- Animals damage equipment, projects have difficulty obtaining funding or insurance due to increased risks associated with fencing that allows animals to enter project areas

Beyond clarifying this question, we urge that fencing recommendations be kept consistent in regarding animal movement for all solar projects on BLM lands. Prescriptions that intend to

avoid impacts to migration corridors should apply to projects both inside and outside of SEZs. In addition, it is important to emphasize that issues around wildlife movement and habitat corridors are landscape-scale issues; they do not receive adequate consideration when approached at the scale of project-level permitting, and should instead be addressed at the scale of individual SEZ regions and beyond. Project-level efforts should then be tailored to be compatible with these landscape-scale migration corridor analyses.

G. Playa wetlands

During the Pleistocene, the Great Basin and Mojave Desert ecoregions were home to many large lakes that filled the valley floors. As the climate changed and became warmer and drier, these lakes eventually dried and became the intermittent wetlands now known as ephemeral lakes or playas (Randall et al 2010).

In the Central Basin and Range Ecoregion, playas are a rare feature on the landscape, constituting only 5.7% of the land area. The associated greasewood flats around the margins of playas constitute another 5.1% of the land area (Crist 2010). The same is true for the Mojave Desert ecoregion. In their ecoregional assessment for the Mojave, The Nature Conservancy set as a goal the protection as conservation targets at least 80% of the available playa habitat in that area (Randall et al. 2010).

Playas and ephemeral wetlands are more than the obvious dry lake bed. The function of this ecosystem depends heavily on the surrounding uplands and the hydrologic functions that deliver water and sediments to the playa (Levick et al. 2008; Liebowitz 2003). The most immediate threat to playas, aside from surface occupancy, is the diversion of water that would otherwise flow onto the playa bed. To protect the ecological function of the playa system, it needs to be managed at the scale of the entire playa and wetland system, including seasonally wetted perimeters and sources of water to the playa (GBBO 2010).

Due to their rarity on the landscape, playas add rare and unique endemism and biological diversity to desert ecosystems (GBBO 2010; Liebowitz, Scot 2003; Comer et al. 2005). Rare and endemic plants such as Parish's phacelia, iodinebush, black greasewood, spiny hopsage, saltgrass, Lemon's alkali grass, and *Amargosa nitrophila* are found on the playa or in the surrounding ecotone with the uplands (Randall et al 2010; Crist 2010).

Ephemeral wetlands and playas are also very important for some species of birds. Birds that depend on ephemeral wetlands have adapted to the annual variation in water conditions that are typical for these ecosystems, and rely on a network of playas and wetlands to meet their habitat needs from year to year (GBBO 2010). Birds using playas for habitat include snowy plover, black-necked stilt, American avocet, Western sandpiper, least sandpiper, long-billed dowitcher, Wilson's phalarope, marbled godwit and cinnamon teal (GBBO 2010).

Dry lake beds do not engender visions of shrimp, but still, playas provide habitat for specialized and unique aquatic macroinvertebrates such as brine and fairy shrimp, which in turn are important for shorebirds and other ecological functions (Hall et al. 2004).⁴

Clay, silt, salts and sand are contributed to the playa lake beds from seasonal runoff and flood events. These sediments in turn become a primary source of materials for dune systems as well as particulate air emissions (Crist 2010).

Biological soil crusts associated with playas and their associated dunes are very efficient at fixing CO₂, particularly as the amount of CO₂ in the atmosphere increases. In the case of the *playa* crusts, the net photosynthetic rate of the algae rose by *a factor of two* in going from the ambient CO₂ concentration characteristic of their normal environment (385 ppm) to the maximum value the scientists investigated (1000 ppm), while in the case of the *dune* crusts, the net photosynthetic rate *tripled* (Brostoff et al. 2002).

Unfortunately, several of the proposed SEZs, such as Delamar, Dry Lake North and Dry Lake (Apex) in Nevada, overlay and would destroy playas and their ecological functions. It is imperative that the BLM adjust the boundaries of SEZs that impact playas to exclude development on the dry lake bed as well as on the surrounding greasewood flats and other associated ecosystems.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

H. Desert tortoise relocation

The latest USFWS guidance should be followed for translocation of desert tortoises for any solar projects. The most current guidance is found in the document “Translocation of Desert Tortoises (Mojave population) from Project Sites: Plan Development Guidance” (U.S. Fish and Wildlife Service, August 2010).⁵

In addition to following this guidance, the following guidelines should be followed:

- The USFWS recognizes that translocation of tortoises is still experimental, and study designs of translocations should be set up to test for success in a scientifically rigorous manner.⁶
- Tortoises should only be translocated into the same genetic unit and Recovery Unit.
- Thorough surveys of habitat characteristics of recipient and control sites should be undertaken before project approval, including vegetation cover and composition, surficial geology and substrate suitability for burrows, forage plant quality, and nearness to roads, disturbance, and urbanization.⁷

⁴ Clarke, Chris. 2010. The playa isn't lifeless. Available at: http://faultline.org/index.php/site/item/the_playa_isnt_lifeless .

⁵http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/docs/dt/USFWS%20DT%20Translocation%20Guidance.docx

⁶ <http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

⁷ Testimony of Dr. Kristin Berry, California Energy Commission hearing for Calico Solar Project, 2010.

- Translocation plans should be finalized before project approvals, and made public for review.

I. Cultural Resource Best Management Practices

We recommend the following “best management practices” for the federal obligation under Section 106 of the National Historic Preservation Act (NHPA) which includes a process for early identification of cultural resources and Traditional Cultural Properties or sacred areas in and adjacent to the Solar Energy Zones (SEZ) as defined in the Draft Programmatic Agreement Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS). Currently, a lack of inventory, site information, and quality consultation of interested Native American Tribes prevents a reliable idea of quality, number and location of significant cultural resources and sacred areas that may significantly hamper competition of proposed renewable energy projects.

A primary recommendation is that the DPEIS should clearly state that a Record of Decision on the above stated EIS does not preclude the continuing process of consultation with parties in order to comply with Section 106 of the National Historic Preservation Act during subsequent project specific EIS determinations and that requirements to meet applicable part of Section 106 have not yet been made.

These include but are not limited to cultural resources that meet the eligibility criteria for listing on the NRHP are considered “significant” resources and must be taken into consideration during the planning of federal projects. Federal agencies are also required to consider the effects of their actions on sites, areas, and other resources (e.g., plants) that are of religious significance to Native Americans as established under the American Indian Religious Freedom Act (P.L. 95-341). Native American graves and burial grounds are protected by the Native American Graves Protection and Repatriation Act (P.L. 101-601).

The NHPA is the overarching law concerning the management of cultural resources. Numerous other regulatory requirements, however, pertain to cultural properties and are presented below. These laws are applicable to any project undertaken on federal land or requiring federal permitting or funding. The NHPA created the framework within which cultural resources are managed in the United States. Section 106 of the NHPA, defines the process for the identification of a cultural resource and the process for determining if a project will adversely affect the resource. The NHPA establishes the processes for consultation among interested parties, the agency conducting the undertaking, and the SHPO, and for government-to-government consultation between U.S. government agencies and Native American Tribal governments. The NHPA, in Section 106, also addresses the appropriate process for mitigating adverse effects. The NHPA applies to federal undertakings and undertakings that are federally permitted or funded. Cultural resources on BLM-administered land are managed primarily through the application of the above identified laws. Guidance on the application of the laws is provided through PAs developed among the BLM, the National Council of SHPOs, and the Advisory Council on Historic Preservation, and through state-specific PAs concerning cultural resources. Further guidance is provided through the 8100 Series manuals and handbooks, which outline cultural resource management on BLM-administered land.

“Significant Cultural Resource” for purposes of this research which are protected by NHPA are generally 50 years of age or older and meeting National Register of Historic Places NRHP criteria for evaluation (36 Code of Federal Regulations 60.4) which state, in part,

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, materials, workmanship, feeling, and association, and

- Criterion A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- Criterion B. that are associated with the lives of persons significant in our past; or
- Criterion C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Criterion D. that have yielded, or may be likely to yield, information important in prehistory or history.

While Historic period sites may be determined NRHP eligible under virtually any of these criteria, prehistoric archaeological sites are almost always evaluated with respect to Criterion D. In other words, to be considered NRHP eligible, a prehistoric site must have yielded, or have the potential to yield

important information about some aspect of prehistory or history, including events, processes, institutions, design, construction, settlement, migration, ideals, beliefs, lifeways, and other facets of the development or maintenance of cultural systems. . . . Any consideration of a property’s eligibility under Criterion D must address (1) whether the property has information to contribute to our understanding of history or prehistory and (2) whether that information is important.

An eligible property must also be at least 50 years old (with a few special exceptions) and retain a certain amount of physical integrity.

Cultural Resources Recommendations

Cultural resources data on public lands in and near the SEZs is incomplete. This coupled with the lack of inventories in and surrounding most of the SEZs, early identification of areas appropriate for development cannot be completed with any assurance of reliability. In fact, the table below illustrates the percentage of inventory within each SEZ in all six states. Sixteen of the SEZ have less than 5 % surveyed and seven of these have less than 1 % completed. No totals were given for seven of the SEZ. However, descriptions suggest that five have low percentages inventoried. Only one SEZ, Dry Lake near Las Vegas NV has been subject to any appreciable amount completed.

We are recommending a two phased approach to increase the quality and amount of data in a relatively cost effective and timely manner. The first is to develop a predictive model using existing data from surrounding areas within the same physiographic and cultural areas. The model should allow the agency to better extrapolate what kinds, location, and the quality of sites will occur in the SEZs in areas that inventoried. The second part includes completing a sample survey to bring the percentage of the inventory up. This will help the agency with selection and

Acres and percentage of inventory by SEZ in all six states.

SEZ	State	SEZ Acreage	Approx. % Surveyed	Comments
Brenda	AZ	3,878	0	
Bullard Wash	AZ	7,239	0	
Gillespie	AZ	2,618	?	4 linear, 1 block
Imperial East	CA	5,722	?	1 block partially in NW
Iron Mountain	CA	106,522	?	at least 3 linear surveys
Pisgah	CA	23,950	?	at least 19 surveys
Riverside East	CA	202,896	?	at least 109 surveys
De Tilla Gulch	CO	1,522	3.8	
Fourmile East	CO	3,882	0	
Los Mogotes East	CO	5,918	0.2	
Antonito SE	CO	9,729	0	
Afton	NM	77,623	8	
Mason Draw	NM	12,909	2	
Red Sands	NM	22,520	7	
Amargosa Valley	NV	31,625	3	
Delamar Valley	NV	16,552	3.4	
Dry Lake	NV	15,649	60.2	
Dry Lake Valley North	NV	76,874	2.8	
East Mormon Mountain	NV	8,968	0.9	
Gold Point	NV	4,810	0	
Millers	NV	16,787	4	
Escalante Valley	UT	6,614	?	8 linear; 2 block partially in S & W
Milford Flats South	UT	6,480	?	9 mostly linear
Wah Wah Valley	UT	6,097	0.04	

boundary adjustments before PEIS is completed. The agency will be more likely to predict issues that may arise during the requires This will also assist the developer avoid areas that are likely to contain significant cultural resources and the subsequent costs of data recovery or project adjustment.

Native American Consultation

One kind of cultural significance a property may possess, and that may make it eligible for inclusion in the Register, is *traditional cultural significance* (National Register Bulletin 2009). "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the

role the property plays in a community's historically rooted beliefs, customs, and practices. Examples of properties possessing such significance include:

- a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
- a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- an urban neighborhood that is the traditional home of a particular cultural group, and that reflects its
- a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
- a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity. A traditional cultural property, then, can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community. Various kinds of traditional cultural properties will be discussed, illustrated, and related specifically to the National Register Criteria later in this bulletin.

Native American Concerns Recommendations

Native American consultation under Section 106 of the National Historic Preservation Act must be conducted on all federal undertakings that may have an effect on sites or areas that may be of concern. Not only is there a legal mandate to complete consultation, but it is the right thing to do and is part of good management planning. This consultation should be:

- Meaningful- the agency must make a reasonable and good faith effort to identify consulting parties
- The consultation must fully address tribes concerns
- Government to government consultation must be conducted in person and should be ongoing until parties resolve adverse affects
- Government to government is in addition to the regular public process dictated by NEPA.
- Consultation should consider cumulative effect of this project and others on traditional properties, cultural resources and tribal concerns
- Consultation should consider not only direct effects, but indirect effects on traditional properties

J. Transmission, roads and other associated infrastructure

In addition to ensuring that solar energy generation projects are sited, constructed and operated in an environmentally responsible manner, the BLM should follow similar guidelines for any associated infrastructure, including transmission lines, roads, pipelines and other infrastructure. Though some potential impacts for these associated infrastructure will differ, most of the recommendations included in these comments should also apply for associated infrastructure.

IV. Lands in SEDP Alternative that are not appropriate for development

A significant portion of the area identified as open for solar development in the SEDP Alternative encompasses resources that would be damaged by utility-scale solar projects and should be protected from this level of development. In addition, the presence of these types of land in the SEDP Alternative further underscores the need to select a modified SEZ Alternative and create a process for designating new zones as appropriate. We have included here both recommended screening criteria for utility-scale solar development as well as a number of examples of lands and resources within the SEDP Alternative that need to be protected from development.

In addition, our comments regarding water resources, soil erosion, playa wetlands, habitat connectivity and other overarching issues should also inform the designation of future SEZs.

A. Recommended screening criteria for utility-scale solar development

We recognize that the BLM has included an extensive list of exclusionary screens as part of the DPEIS, detailed in Table 2.2-2. DPEIS p. 2-8. We applaud the BLM's decision to include on this list areas such as Areas of Critical Environmental Concern and areas where there is an applicable land use plan decision to protect lands with wilderness characteristics. However, we are concerned that some areas that are inappropriate for solar development have been left off of BLM's list, and the agency has not placed enough emphasis on the selection of disturbed lands and other priority development areas.

B. Specific examples of lands in the SEDP Alternative in Nevada that are not appropriate for development

Below is a table listing the results of analyses on impacts to wildlife and their habitats for the SEDP Alternative. Values are either total acres where solar development will be permitted within a specific wildlife habitat or movement corridor or are counts of records found within the developable lands. Of particular note is the sage-grouse core breeding habitat completed by the BLM in December, 2010. This example underscores a disconnect between the potential listing of the sage-grouse and the associated impacts to future activities on public lands, including the development of renewable energy and transmission infrastructure.

Another important type of conflict with the SEDP Alternative lands is with Citizen Inventoried Lands with Wilderness Characteristics. These are lands have been inventoried by various citizens groups, conservationists, and agencies and found to have "wilderness characteristics," including naturalness, solitude and the opportunity for primitive recreation. Beyond these core values, these lands also provide important wildlife habitat, cultural and scientific resources,

invaluable ecosystem services including clean air and water, important economic benefits, and many other resources and values. The sensitive nature of these lands and their resources and values makes their protection critical and solar energy development inappropriate for these lands.

Wildlife Criteria	Amount Impacted
Bighorn Movement Corridors – acres	128,786
Bighorn Occupied habitat – acres	108,928
Citizen Inventoried Lands with Wilderness Characteristics – acres	143,936
Elk Movement Corridors – acres	92,202
Heritage Program individuals globally ranked imperiled or critically imperiled	160
Heritage Program individuals state ranked imperiled or critically imperiled	236
Heritage Program Species globally ranked imperiled or critically imperiled	30
Heritage Program Species state ranked imperiled or critically imperiled	58
Mule Deer Corridor – acres	777,183
Mule Deer Crucial Winter Habitat – acres	184,958
NDOW records: “species of conservation concern”	28,016
NDOW records: endangered species	16
NDOW records: threatened species	126
Number of citizen inventoried lands with wilderness characteristics	28

Wildlife Criteria	Amount Impacted
Number with >1000 Acres	22
Pronghorn Corridor – acres	370,733
Pronghorn Crucial Winter Habitat – acres	19,086
Raptor Nests	282
Sage-grouse Core Breeding Habitat (100%) – acres	1,099,207
Sage-grouse Core Breeding Habitat (50%) –acres	101,552

- **Cultural resources**

The SEDP Alternative also includes areas with significant cultural resources that are not appropriate for development. In particular we highlight:

- *Area West of Delamar Valley SEZ:* The BLM should exclude areas to the west and south of the Delamar Valley SEZ from solar energy development because of their significant concentrations of petroglyphs.
- *“Double Negative” Art Installation:* Located south of Interstate 15 near the town of Overton, the area surrounding this 1969 geological art installation should be excluded from solar energy development to protect it from physical and visual impacts.

V. Solar Energy Zones

We have included a significant amount of information regarding the SEZs, including recommended boundary revisions, areas where additional analysis is needed, and flags of sensitive resources that will need to be addressed with further site-specific, project-level review, opportunities for responsible development, recommended mitigation measures, and corrections. We would welcome the opportunity to meet with the BLM in person to discuss our recommendations in detail. We would be happy to bring maps detailing resource issues and provide additional information as is helpful.

These recommendations are intended to help the BLM make the SEZs as useful as possible in facilitating responsible and efficient permitting of projects there. The recommendations are not

intended to convey general opposition to the SEZs. Rather, it is our hope that if the BLM follows our recommendations, the agency may be able to complete additional analyses necessary to allow projects to more effectively tier environmental reviews to the PEIS, and ultimately facilitate efficient and responsible development there.

Though the volume of information included on the SEZs may appear to indicate that the SEZs are generally problematic, and there are in fact significant concerns about a few of the SEZs, we strongly caution against interpreting the detailed nature of these comments to imply opposition to the SEZs across the board. Rather, we underscore the importance of focusing on the SEZs rather than the additional 9,084,050 acres included in the SEDP Alternative in Nevada. The SEZs have already benefited from significant screening and analysis, and we believe that the issues raised below can be addressed by following our recommendations to allow efficient and responsible development in the SEZs. The SEDP Alternative has not benefitted from this screening and analysis. Beyond the specific issues raised for these lands in Section IV, we expect that volumes of additional issues and challenges would be found on many of the SEDP Alternative lands were they subjected to the scrutiny that the SEZs have seen.

A. Delamar Valley SEZ

i. Overview

The Delamar Valley SEZ is located southeastern Nevada in Lincoln County about 21 miles south of the proposed Dry Lake Valley North SEZ. The SEZ has a total area of 16,552 acres. Delamar Valley SEZ is isolated and undeveloped. The SEZ is located in Delamar Valley, a north trending closed basin within the Basin and Range physiographic province immediately south of Dry Lake Valley and lying between the South Pahroc Range to the west and the Delamar Mountains to the east and southeast. Land within the SEZ is undeveloped scrubland characteristic of a high-elevation, semiarid basin. The southern portion of this SEZ is a dry lakebed; it is unclear if the likelihood of blowing sands and seasonal flooding associated with the dry lakebed are compatible with some solar technologies.

The site is within the Delamar Valley groundwater basin which is geologically connected to Dry Lake Valley and other basins in the White River Carbonate Flow system. Flows from this system feed Pahrnagat National Wildlife Refuge and numerous springs along its course including Hiko, Crystal, Ash, Moapa Warm, Rogers and Blue Springs, all habitat for listed, candidate or sensitive desert fish, springsnails and other aquatic/riparian life.

The largest nearby town is Alamo, Nevada, about 11 miles to the west. The town of Caliente is 22 miles to the northeast and Panaca is located about 11 miles further north. Las Vegas lies about 90 miles to the south. The nearest major road access to the SEZ is via U.S. 93, which runs north-south, approximately 8 to 14 miles to the west of the Delamar Valley SEZ and also east-west, approximately 8 miles to the north of the SEZ. State Route 317 passes from the north to the south approximately 16 to 21 miles east of the SEZ. The nearest railroad stop is in Caliente and the Lincoln County Airport is located in Panaca. Future transmission needs can potentially be met with the Southwest Intertie/On Line/One Nevada transmission line that was approved in 2010 as a fast-track project.

As of March 2010, there were two ROW applications for solar projects and one application for a wind project that would be located within 50 miles of the SEZ.

Overall, the area as modified does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

None noted.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. We would like the BLM to revise the boundary of the SEZ as shown in the included map as the green area labeled “American Solar Energy Pilot Act” (Fig. 1).

This boundary recommendation was developed during a collaborative process that included many stakeholders including ranchers, ORV advocates, conservation groups and Lincoln County officials. This consensus boundary was adopted by Senator Reid and Congressman Heller and introduced in legislation in 2010’s American Solar Energy Pilot Leasing Act.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM’s Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Public trust resources.**

The DPEIS has not discussed the potential impacts on public lands and resources, particularly Pahranaagat and Moapa Valley National Wildlife Refuges. Groundwater withdrawals may lower aquifer levels and spring discharge, adversely affecting the nearby wildlife refuges and their aquatic and riparian habitats. These refuges and surrounding lands and waters are habitat for several listed species and hundreds of migratory birds. The use of water as proposed under the alternative may interfere with water rights held by the Fish and Wildlife Service specifically to protect these waters and water-related resources. BLM must evaluate the potential impacts to these public lands, their missions and their fish and wildlife.

- **Species of concern.**

There are 49 special status species that could potentially be impacted by development within the SEZ, although very little habitat exists within the SEZ itself. Much of the SEZ is on a dry lakebed. It should be noted that bighorn migration corridors to the south between the Desert Refuge and the Delamar and Meadow Valley Ranges may be negatively affected by future transmission development associated with this site. We would like to work with the Nevada

Division of Wildlife, USFWS, the BLM and other appropriate agencies to ensure landscape permeability for bighorn sheep as transmission development proceeds.

Because of the possible groundwater impacts within the White River Carbonate Flow System, several spring, riparian and aquatic species are of concern. The Hiko White River springfish, White River springfish, Pahrnagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher are all potentially impacted and currently protected under the ESA.

In addition, the Moapa pebblesnail, grated tryonia, Pahrnagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail are all species that have been petitioned for listing and awaiting a determination by the Fish and Wildlife Service.

The Pahrnagat Valley montane vole, Pahrnagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker are additional species of concern potentially impacted by groundwater withdrawals. The BLM should include in the FPEIS analysis of these potential impacts and measures to minimize or mitigate any such impacts.

- **Groundwater availability to support development.**

The Delamar groundwater basin is fully appropriated. Until the BLM performs an analysis of water use requirements using the correct figures for perennial yield and existing and permitted use, neither the BLM nor the reader can make an informed decision regarding the appropriate level of development of the feasibility of solar technologies in this SEZ.

Using, for example, the BLM's assumptions regarding water availability in Delamar Valley, the limited and almost completely allocated perennial yield for this basin (2,550 afy, 50 afy unallocated), makes it likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant advances to cooling technologies and associated water requirements occur and assuming water could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need between 1,046 to 4,009 afy at 80% buildout of the SEZ and non-cooled technologies requiring 76 to 752 afy at 80% buildout of the SEZ.

The BLM also fails to look critically at the water needs at each stage of solar development. While we agree that PV is the preferred technology in this valley the assumed perennial yield will not support the peak construction year water needs for PV for concurrent construction of multiple projects. *See* DPEIS Table 11.2.9.2-1 (requiring 2,743 afy versus 2,550 afy yield). In fact, the assumed perennial yield is not sufficient to supply *any* technology during the peak construction year, except for parabolic trough, but the DPEIS fails to recognize this. *Compare* DPEIS 11.2-63 (“The availability of groundwater and the potential impacts of groundwater withdrawal would need to be assessed during the site characterization phase.”). The FPEIS should include analysis of whether there is enough water to support construction during peak construction year, and to support construction and operations simultaneously.

Using the DPEIS's more generous assumptions regarding perennial yield (with which we disagree, see below), regardless of the technology employed a developer would have to negotiate with SNWA and NDWR; even if only PV systems are constructed in the SEZ there still is not enough water within the unallocated perennial yield for just their operation. Compare DPEIS Table 11.2.9.2-2 (requiring 76 afy versus 50 afy unallocated yield). Moreover, while BLM may conclude – despite failing to perform the analysis above – that PV is the preferred technology for this SEZ, there is nothing in the General or SEZ-specific design features committing to this preference. BLM must revise its analysis to reflect the proper baseline, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above.

- **BLM's unreasoned assumptions regarding groundwater availability in Delamar Valley.**

BLM must revise its assumptions and resultant analysis regarding water use and water rights management, *see, e.g.*, DPEIS 11.2-60—61, 11.2-65, 11.2-67, 11.2-336, to clarify that Ruling 5875 has been vacated and that the perennial yield newly established in Ruling 5875 and water rights granted to SNWA are also vacated. As a result, the DPEIS baseline analysis should reflect that the basin is already fully appropriated. *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009), slip op. at 5 (citing Ruling 5875) (“all water rights previously available in [Delamar basin] had already been fully appropriated”).⁸ BLM also assumes, without justification, that even if these water rights were valid, that developers would be able to secure a significant portion of those rights for solar energy development.

- **DPEIS fails to consider impacts to all potentially affected groundwater-dependent species and groundwater-supported habitats.**

In its scoping comments regarding the proposed Delamar Valley SEZ, FWS expressed concern that groundwater withdrawals may reduce the regional groundwater supply that supports spring-fed aquatic habitats in the SEZ region, including habitats in the White River, Pahranaagat, and Moapa Valleys. BLM relies on discussion in Section 11.2.9.2 to omit consideration of impacts to special status species in the Moapa Valley – i.e., Moapa pebblesnail, Moapa Valley springsnail, Moapa Warm Spring riffle beetle, Big Spring spinedace, Moapa dace, Moapa speckled dace, Moapa White River springfish, Pahrump poolfish, Railroad Valley springfish, and White River spinedace). DPEIS 11.2-138 (claiming section 11.2.9.2 demonstrates that groundwater in the Delamar Valley is not a major contributor to the far northern or far southern extents of the White River Valley regional groundwater system). BLM has not responded to the valid concerns of its sister agency – section 11.2.9.2 makes no such analysis.

⁸ Two separate challenges were brought to Ruling 5875, and the district court vacated and remanded the ruling back to the NSE. *See Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009); Ruling 5875 (vacated Oct. 19, 2009), available at <http://images.water.nv.gov/images/rulings/5875r.pdf>. The Nevada Supreme Court dismissed appeals as rendered moot by *GBWN v. Taylor. SNWA et al. v. Carter-Griffin*, No. 54986 (Sept. 13, 2010). In *GBWN v. Taylor*, 234 P.2d 912 (Nev. 2010), the Nevada Supreme Court reversed the order of the district court and directed the State Engineer to re-notice the applications in Cave, Dry Lake and Delamar Valleys and re-open the protest period.

In fact, in protesting the very SNWA applications again pending before the State Engineer, BLM was concerned that pumping in Dry Lake Valley would impact (via flow reduction) Delamar Valley. The loss of interbasin flow would impact special status species in Pahrangat Valley and ultimately in the Muddy River Springs Area. “An adverse impact on the stream, lakes and contributing springs in Pahrangat Valley, as well as the Muddy River Springs Area could result in a reduction of associated riparian vegetation which, in turn, may impact those endangered and candidate species previously discussed.” *See, e.g.,* In the Matter of Application Number 53989, available at

http://water.nv.gov/hearings/Dry_Cave_Delamar%20hearings/SNWA/Volume_1/211/211_U.S.%20Department%20of%20the%20Interior.pdf. The BLM should analyze potential impacts to all potentially affected groundwater-dependent species and groundwater-supported habitats in the FPEIS, and include measures to avoid or minimize those impacts.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- The Joshua tree habitat along the north portion of the SEZ should be avoided.
- The SWIP Transmission line corridor, oriented in an approximate north-south direction, is situated in the approximate middle of the SEZ. The SWIP is currently under construction and will dramatically add transmission capacity along its route. Although the SWIP will add cumulative impacts to the area, it is likely that the construction of the SWIP will make other new transmission construction unnecessary to support this SEZ designation. The Valley Electric Association owns the existing 138-kV transmission that runs parallel to U.S. 95 adjacent to the SEZ.
- The proximity of US 95 and a wide graded dirt road for transmission Right-of-way provides access to the SEZ. The graded road is maintained regularly by Lincoln County.
- Given the very limited water resources available in this area, and pending a revised baseline analysis by BLM, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the standards set out in Section III.

vi. Corrections

Although there is an existing 69-kV transmission line passing through the SEZ, the SWIP line, now under construction will add capacity to 500 kV in its first phase of development.

The BLM will be issuing a Notice of Intent for Wilson/Table Mountain Wind project before the FPEIS is complete. This project, if completed, is within 50 miles of the Delamar Valley and should be added to the cumulative effects table of other renewable energy projects.

The DPEIS fails to list as Special Status Species in the SEZ region the following: Moapa dace, Virgin River chub, woundfin, Moapa pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point

spring snail, Pahrana gat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker.

B. Amargosa SEZ

i. Overview

The Amargosa Valley SEZ lies towards the northern end of the Amargosa Valley and is effectively located along the ephemeral Amargosa River between the Bare and Funeral Mountain Ranges. Amargosa Valley and Highway 95 are portals to Death Valley National Park. The SEZ is in the Amargosa Desert Groundwater Basin which is a part of the regional-scale Death Valley Regional Groundwater Flow System. Groundwater from the Amargosa Desert Basin terminates at the multiple springs in and around the Ash Meadows National Wildlife Refuge and Devil's Hole component of the Death Valley National Park. The area is desert tortoise habitat, nearing the current upper elevation limits for that species.

There are four other solar projects in the Valley or immediate area that have been approved or that are in various stages of NEPA analysis:

- Amargosa Farm Road – 4350 acres, parabolic trough
- Lathrop Wells – 1920 acres, photovoltaic and trough
- Amargosa North – 7500 acres, photovoltaic
- Solar Demonstration Project on the Nevada National Security Site – 300 acres, to be determined.

In addition, there are approximately 110,000 acres of other renewable energy projects with pending rights-of-way applications within 50 miles of the proposed SEZ.

While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Impedance to desert tortoise adaptations to a warming and drying climate.**

As noted in the DPEIS, prediction on future climate for this area consistently point to a warmer and drier regime. As Mojave Desert conditions migrate northward and upslope, it is quite likely that the desert tortoise will follow them, perhaps being at risk of extinction if they do not.

The location of the SEZ as currently located at a “pinchpoint” that effectively blocks this northward migration of tortoises in the Eastern Mojave Recovery Unit. A cleared and industrialized site between the Funeral and Bare Mountains, exacerbated by the Highway 95 and

utility corridors would leave no opportunity for tortoises from south of the SEZ to get past and into the evolving desert beyond.

The Desert tortoise populations of the Amargosa Valley and Pahrump Valley have been found to be genetically isolated and may have evolutionarily important genetic uniqueness. It is suggested that parts of this population could qualify as an Evolutionarily Significant Units (ESU). These would require special management. Delineation of Desert Wildlife Management Areas was based on both ecological and genetic considerations and their locations and boundaries have not been finalized (Britten et al. 1997). The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Cumulative impacts**

The DPEIS fails to adequately analyze cumulative impacts because it merely notes the possible types of on-going and reasonably foreseeable projects and their sizes, but not their impacts on actual resources. Consider two examples:

Desert tortoise and other special status species – The SEZ lies in the proposed Eastern Mojave Recovery Area for desert tortoise and contains suitable current desert tortoise habitat as modeled in the proposed recovery plan (USFWS 2008). As previously outlined, there are 14,070 acres encompassed in projects that have already been approved or that are in active NEPA analysis in the cumulative impacts analysis area for the Amargosa Valley SEZ. The SEZ estimates that it would add another 25,300 acres of development over a 20 year analysis horizon. Many if not all of these acres are within suitable desert tortoise habitat. Yet, nowhere in the DPEIS does the BLM analyze or disclose the potential impacts and effects of over 39,000 acres of habitat being destroyed with regards to the desert tortoise and other special status species associated with the habitat types in the affected area.

Groundwater withdrawals and special status species and their habitats — Despite having the data necessary to estimate the cumulative impacts of water use on groundwater-dependent species, BLM claims that “[i]mpacts of groundwater depletion from solar energy development in the Amargosa Valley SEZ cannot be quantified without identification of the cumulative amount of groundwater withdrawals needed to support development on the SEZ.” DPEIS 11.1-194. BLM has estimated low and high water demands for construction and operation within the SEZ (*see* DPEIS Tables 11.1.9.2-1 and 11.1.9.2-2) and is capable of estimating water demands of nearby projects (*see* Table 11.1.22.2-2) – BLM simply needed to incorporate this information into a regional groundwater model that could project the impacts of groundwater pumping on species habitats but failed to do so. *Compare* BLM, Amargosa Farm Road Solar Energy Project Final EIS (2010) at Chapter 4.4, Appendix B (utilizing Death Valley Regional Flow System Model to evaluate effects of pumping 400 afy on groundwater dependent species at Devil’s Hole and Ash Meadows). Failure to model these impacts renders BLM’s conclusion that “[t]he implementation of programmatic design features and complete avoidance or limitations of groundwater withdrawals from the regional groundwater system would reduce impacts on the groundwater-dependent species to small or negligible levels” unsupportable. DPEIS 11.1-194.

The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

iii. Recommended boundary adjustments

The Amargosa River and its 100-year flood channel should be left undisturbed and buffered for wildlife and plant habitat, flood control and the preservation of hydrologic function. The same is true of the secondary wash that is tributary to the Amargosa River. In addition, these two exclusions would provide valuable wildlife movement corridors and a possible route for desert tortoise adaptation to climate change. An area to the north of the proposed SEZ and between the Amargosa River and Highway 95 could be considered as an addition to the SEZ.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Public Trust Resources.**

The DPEIS has not discussed the potential impacts of groundwater withdrawals on public lands and resources, particularly Ash Meadows National Wildlife Refuge, Devil's Hole, Amargosa Mesquite Trees ACEC and other protected and sensitive areas. Groundwater withdrawals may lower aquifer levels and spring discharge, adversely affecting the nearby wildlife refuges and their aquatic and riparian habitats. These refuges and surrounding lands and waters are habitat for several listed species and hundreds of migratory birds. The use of water as proposed under the alternative may interfere with water rights held by the Fish and Wildlife Service and the BLM specifically to protect these waters and water-related resources. BLM must evaluate the potential impacts to these public lands, their missions and their fish and wildlife.

- **Groundwater availability to support development.**

As correctly noted in the DPEIS, the Amargosa Desert Groundwater Basin is over appropriated, and water management is guided by a U.S. Supreme Court decision and several State Engineer Orders to protect the rare and imperiled species found at Ash Meadows and Devil's Hole. DPEIS p. 11.1-60. Under these rulings, the only groundwater option available to potential developers is to secure existing water rights and change the type of use and point of diversion. It is noteworthy that the DPEIS discloses the fact that the water level at Devil's Hole has been declining in the period of 1988-2004, presumably due to regional-scale groundwater withdrawals. DPEIS 11.1-332.

Given that the Amargosa Basin is over-appropriated (by 18,335 afy) and overdrafted (by 9,380 afy), it seems likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies

which would need 2,000 to 7,660 afy at 80% buildout of the SEZ, and non-cooled technologies requiring 144 to 1,438 afy at 80% buildout of the SEZ.

The BLM similarly glosses over the large amount of water needed during construction – up to 70% of the “available” perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project.

The BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above. Groundwater withdrawal impacts should be measured, such as requiring piezometers in test wells, and measuring phreatophyte die-off for the Amargosa Valley.

- **Amargosa River hydrology**

The Amargosa River runs through the central portion of this SEZ. The river originates in the mountains surrounding Beatty, NV, and after leaving the Oasis Valley the river flows only underground, except during floods, much of the way to its terminus at Bad Water in Death Valley National Park. A 17 mile stretch in California is again surface flow and has been designated as a Wild and Scenic River, and portions of its course have also been designated as BLM Areas of Critical Environmental Concern. This river is a major ecological and hydrological feature. Where flows are perennial, the river provides lush riparian and wetland habitats that support endemic and sensitive species such as the endangered Amargosa vole and the sensitive Amargosa toad. In the dry wash portions, the river provides habitat for endemic plants and animals, including the desert tortoise which frequently burrows into the wash’s banks and caliche caves.

There is another major intermittent surface flow feature that runs inside the proposed SEZ’s western and southern boundaries. This wash drains into the Amargosa River near the eastern SEZ boundary. Disruption of the above- and below-ground flows of this river system have the potential to negatively impact off-site features of concern.

- **Desert tortoise**

Project-specific surveys must be conducted, with full avoidance of tortoise habitat and travel corridors, fencing to protect tortoises from mortality, as well as on-site and off-site mitigation as needed. Translocation of individuals has proven to have limited success, and any translocation should follow the recommendations found in Section III, above.

- **Endemic dune beetles**

Special surveys should be undertaken by qualified entomologists for sand insect faunas across the SEZ, as some dune beetles are found on very small islands of sand and sand flats to the north and east of Big Dune, so potentially could be on the SEZ (Derham Giuliani, personal comm. 2010).

- **Sand transport corridor**

The Amargosa Valley SEZ has the potential to block winds that feed Big Dune sand from the Amargosa River source areas, as well as from other sources. A study should be included in the FPEIS to determine the nature and extent of sand transport corridors in Amargosa Valley, and what mitigation measures will be needed if a large fenced area will be places in such corridors.

Tall wind fences may be necessary to shield solar projects from blowing wind and sand. These should be modeled in visualizations and their visual impacts to recreationists in Death Valley National Park analyzed.

- v. **Opportunities for environmentally responsible development**

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Through site specific design, there may be an opportunity to allocate a desert tortoise/wildlife movement corridor through the SEZ, at least partially eliminating the genetic and adaptation bottleneck that would exist if the entire area was made inhospitable or inaccessible to wildlife.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

- vi. **Corrections**

The PDEIS fails to list Lathrop Wells and the Solar Demonstration Project on the Nevada National Security Site as “reasonably foreseeable future action” in Table 11.1.22.2-1, and treat them as such in its analysis.

C. Dry Lake Valley North SEZ

- i. **Overview**

The Dry Lake Valley North SEZ is located in Lincoln County in southeastern Nevada. The SEZ has a total area of 76,874 acres. The SEZ is located in the Dry Lake Valley, Lincoln County and is bounded by mountain ranges on the east and west. The North Pahroc Range is situated about 6 miles west of the SEZ, and the West Range, Bristol Range, Highland Range, Ely Springs Range, Black Canyon Range, and Burnt Springs Range occur east of the SEZ. No permanent surface water sources occur in the proposed SEZ. Vegetation is generally sparse, with large areas of low grasses and low-height scrubland. The closest population centers to the SEZ are Pioche, located about 15 miles to the east, and Caliente, located about 15 miles to the southeast; both communities have populations of about 1,000. The smaller communities of Caselton and Prince are located about 13 miles to the east of the SEZ. Las Vegas is located about 110 miles to the south. The nearest major road to the Dry Lake Valley North SEZ is State Route 318, which is

about 7 miles to the west of the SEZ, while U.S. 93 is about 8 miles to the south. Access to the interior of the SEZ is by dirt roads. The nearest railroad access is approximately 25 miles away, while nearby airports include Lincoln County Airport in Panaca and Alamo Landing Field in Alamo, which are located about 13 miles south–southeast of and 35 miles southwest of the SEZ, respectively.

The site is within the Dry Lake Valley groundwater basin which is geologically connected to Delamar Valley and other basins in the White River Carbonate Flow system. Flows from this system feed Pahrangat National Wildlife Refuge and numerous springs along its course including Hiko, Crystal, Ash, Moapa Warm, Rogers and Blue springs, all habitat for listed, candidate or sensitive desert fish, springsnails and other aquatic/riparian life.

Currently there is one pending solar application and eight wind applications in various stages of approval on public lands within 50 miles of the SEZ, which represent additional potential developments. In addition, several new electric transmission projects and a groundwater transfer pipeline project represent foreseeable developments that would pass through or near the proposed SEZ.

While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

None noted.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ. The BLM should revise the boundary of the SEZ as indicated below.

We recommend moving the boundaries to avoid important wildlife habitat and other sensitive natural resources, including habitat for Desert Kangaroo mouse, desert horned lizard and burrowing owl, as well as Eastwood milkweed. The included map shows a consensus zone in green that was included in federal legislation introduced in 2010 in the American Solar Energy Pilot Leasing Act by Senator Harry Reid and Congressman Dean Heller (Fig. 2). Because this boundary was agreed upon by a wide consensus of stakeholders including conservation groups, local government, ranches, and ORV users, we support this area as a Dry Lake Valley North Solar Energy Zone. The map also shows sensitive habitat for the kangaroo mouse.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Groundwater availability to support development**

The Dry Lake Valley Basin is fully appropriated. Until the BLM performs an analysis of water use requirements using the correct figures for perennial yield and existing and permitted use, neither BLM nor the reader can make an informed decision regarding the appropriate level of development of the feasibility of solar technologies in this SEZ.

Using, for example, BLM's assumptions regarding water availability in Dry Lake Valley, the limited and almost completely allocated perennial yield for this basin (12,700 afy, 50 afy unallocated), makes it likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming the bulk of any water used could be acquired from existing water rights holders. Wet-cooling technologies are deemed infeasible in the DPEIS, but dry-cooled technologies are not, needing 4,858 to 18,616 afy for 80% buildout of the SEZ. Non-cooled or scaled back dry-cooled projects appear most realistic.

The BLM fails to look critically at the water needs at each stage of solar development. The DPEIS does not take a hard look at whether there is enough water to support construction and operation simultaneously.

Though the ratio of operational water requirements for dry-cooled technologies to assumed perennial yield is similar to that of the Delamar Valley SEZ – commanding from 33% to 150% of perennial yield – the DPEIS does not express the same preference for technologies that do not require water for cooling. BLM must revise its analysis to reflect the proper baseline, scale back the peak construction year and full build out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the design features and recommendations in Section III above.

- **BLM's unreasoned assumptions regarding groundwater availability in Dry Lake Valley**

BLM must revise its assumptions and resultant analysis regarding water use and water rights management, *see, e.g.*, DPEIS 11.4-63, 11.4-67, to clarify that Ruling 5875 has been vacated and that the perennial yield newly established in Ruling 5875 and water rights granted to SNWA are also vacated. As a result, the DPEIS baseline analysis should reflect that the basin is already fully appropriated. *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009), slip op. at 5 (citing Ruling 5875) (“all water rights previously available in [Dry Lake Valley basin] had already been fully appropriated”).⁹

⁹ Two separate challenges were brought to Ruling 5875, and the district court vacated and remanded the ruling back to the NSE. *See Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009); Ruling 5875 (vacated Oct. 19, 2009), available at <http://images.water.nv.gov/images/rulings/5875r.pdf>. The Nevada Supreme Court dismissed appeals as rendered moot by *GBWN v. Taylor*. *SNWA et al. v. Carter-Griffin*, No. 54986 (Sept. 13, 2010). In *GBWN v. Taylor*, 234 P.2d 912 (Nev. 2010), the Nevada Supreme Court reversed the order of the district court and directed the State Engineer to re-notice the applications in Cave, Dry Lake and Delamar Valleys and re-open the protest period. Moreover, any agreement by SNWA to “commit 1,500 ac-ft/yr (1.9 million m3/yr) of those water rights to Lincoln County for use,”

- **Species of concern**

Because of the possible groundwater impacts within the White River Carbonate Flow System, several spring, riparian and aquatic species are of concern. The Hiko White River springfish, White River springfish, Pahranaagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher are all potentially impacted and currently protected under the ESA.

In addition, the Moapa pebblesnail, grated tryonia, Pahranaagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail are all species that have been petitioned for listing and awaiting a determination by the Fish and Wildlife Service.

The Pahranaagat Valley montane vole, Pahranaagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker are additional species of concern potentially impacted by groundwater withdrawals. The BLM should include in the FPEIS analysis of these potential impacts and measures to minimize or mitigate any such impacts.

Twenty-two special status animal species could be affected by solar energy development on the SEZ. A total of 21 BLM-designated sensitive species may occur in the affected area of the Dry Lake Valley North SEZ or may be affected by solar energy development on the SEZ. Eastwood milkweed appears in the NNHP dataset for the area and should be avoided. The Desert Valley kangaroo mouse, desert horned lizard and burrowing owl are present based on the NDOW data. Burrowing owl colonies and Desert Valley kangaroo mice areas should also be avoided.

The Desert Valley kangaroo mouse has been well-studied by mammalogist John Hafner of Occidental College. His collections and genetic analysis have shown that this is a biological species with limited distribution in only several valleys in eastern Nevada and western Utah. A manuscript is currently under scientific peer-review to provide support for this species designation. Because of their limited distribution, this species and its habitats need to be avoided. Our recommended boundary avoids these habitats to minimize impacts to the species.

We are happy to provide map data to the BLM under separate cover. Overall, this site has numerous roads and a relatively high incidence of annual grass invasion along the east based on modeling of annual grasses for Nevada by NNHP. The prevalence of several rare or important species warrants careful monitoring of impacts from development and significant adjustments to the proposed zone, as recommended above.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

DPEIS 11.4-63, has been called into question by the state engineer through his finding that the place of use for SNWA's applications was restricted to Clark County. See Ruling 5875 (vacated on other grounds, Oct. 19, 2009), at 7-8.

- With a boundary adjustment discussed above, impacts to unique wildlife species can be minimized or avoided.
- Proximity to transmission and transportation decrease disturbance and transmission costs.
- It would appear that existing roads or transmission access and maintenance roads could be utilized instead of the proposed new road shown on Figure 11.4.1.1-1 to avoid unnecessary disturbance, fragmentation and destruction of native wildlands.
- Given the very limited water resources available in this area, and pending a revised baseline analysis by BLM, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the standards set out in Section III.

vi. Corrections

Although there is an existing 69-kV transmission line passing through the SEZ, the SWIP line, now under construction will add capacity to 500 kV in its first phase of development.

The BLM will be issuing a Notice of Intent for Wilson/Table Mountain Wild project before the Final Solar EIS is complete. This project if completed is within 50 miles of the Delamar Valley and should be added to the cumulative effects table of other renewable energy projects.

The DPEIS fails to list as Special Status Species within the 50 mile SEZ region the following: Hiko White River springfish, White River springfish, Pahranaagat roundtail chub, Moapa dace, Virgin River chub, woundfin and Southwest willow flycatcher, Moapa pebblesnail, grated tryonia, Pahranaagat pebblesnail, Hubbs pyrg, Flag springsnail, and Blue Point springsnail, Pahranaagat dace, Meadow Valley speckled dace and the Meadow Valley Wash desert sucker.

D. Dry Lake SEZ

i. Overview

The proposed Dry Lake SEZ is located in Clark County in southern Nevada. The SEZ has a total area of 15,649 acres. The proposed Dry Lake SEZ is in an undeveloped rural area that has seen impacts from the nearby city of Las Vegas. The SEZ is located in Dry Lake Valley and is bounded on the west by the Arrow Canyon Range and on the southeast by the Dry Lake Range. The Las Vegas Valley is located approximately 10 miles south. The towns of Moapa and Overton are as close as 18 miles northeast and 23 miles east of the SEZ, respectively. The Nellis Air Force Base is located approximately 13 miles southwest of the SEZ. The nearest major roads accessing the proposed Dry Lake SEZ are I-15, which passes through the southeastern portion of the SEZ, and U.S. 93, which runs from northwest to southeast along part of the southwest border of the SEZ. Three designated transmission corridors that are heavily developed with numerous natural gas, petroleum products, and electric transmission lines (including a 500-kV transmission line) pass through the proposed SEZ. It is assumed that the existing 500-kV transmission line, or any of the other existing transmission lines, could potentially provide access from the SEZ to the transmission grid.

The SEZ lies within the Northeastern Recovery Unit for the desert tortoise and partially covers occupied habitat.

There are four foreseeable and sixteen pending solar development applications and one foreseeable and nine pending wind site testing applications within a 50-mile radius of the proposed Dry Lake SEZ. Five of the 16 pending solar applications are either within or adjacent to the SEZ, as is one of the wind site testing applications.

While aspects of this proposed SEZ have significant environmental concerns associated with them, we believe that with proper siting and design an appropriate SEZ can be designated, and provided the BLM addresses the concerns raised in our comments, we support the designation of our recommended area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Cumulative impacts**

Due to the number of cumulative effects from renewable energy projects, transmission, and the Apex Industrial area to the south, there are significant cumulative impacts in the region. However, given the proximity of a large urban area and existing transportation and transmission infrastructure, we believe that with some boundary adjustments, this is a good location for a SEZ.

iii. Recommended boundary adjustments

As currently drawn, the SEZ includes some areas that are not appropriate for designation as a SEZ, including state mapped bighorn sheep wildlife movement corridors. We ask the BLM to revise the boundary of the SEZ as indicated in the included map for the Dry Lake area (Fig. 3).

Our boundary adjustments would exclude the Dry Lake playa to assure that this ephemeral wetland is maintained for its hydrologic value. Further, the series of rugged and jumbled washes flowing southwest to northeast into the playa, near the SEZ's north boundary, would be excluded to retain the inflow of water from the Arrow Canyon Range and as potential wildlife movement corridors. Additionally, the original SEZ boundary includes an area that is heavily developed with existing transmission lines and a mineral plant along the Interstate in the SEZ's southeast corner. These already developed areas should not be considered available for solar development. Further, as currently drawn, the SEZ could impact a National Register-listed site associated with the Old Spanish NHT, and the SEZ comes close to the trail itself. Our recommended boundary changes would avoid impacts to these sites. We also extend the site to the northeast and bring it to the border of the Moapa tribal lands that would create opportunities for tying into potential solar projects on their lands.

As currently drawn, the southeastern portion of the SEZ encompasses a National Register-listed site associated with the Old Spanish NHT and comes close to the trail itself. We recommend that the BLM move the southeastern boundary of the SEZ to the west of I-15 to help reduce impacts to the trail and associated sites.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Species of concern**

Potentially suitable habitat for 62 special status species occurs in the affected area of the Dry Lake SEZ. For all of these special status species, less than 1% of the potentially suitable habitat in the region occurs in the area of direct effects. There are 13 groundwater dependent species that occur outside of the areas of direct and indirect effects. Potential impacts on these species could range from small to large depending on the solar energy technology deployed, the scale of development within the SEZ, and the cumulative rate of groundwater withdrawals.

More than 25 reptile species occur within the area that encompasses the proposed Dry Lake SEZ. The desert tortoise is a federal and state listed threatened species. This SEZ has desert tortoise and rosy two-tone beardtongue from the NNHP data. Several intersections occur with NDOW mapped movement corridors for desert bighorn sheep, but wildlife corridors are supposed to be excluded in SEZ designation. Adjustments should be made to exclude those corridors. The NDOW data shows the presence of the banded Gila monster, common chuckwalla, desert horned lizard, desert night lizard, LeConte's thrasher, longnosed leopard lizard, sage sparrow and western banded gecko. The proximity to Las Vegas and existing transmission development in the area make this one of the more heavily inventoried SEZs in Nevada; it also makes this an area that has seen impacts from exurban activities that are damaging to the quality of wildlife habitats (an example of cumulative impacts). Because rocky outcrops are high-quality habitat for many of the lizard species of conservation concern and because solar energy construction may require the removal these large boulders, we recommend the BLM explicitly exclude rock outcrops from the SEZ. The area also shows high biodiversity potential, typical of much of the Mojave Desert. Our proposed boundary change addresses these species concerns in the southern portion of this SEZ and will minimize impacts to wildlife habitat.

- **Groundwater availability to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Garnet groundwater basin underlying this SEZ. The perennial yield for this basin is estimated at 400 afy; both permitted water rights (approximately 3,400 afy) and current use (797 to 1,558 afy) exceed the perennial yield. In 2002, the State Engineer issued Order 1169 stating that new applications for water in the carbonate-rock aquifer systems within Garnet Valley (and surrounding basins) would be suspended to allow further study of the system. The water needs for existing cooling technologies exceed the perennial yield – we agree that currently wet and dry-cooled technologies are not feasible in this basin. Unless and until cooling technologies and

associated water use requirements change, it appears that only non-cooled technologies requiring 71 to 711 afy would likely be feasible.¹⁰

BLM's feasibility analysis, however, glosses over the large amount of water needed during construction – up to six to eight times the perennial yield – in a peak construction year. *See* DPEIS 11.3-59 (“The availability of groundwater, groundwater rights, and the impacts of groundwater withdrawal would need to be assessed during the site characterization phase of a solar development project.”). The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. BLM must revise its analysis, scale back the peak construction year and full build out scenarios to a level commensurate with the available water supply, and ensure that any water use follows the recommendations in Section III above.

In the FPEIS, the BLM should conduct a critical analysis of the water availability situation in the Garnet Valley basin and disclose it to decision makers, developers and the interested public. Groundwater withdrawal impacts should be measured, such as requiring piezometers in test wells, and measuring phreatophyte die-off for the Dry Lake Valley.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- With a boundary adjustment discussed below, avoidance of Bighorn sheep and reptiles species can be accomplished.
- Avoidance of the playa wetlands of Dry Lake will limit impacts to species there.
- Proximity to transmission, transportation and a large metropolitan area decrease disturbance and transmission costs.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations set out in Section III.

vi. Corrections

¹⁰ The BLM and the FPEIS should consider the implications of the Nevada State Engineer's permitting of water use for dry-cooled power plants rather than wet-cooled plants, because the plants were to use “water efficient, air-cooled technology” for “realistic power generation projects.” State Engineer Ruling No. 5008 (March 20, 2001) at p.24-25, 40, available at <http://images.water.nv.gov/images/rulings/5008r.pdf>. A year later, in a neighboring basin, the Nevada State Engineer considered water rights applications for which a potential use was a water-cooled power plant. However, as the State Engineer recognized, “Technology is available, which can produce significant amounts of electricity using air-cooled systems. This technology uses significantly less quantities of water. ... The State Engineer ... does not believe it is prudent to use substantial quantities of newly appropriated ground water for water-cooled power plants in one of the driest places in the nation, particularly with the uncertainty as to what quantity of water is available from the resource, if any.” State Engineer Ruling No. 5115 (April 18, 2002) at p.25, available at <http://images.water.nv.gov/images/rulings/5115r.pdf>.

The DPEIS fails to mention or include in its effects analysis the K Road Moapa proposed solar project. This project is located on tribal lands of the Moapa Band of Paiute Indians, and is immediately north of the Dry Lake SEZ. It is envisioned to be a photovoltaic field 2,000 acres in size and would provide up to 350 MW of energy. Some of the concerns that should be addressed are cumulative impacts to desert tortoise and other species, groundwater availability and coordination of projects to minimize impacts.

E. East Mormon Mountain SEZ

i. Overview

The East Mormon Mountain SEZ straddles Toquop Wash just to the east of East Mormon Mountain; it is just north of the Clark and Lincoln County border. The SEZ borders the Mormon Mountain Wilderness Area. The locale is currently pristine and remote with poor access. No other renewable energy projects are in immediate proximity to this site. The area was previously identified as a site for a coal-fired power plant. The SEZ is located in the Tule Desert groundwater basin of the Lower Virgin River basin, the flows from which terminate at the Virgin River and at major regional carbonate springs in Lake Mead National Recreation Area. Soil wind erosion potential is moderate. The SEZ immediately borders both the Mormon Mesa and Beaver Dam Slope desert tortoise critical habitat areas, and itself is of high habitat suitability.

Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

It is likely that the SEZ, due to its unburned status, provides better habitat for desert tortoise than adjacent burned areas that are currently designated as critical habitat. Consultation with the U.S. Fish and Wildlife Service for desert tortoise should include consideration of whether it would confer more protection to the species to shift the location of the SEZ to this nearby burned area, re-designating the current proposed SEZ site as replacement critical habitat.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Lower Virgin River Valley groundwater basin underlying this SEZ. The perennial yield for this basin is estimated at 3,600 afy; both permitted water rights (approximately 12,348 afy) and current use (7,460 afy) exceed the perennial yield. The area is also closed to new appropriations of surface water. The Tule Desert Hydrographic Basin is even more restricted, with State Engineer Order 5181 setting the perennial yield at 2,100 afy pending further study. Also with respect to groundwater availability, it must be noted that there are already applications filed for 185,000 afy by other interests.

Given that the basin is over-appropriated and overused, it seems likely that only non-cooled or limited dry-cooled projects would be feasible in this area, unless significant changes to cooling technologies and associated water requirements are made and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, DPEIS 11.5-61, the DPEIS leaves the door open for dry-cooled technologies which would need 567 to 2,172 afy for 80% buildout and non-cooled technologies requiring 41 to 408 afy for 80% buildout would seem to be likely feasible.

BLM similarly glosses over the large amount of water needed during construction – almost half of the perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. In the FPEIS, the BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Impacts on desert tortoise**

The East Mormon Mountain SEZ lies in the Northeastern Mojave Recovery Unit and directly borders both the Mormon Mesa and Beaver Dam Slopes critical habitat units (USFWS 2008). These units were severely impacted by wildfires in 2005 and, where burned, offer only marginal quality habitat. The location of the SEZ is unburned and considered highly suited for tortoises. If developed, the SEZ would no longer provide tortoise habitat.

Aside from the direct impacts of the SEZ on tortoise habitat, the proposed access road is also of concern. This road, leading north from I-15, bisects high quality desert tortoise habitat in the Mormon Mesa critical habitat unit, destroying and fragmenting habitat and increasing the risk of injury or death to tortoises from direct and indirect mortality. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Impacts on rare desert plants**

The gypsum-rich soils found along Toquop Wash provide specialized habitats for rare desert plants. The Las Vegas buckwheat and three-cornered milkvetch are two which are included in Table 11.5.12.1-1 that lists plants that may be found in the vicinity of the SEZ. A third that does

not appear in the table is sticky ringstem. Sticky ringstem is a gypsophile that is known from populations in northeastern Clark County, including one from nearby Moapa, Nevada.

The Las Vegas buckwheat is a species found to be warranted for listing under the Endangered Species Act but precluded by higher priority species. The other two species are BLM special status species and are also “Covered Species” in the Clark County Multiple Species Habitat Conservation Plan. In 2007, Clark County commissioned a report on the status of low elevation rare plants which included the sticky ringstem and three-cornered milkvetch (TNC 2007). In that report, the sticky ringstem was given a “high” overall threat rank and the three-cornered milkvetch a “very high” ranking.

Land clearing and grading, both for the site and the roadway, would destroy any plants and habitats in the affected area, thereby increasing their local extirpation and overall risk for extinction. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Destruction of surface hydrologic function**

As noted in the DPEIS, the East Mormon Mountain SEZ is located on an extensive alluvial fan, containing many ephemeral drainages and two major incised washes. Several million cubic meters of runoff is conveyed through the system annually.

The clearing and grading associated with solar development of this site could effectively destroy the current ecological and hydrologic function of the Toquop Wash watershed – not just on the site but above and below the site as well.

Desert washes such as those found on the SEZ are well known to provide important habitat for wildlife, including desert tortoises that often burrow into the caliche caves associated with the washes. Other wildlife use washes as travel routes across their territories.

Rare plant surveys for the species mentioned below should be conducted with the intent of identifying areas with suitable soil and conditions to support these species. Proactive avoidance of these areas is the best strategy.

As suggested in the DPEIS, the BLM should not develop in Toquop or South Fork Toquop Washes. Other major ephemeral washes within the SEZ should also be excluded from disturbance. This will preserve ecologic and hydrologic function, protecting desert tortoises and other wildlife and rare plant species while minimizing development costs related to grading and hydrology.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- The BLM should require that any developer construct the proposed new access road with designed wildlife underpasses and tortoise exclusionary fencing along the right-of-way boundary. Development in East Mormon Mountain should be used as a means to develop more effective mitigation for tortoise mortality.
- There is the opportunity for the BLM to require offsite mitigation from the developer to benefit desert tortoises, rare plants and other special status species found in the SEZ.
- There is the opportunity for the BLM to coordinate the needs for transmission of the East Mormon Mountain SEZ in the analysis and design of the TransWest Express transmission line proposal.
- Given the very limited water resources available in this area and because the aquifer is in a state of overdraft, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

vi. Corrections

- Sticky ringstem (*Anulocaulis leiosolenus var leiosolenus*) should be added to the list of rare plants that may occur in the project area and that should be included in any rare plant surveys.
- The DPEIS characterizes the SEZ as being in the Lower Virgin River groundwater basin; while correct at a large, landscape-scale, it is more precise to state that the SEZ is in the Tule Desert groundwater basin.
- The DPEIS is mute with regards to the development of the nearby lands conveyed to private ownership in the Lincoln County Lands Act. This development should be considered in the cumulative impacts analysis, particularly with reference to groundwater availability and impacts to desert tortoises.

F. Millers SEZ

i. Overview

Millers SEZ is located north of U.S. 95/U.S. 6, which runs east–west along its southern border. The SEZ is in the southeast end of the Big Smoky Valley, in an area known as Tonopah Flat, and is surrounded by Lone Mountain to the south, the Monte Cristo Range to the west, and the San Antonio Mountains to the east. Three intermittent streams run into Millers SEZ: Ione Wash, Peavine Creek, and an unnamed wash. Slime Wash is also close, ending 3 miles east of the SEZ. Several springs also occur in the vicinity of Millers SEZ. Wetlands in Millers SEZ exist along the southern and southwestern border. Floodplains have not been mapped for Millers SEZ and vicinity, but aerial surveys suggest that 2000 acres (12%) of the total SEZ area may be in a 100 year floodplain.

The SEZ lies in the Tonopah Flat groundwater basin, which is designated as over-appropriated by the State Engineer. This is a designated basin according to NDWR Orders 725 and 827; municipal and domestic water are the preferred beneficial uses.¹¹

One solar project in the immediate area has been approved: the Crescent Dunes project is located 3 miles northeast. There is also a pending application (NVN 086548) 19.5 miles southeast and several closed applications north and south of the SEZ, all indicating a fairly strong interest in developing this area for solar power despite water limitations. **Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.**

ii. Overarching issues for this SEZ

The overarching issues highlighted below should be addressed by the BLM in the Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Cumulative effects**

Sand dunes exist to the southwest and northeast of the SEZ, and depending on how and where build-out of Millers SEZ occurs it could affect sand transport between these areas, if sand transport is occurring. Vegetation communities in and around Millers SEZ associated with playa washes, greasewood flats, or other intermittently flooded areas that are downgradient from solar development could also be affected by widespread ground disturbance. The Tecopa bird's-beak is an imperiled plant found in alkali meadows and is down hydrologic gradient from the proposed SEZ and could be impacted by groundwater withdrawals and/or changes to surface hydrology. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

iii. Recommended boundary adjustments

Insufficient information is available about the locations of sensitive areas within the SEZ to suggest adjustments; avoidance would likely need to occur at the project level after project-specific surveys are completed (unless additional surveys are performed by BLM prior to SEZ development).

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Special status species and other species of concern**

¹¹ <http://images.water.nv.gov/images/orders/725o.pdf> ; and, <http://images.water.nv.gov/images/orders/725o.pdf>

Candelaria blazingstar could occur within Millers SEZ (it is known to occur east of the SEZ) and might be affected by project development; clearance surveys for this species would be required. USFWS coordination would be required for two federal candidate species: Crescent Dunes aegialian scarab beetle and Crescent Dunes serican scarab beetle. Although these two species do not have habitat onsite, they could experience cumulative impacts from SEZ development and associated disruption of sand transport systems between unstabilized dunes offsite (this could also affect Nevada dune beardtongue, a BLM sensitive plant). The stabilized dune habitat that does exist within the SEZ provides habitat for small mammal and invertebrate species as well, and should be avoided when siting projects. The Tecopa bird's-beak is a special status species known from only ten locations in California and Nevada. Its habitat is alkali meadows, and it is considered to be "globally imperiled". It is found down hydrologic gradient from the proposed SEZ. Wong's pyrig is a springsnail, also considered to be "globally imperiled," that occurs down hydrologic gradient from the SEZ. Nelson's bighorn sheep could use the valley to migrate between habitats, and this could also be compromised if large areas were developed. Avoidance of direct and indirect impacts to all these species must be addressed adequately at the project-specific level.

- **Millers Rest Stop**

This area is important as a spring and fall migration stopover site for a range of bird species due to the availability of water and non-native vegetation. It is likely that avoidance of this vicinity when siting projects would be sufficient to mitigate impacts; careful consideration of the appropriate buffer distance to avoid of impacts to avian species is needed.

- **Groundwater availability to support development**

The DPEIS fails to fully appreciate the limits on groundwater availability in the Tonopah Flat Basin underlying this SEZ. The perennial yield for this basin is estimated at 6,000 afy; permitted water rights (approximately 19,588 afy) exceed perennial yield and the current rate of groundwater pumping is unknown. Given the limited amount of water available in the basin, it seems likely that only dry-cooled or non-cooled projects may be feasible, and assuming all water used could be acquired from existing water rights holders. While ruling out wet-cooling technologies, the DPEIS leaves the door open for dry-cooled technologies which would need 1,067 to 4,067 afy for 80% buildout and non-cooled technologies requiring 77 to 763 afy for 80% buildout.

BLM also glosses over the large amount of water needed during construction – almost half of the perennial yield – in a peak construction year. The DPEIS does not take a critical look at whether there is enough water to construct and then operate a given solar project. In the FPEIS, the BLM must revise its analysis, scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Road configuration and soil**

Soils within the SEZ are also prone to rutting, and roads should be configured and developed to minimize impacts related to rutting and erosion.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- Avoidance of wash, playa, and stabilized dune habitats would minimize or eliminate impacts to amphibian, reptile, bird, and small mammal species, as well as to many cultural resources.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.
- Since this site is adjacent to U.S. 95/U.S. 6, access to the site would require minimal ground disturbance. Two transmission lines cross Millers SEZ, one N-S and one NW-SE. The latter is a locally designated corridor. A second locally designated corridor, which contains two existing lines, runs parallel to the SE boundary of the SEZ. There is also a designated Section 368 corridor ca. 15 miles SW. We do not currently have information on the availability of capacity on these existing lines, but even if they do not have the capacity to support additional generation, the possibility that they could be reconducted to augment their capacity while minimizing disturbance and permitting efforts is promising.

vi. Corrections

The Tecopa bird's-beak and Wong's pyrig are not listed as a Special Status Species in the DPEIS and should be included in Section 11.7.12.

G. Gold Point SEZ

i. Overview

The Gold Point SEZ, totaling an area of 4,810 acres (19 km²), is located in upper Lida Valley, a closed intermontane basin lying between MacGruder Mountain and Slate Ridge. The Gold Point SEZ is in the Lida Valley groundwater basin. While lying on the northwestern edge of the Death Valley Regional Flow System, Lida Valley basin has little carbonate rock so its recharge is basin-fill, almost totally from the precipitation in the surrounding mountains. The perennial yield of this groundwater basin is set at 350 acre feet/year, with usage rights totaling 76 acre feet/year.

The locale is currently pristine and remote from load centers, and a new transmission line would be needed to provide access from the SEZ to the transmission grid.

No other active renewable energy projects are in the immediate proximity to this site.

Overall, the area does not have major conflicts, and provided the BLM addresses the concerns below, we support the designation of this area as a Solar Energy Zone.

ii. Overarching issues for this SEZ

None noted.

iii. Recommended boundary adjustments

None noted.

iv. Sensitive natural resources and recommended additional impacts analysis

The sensitive resources highlighted below require special attention and additional analysis in the BLM's Final PEIS and in analysis for individual projects proposed within the SEZ.

- **Availability of groundwater to support solar development**

The perennial yield of Lida Basin is 350 afy. Water requirements for dust suppression and potable water supply during construction could be as high as 1,707 afy for the peak construction year. The total water use estimates for the peak construction year are on the order of 3 to 5 times greater than the perennial yield of the Lida Valley groundwater basin. Wet cooling is not feasible, and while water usage for dry cooling systems would be as high as 1,166 afy, about 3 times the perennial yield, BLM believes it to be feasible although it is "doubtful that a full build-out scenario using dry-cooling technologies could be supported with the available groundwater supplies." DPEIS 11.6-58.

BLM should revise its analysis to scale back the peak construction year and full build-out scenarios to a level commensurate with the available water supply and ensure that any water use follows the design features and recommendations in Section III above.

- **Surface Hydrology**

No studies have been undertaken in the area. The BLM should include in the FPEIS a study of the flood potential of the unnamed wash that bisects the SEZ. The BLM should also include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Pronghorn antelope**

A significant pronghorn antelope herd lives permanently in Lida Basin, and antelope are frequently seen on the proposed SEZ. Disturbance during dry seasons could interfere with antelope seeking scarce green foraging resources and spring areas. The BLM should include

analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

- **Unique Mojave-Great Basin transition zone**

Some of the northernmost Joshua trees inhabit Lida Basin, and this habitat should be preserved and not fragmented. As currently envisioned, the SEZ avoids the core Joshua Tree habitat area. This area is unstudied for rare plants and surveys should be thorough, covering more than one year and including both spring and late summer-fall surveys, as summer rains may account for species not detectable in spring.

- **Transmission corridor**

The assumed new transmission corridor would cross extremely dense Joshua tree woodland and scenic remote BLM areas used for hiking, camping, and other recreational activities, as well as potentially impact the historic mining town of Goldfield. The BLM should include analysis of potential impacts associated with these issues in the FPEIS, as well as measures to avoid, minimize or mitigate such impacts.

v. Opportunities for environmentally responsible development

The BLM can limit impacts and maximize benefits from solar energy development on this SEZ by following the recommendations below.

- There seems to be an opportunity to run the needed transmission line along highways 266 and 95, thereby sparing the bisection and fragmentation of desert habitats along the proposed route.
- The project design could take into considerations to provide antelope access to forage and water, and construction schedules outside the dry periods when antelope access is most critical.
- Given the very limited water resources available in this area, it appears that BLM may need to scale back the peak construction year and full build-out scenarios and ensure that any water use follows the design features and recommendations made in Section III.

vi. Corrections

- Add Great Basin spadefoot (*Scaphiopus intermontanus*) and Pacific rattlesnake (*Crotalus viridis lutosus*) as potential species occurring in SEZ area.

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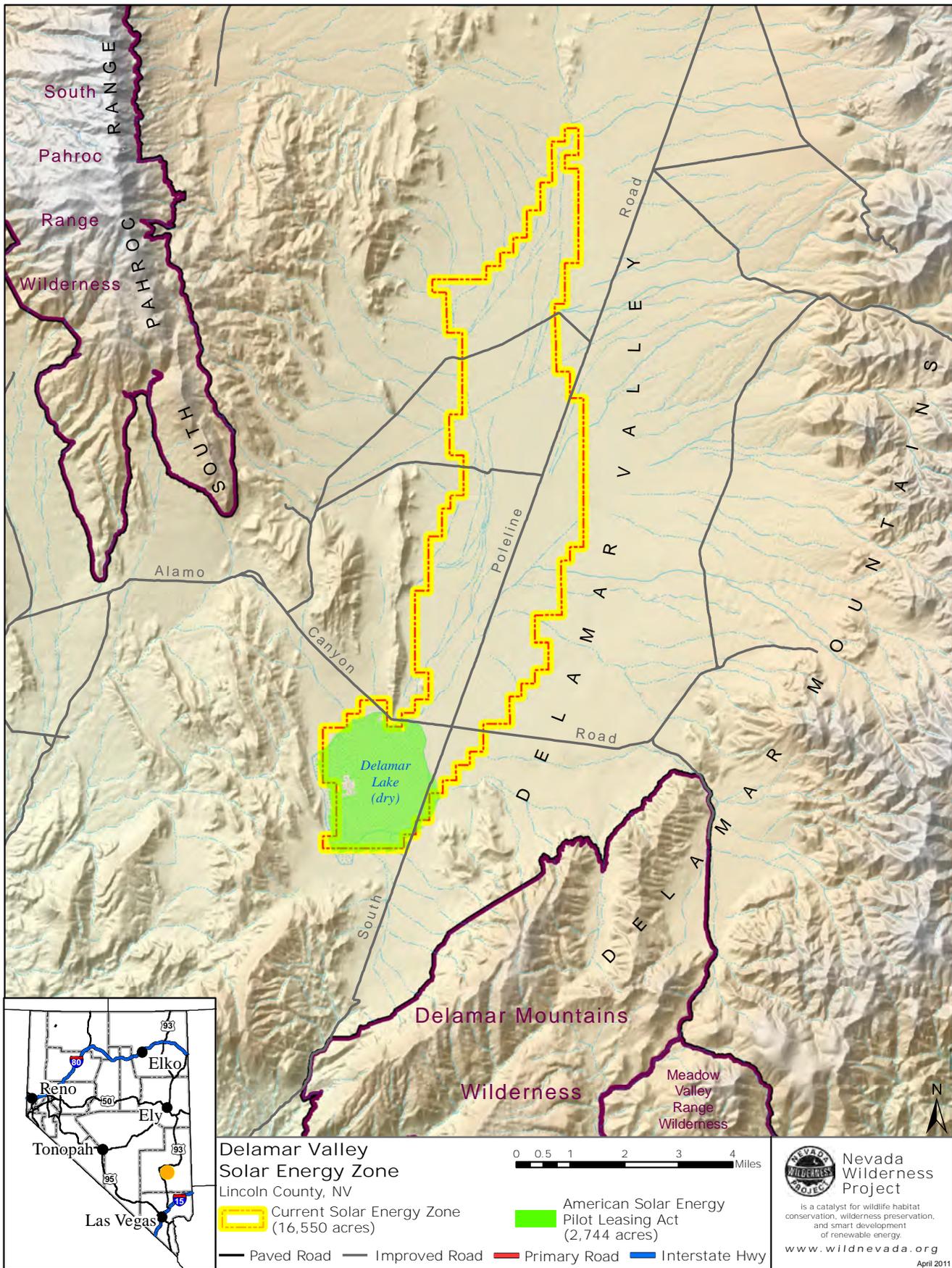


Figure 1. Delamar Valley Solar Energy Zone recommended boundary adjustments.

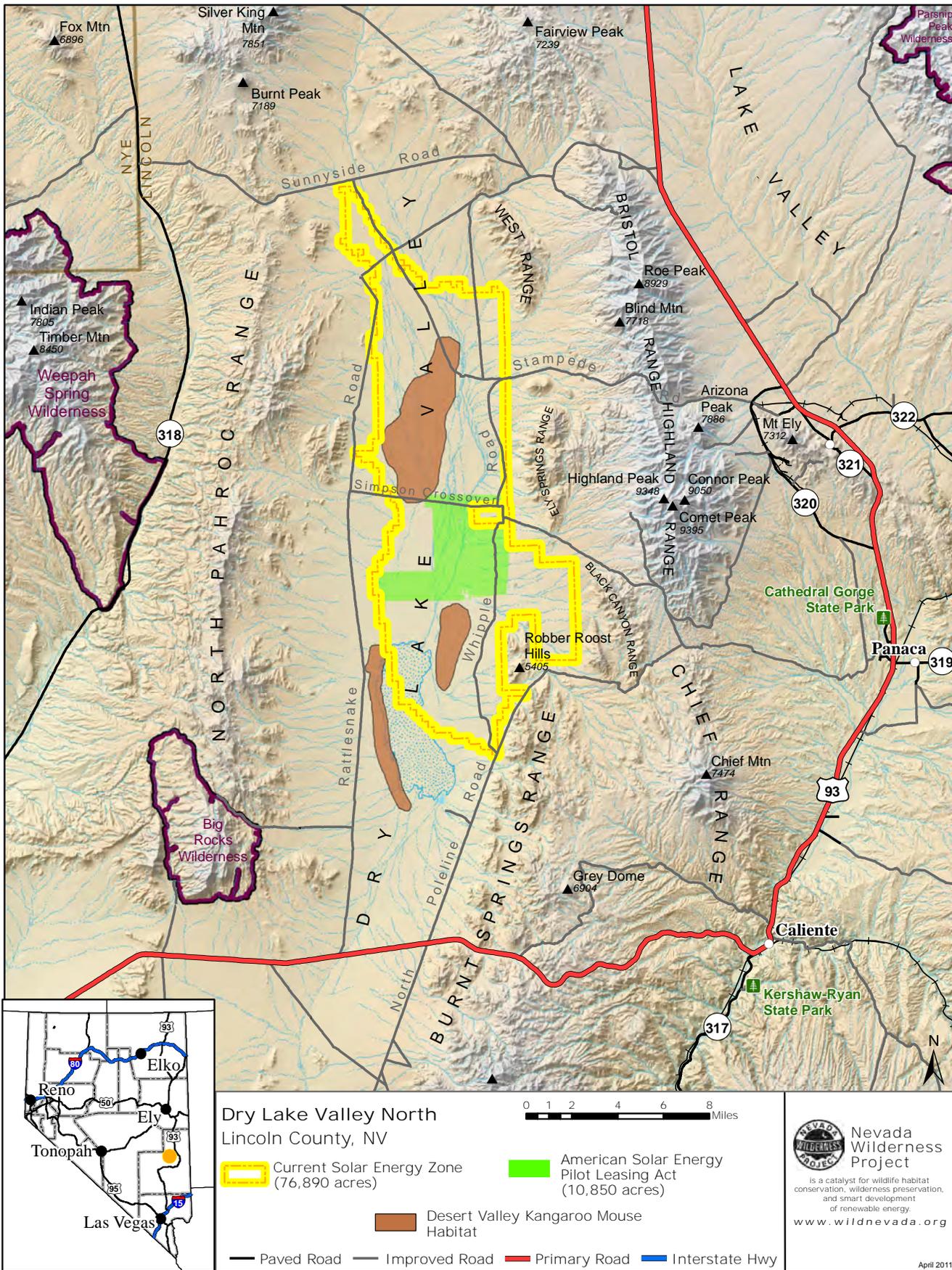


Figure 2. Dry Lake Valley North Solar Energy Zone recommended boundary adjustments.

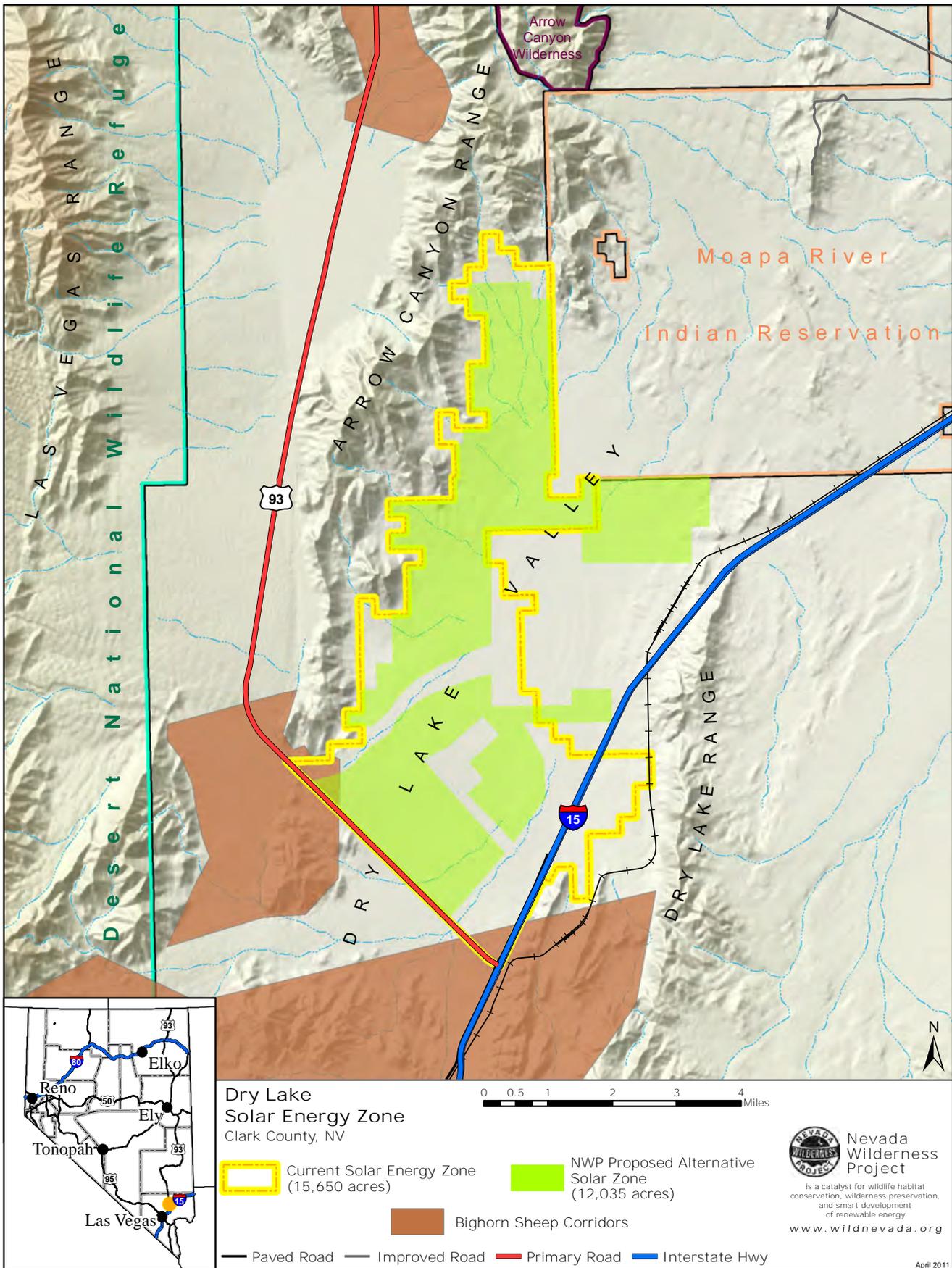


Figure 3. Dry Lake Solar Energy Zone recommended boundary adjustments.

Thank you for your comment, Siobhan McIntyre.

The comment tracking number that has been assigned to your comment is SolarD11790.

Comment Date: April 30, 2011 11:32:38AM

Solar Energy Development PEIS

Comment ID: SolarD11790

First Name: Siobhan

Middle Initial:

Last Name: McIntyre

Organization:

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State: VT

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Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment: S.McIntyreSolarPEISComment.doc

Comment Submitted:

Siobhan McIntyre
JD Candidate 2011
Vermont Law School
P.O. Box 263
S. Royalton, VT 05068

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Submitted via web: <http://solareis.anl.gov/involve/comments/index.cfm>

May 1, 2011

Re: Draft Solar PEIS

To whom it may concern:

Please accept these comments on the Draft Solar Programmatic Environmental Impact Statement (Solar PEIS). I am a JD Candidate at Vermont Law School in South Royalton, Vermont and have been conducting research regarding solar development projects on public lands, originally undertaken in conjunction with seminar coursework, taught in the Fall of 2010 by Professor Timothy P. Duane.¹

My research for this course aimed to compare and contrast impacts proposed in the Solar PEIS and selected, individual fast-track projects. To this end, I reviewed both the Draft Solar PEIS and individual draft or final Environmental Impact Statements (EIS) from three fast-track projects located within the Solar PEIS six-state study area: the Silver State Solar Project authorized for development on United States Bureau of Land Management (BLM) lands in southeast Nevada; the Sonoran Solar Energy Project proposed for development on BLM lands in central Arizona; and the Ivanpah Solar Electric Generation System Project proposed for development on BLM lands in southeastern California. In specific, I focused my comparison on water resource issues and socioeconomic factors, in light of the scarcity of water resources in the six-study area's particular climate and the national urgency in job creation, particularly the increasing interest in the "green jobs" sector. I reviewed Land Use Management Plans/Resource Management Plans from each BLM planning region impacted and reviewed state statutes and regulations that govern permitting utility facilities and water resource allocation in each of the three states. Furthermore, I reviewed language within these sources, as well as language within the Federal Land Policy and Management Act (FLPMA), the National Environmental Policy Act (NEPA), Right-of-Way (ROW) regulations, and the Council on Environmental Quality (CEQ)

¹ Associate Professor of Environmental Studies, University of California, Santa Cruz and Associate Professor of Law, Vermont Law School; Email: tpduane@ucsc.edu.

EIS regulations that dictates or provides guidance on agency to agency communication and collaboration.

Informed by this research and comparisons, the following comments aim to, first, provide my impressions of the potential benefits that the Solar PEIS may offer when incorporating national renewable energy initiatives into public lands management. Second, these comments present areas, specifically in regards to water resources, regional employment, and state and federal coordination, in which the Draft Solar PEIS currently falls short as a guidance document.

I. The Solar PEIS is a Starting Point for Future Solar Development on BLM Lands

The Solar PEIS will serve as a useful reference point and strong source of preliminary, centralized guidance for utility scale solar development on BLM lands in the desert southwest. This overarching document will provide a needed baseline for agency efforts to manage its multiple-use mandate and its task to balance development and conservation. This benefit is evidenced by comparing the three fast-track projects reviewed in my research and the administrative policies, design features, and mitigation measures recommended and mandated by the SEDP and SEZ programs outlined in the Solar PEIS.

A. The Solar PEIS: The Benefits of Regional BLM Multi-Use Guidelines

Most importantly, the Solar PEIS provides an essential geographic overview of the BLM's proposed six-state study area. This document offers a perspective of the regional landscape as a greater whole and provides undeniable land use planning benefits, which may fail to materialize from individual project EIS. In this manner, the Solar PEIS provides a centralized source of baseline environmental data for the region. This culmination of data presents BLM, the public, and developers with an opportunity to assess potential adverse impacts beyond the borders of specific projects, to brainstorm wide-ranging mitigation measures, and to anticipate and plan for environmental and legal restrictions that extend beyond site-specific or state-specific borders. For example, Solar PEIS analyses include information regarding "drought conditions, which have occurred in the six states since early 2000," and provides information and mitigation measures for interstate legal paradigms, including "water right[s] issues and various interstate compacts."²

The Solar PEIS confronts the tension between the national, state and regional interests in rapidly developing renewable energy technology and BLM's mandate to conserve environmental resources. The PEIS sets forth a national policy regarding how BLM should balance these tensions. For example, the Solar PEIS clarifies that conflicts between optimizing MWhs and renewable energy initiatives and conserving water resources, water resource conservation should take precedence, even when not so mandated by state water statutes and regulations.³ Although, currently, "water management by the majority of solar developers is largely focused on securing access to greater supplies of water rather than looking at more water-efficient ways to produce

² U.S. BUREAU OF LAND MGMT., DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR SOLAR ENERGY DEVELOPMENT IN SIX SOUTHWESTERN STATES 4-59 (2010)(*hereinafter* DRAFT SOLAR PEIS).

³ *See e.g. id.*, 8.1-64, 8.2-64, 8.3-63, 9.1-68, 9.2-70, 9.3-69, 9.4-78, 11.1-67, 11.2-67, 11.3-63, 11.4-69, 11.5-64, 11.6-60, 11.7-57. (finding wet-cooling technology infeasible in all SEZ regions in Nevada, Arizona, and California, although wet-cooling options provide for the most MWhs).

energy,” the Solar PEIS clarifies for BLM that projects proposed on BLM lands should reflect efforts to obtain water conservation *before* obtaining greater access.⁴ This guidance is specified in Solar Energy Development Program (SEDP) water resource mitigation measures and objectives, including the requirement “to promote the sustainable use of water resources through appropriate technology selection and conservation practices” and the prohibition against facilities that would “contribute to the significant long-term decline of groundwater levels or surface water flows and volumes.”⁵ For areas where states do not impose legal restrictions or conditions on groundwater withdrawals, these mandates, including the prohibition on wet-cooling technology in all Solar Energy Zones (SEZ) in Nevada, Arizona, and California provide guidance on how BLM should balance its multi-use mission on federal lands, while providing an additional conservation benefit to the state.⁶

B. Proposed Improvements to the Solar PEIS

Although a regional guidance document that provides centralized information regarding national policies and guidelines for a federal, nationally promoted efforts offers, at a minimum, the above mentioned benefits, the Solar PEIS fails to live up to its potential to approach land use issues in a proactive and innovative manner. The following sections provide examples of some actions and research BLM should consider in order to address potential impacts, conflicts, and tensions that arise from utility scale solar development.

1. *Water Resources*

The Solar PEIS fails to draw on conservation measures already mandated and implemented by statute or regulation in states within the six-state study area. For example, in Arizona, statutes permit the Arizona Department of Water Resources (ADWR) director to require the use of effluent for industrial project water needs, if effluent is available at comparable cost to groundwater.⁷ Likewise, at least one recently approved, fast-track solar project also employs this water conservation technique to ensure that project water needs do not threaten water resource preservation.⁸ To authorize the current fast-track Silver State Solar Project on BLM lands in Nevada, the Nevada Division of Water Resources (NDWR) requested that Nevada BLM require the developer, NextLight to recharge groundwater with effluent from a nearby correctional facility, if the project compromises basin needs.⁹ The Solar PEIS does not consider the use of effluent to meet water use or recharge needs for solar projects. BLM should consider this conservation alternative as one of a myriad options to address the tension between solar facility development and water resource conservation. Furthermore, when considering how to balance competing interests, the BLM should thoroughly research state and local law, as well as

⁴ Melissa Lamberton, David Newman, Susanna Eden, & Joe Gelt, *The Water-Energy Nexus*, ARROYO, 2010, at 7; *see e.g. id.*

⁵ DRAFT SOLAR PEIS, *supra* note 2, at A-54, app. A.

⁶ *Id.* at 8.1-64, 8.2-64, 8.3-63, 9.1-68, 9.2-70, 9.3-69, 9.4-78, 11.1-67, 11.2-67, 11.3-63, 11.4-69, 11.5-64, 11.6-60, 11.7-57.

⁷ ARIZ. REV. STAT. ANN. § 45-515A.

⁸ S. NEV. DIST. BUREAU OF LAND MGMT., SILVER STATE SOLAR PROJECT EIS 4-26 (2010).

⁹ *Id.*

previous federal, state or private solar siting efforts, for previously enacted, successful mitigation measures that help balance these competing interests.

2. *Green Jobs: Labor and Employment*

The Solar PEIS provides an excellent opportunity for workers, governments, and communities to contemplate the labor practices and policies that should be considered when executing renewable energy development. The Draft Solar PEIS falls short of facilitating this opportunity. DOI's statutory authority for developing solar projects on public lands, the Energy Policy Act of 2005, states that the Act's central purpose is "to ensure jobs for our future with secure, affordable, and reliable energy."¹⁰ Likewise, the extension of Department of Energy (DOE) funding to utility solar development on BLM lands is authorized by the American Recovery and Reinvestment Act of 2009, which focuses on preservation of employment for the American workforce.¹¹ Public comments submitted regarding current fast-track projects also reflect this national goal. For example, public comments submitted regarding Nevada's Silver State Solar project and California's Ivanpah project emphasize a desire to see these efforts mature into plentiful and lucrative job opportunities.¹² Considering this emphasis on employment, the BLM should take pains to look for creative ways to leverage solar development's potential to ameliorate current unemployment rates. Furthermore, BLM should utilize the Solar PEIS as a means to mitigate potential problems arising from labor disagreements and to ensure that developers create high-end, well-paying jobs.

BLM's suggested mitigation measures to mandate community monitoring programs in socioeconomic Regions of Influence for solar projects and encouragement to developers to initiate community outreach programs provide a starting point for these efforts.¹³ BLM should amend the Draft Solar PEIS by mandating these community outreach programs and requiring additional measures that address the quality, not just the quantity of labor generated by solar projects on federal lands. Consequently, BLM should provide more specific guidance regarding the implementation of these programs.

In addition, BLM should use the Solar PEIS as an opportunity to build a new body of information regarding the intersection of fair labor concerns and renewable energy development. For example, in the PEIS, BLM should provide a checklist of mandated factors that more specific, detailed review in project specific EIS must take into account. These factors would address labor standards and would include, at a minimum, potential unions in the area that may bid onto solar projects; any agreements between developers and labor contractors; any applicable Project Labor Agreements; and, state and federal laws such as the Bacon-Davis Act, which require employers to pay prevailing wages to workers employed on federally funded projects.¹⁴ These factors are strikingly absent from the canon of socioeconomic factors that appear in project specific EIS. For example, public comments for the California Ivanpah project note that Brightsource's Engineering, Procurement and Construction Contractor execute an agreement

¹⁰ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005).

¹¹ American Reinvestment and Recovery Act of 2009, 42 U.S.C. § 16516(a) (2009).

¹² SILVER STATE SOLAR PROJECT EIS, *supra* note 8, at 0064, 0065, 0066, app. F; IVANPAH FEIS, *supra* note 449, at A.1-8, A.1-81, A.1-182, A.1-195.

¹³ DRAFT SOLAR PEIS, *supra* note 2, at A-99, A-100, app. A.

¹⁴ Bacon Davis Act, 40 U.S.C. § 3142.

with the California Building Trades Council “to ensure fair wages and benefits for workers who contribute to this project.”¹⁵ However, the Ivanpah Final EIS does not mention this agreement.

The Solar PEIS should also require BLM project specific EIS’s to consider innovative techniques to solving fair labor and unemployment problems. For example, California SEZ areas reflect striking contrasts in local employment patterns.¹⁶ While Riverside County and San Bernadino County experienced 13 percent unemployment following the 2009 recession, Yuma County, Arizona and Imperial County, CA experienced unemployment rates as high as 29 percent.¹⁷ BLM should encourage project specific EIS to consider and recommend to developers innovative labor agreements such as those utilized by the Apollo Project in Los Angeles, which combats local unemployment by requiring publically funded projects to employ a certain percentage of workers from the area directly impacted by these projects.¹⁸

3. *Resource Management Plan Amendments: The First Tier of Management*

The RMP/LUP serves as the primary mechanism to ensure BLM acts according to the mission set forth in FLPMA: to balance multiple-use and conservation goals when managing public lands.¹⁹ The difference in outcome between current fast-track projects demonstrates the important and influential impact of these legally binding guidance documents. For example, the water resource conservation ethos promoted by Nevada’s Las Vegas Resource Management Plan (LVRMP) implements statements encouraging water conservation in the Silver State Solar Project; in contrast, Arizona’s Lower Gila South Resource Management Plan (LGSRMP) provides no guidance towards water conservation and has led to a project that sacrifices this scarce resource.²⁰

The Solar PEIS fails adequately to address the role of RMP/LUP in the planning process. BLM should emphasize the importance of, if not mandate, *full* and comprehensive updates of any RMP/LUP that does not currently provide for renewables development on public lands. The RMP/LUP is a holistic guidance document that should look towards the interactions of different uses across public lands. Therefore, BLM should seek to update RMP/LUP that address all foreseeable uses and mitigate other uses in such a way that is compatible and accounts for future solar developments.

¹⁵ NEEDLES FIELD OFFICE, CAL. BUREAU OF LAND MGMT., CAL. DESERT CONSERVATION AREA PLAN AMENDMENT/FINAL ENVTL. IMPACT STATEMENT FOR IVANPAH SOLAR ELECTRIC GENERATING SYSTEM A.1-182 (2010) [*hereinafter* IVANPAH FEIS].

¹⁶ See e.g. DRAFT SOLAR PEIS, *supra* note 2, at 9.1-233, 9.3-269, 9.4-337.

¹⁷ *Id.*

¹⁸ See Benjamin S. Beach, *Using Government Policy to Create Middle Class Green Construction Careers*, 18 J.L. POL’Y 1, 7 (2009); see also <http://apolloalliance.org/> (last visited 4/20/2011).

¹⁹ LAND USE PLANNING HANDBOOK, *supra* note 103, at 1.

²⁰ See LAS VEGAS FIELD OFFICE, LAS VEGAS VALLEY RES. MGMT. PLAN 3-19 (1998); SILVER STATE SOLAR PROJECT EIS, *supra* note 8, at 4-26; PHOENIX DISTRICT OFFICE, ARIZ. BUREAU OF LAND MGMT., LOWER GILA S. RES. MGMT. PLAN (1985); ARIZ. BUREAU OF LAND MGMT., DRAFT ENVTL. IMPACT STATEMENT FOR THE PROPOSED SONORAN SOLAR ENERGY PROJECT, MARICOPA COUNTY 1-2 (2010) [*hereinafter* DEIS SSEP].

4. *The Solar PEIS Should Mandate Increased Efforts Towards Inter-agency Coordination and Collaboration*

FLPMA requires BLM to comply with applicable state laws when granting rights-of-way.²¹ Furthermore, FLPMA encourages BLM to go beyond this bare minimum, to reach out, and to coordinate “to the fullest extent possible” with state and local governments when authorizing ROWs.²² Although the Solar PEIS takes an encouraging step by mandating pre-application meetings with developers (otherwise only encouraged by FLPMA regulations), the Solar PEIS should mandate contact between BLM and other agencies or local governments that oversee implicated legal mandates regarding resource development. Furthermore, although the Solar PEIS encourages BLM to include other affected agencies in pre-application meetings, the Solar PEIS does not set up a specific protocol for establishing contact with these agencies.²³ A model practice could echo California Desert Conservation Area Plan (CDCAP) mandates requiring BLM to “participate to the maximum extent possible in State Energy Commission hearings on powerplants proposed for siting in the CDCA.”²⁴ Likewise, similar to the California Energy Commission Memorandum of Understanding (MOU)²⁵ and the Renewable Energy Action Team (REAT) MOU²⁶ agreements, the Solar PEIS could encourage or mandate BLM to execute MOUs detailing agency specific responsibilities with affected state and local agencies when siting future solar facilities on BLM lands. This practice not only ensures that all voices and governing constituents are considered when developing projects, but also serves to streamline efforts to authorize projects. As previously mentioned, states also may devise innovative measures to address potential conflicts based on regional knowledge unavailable to a national agency. In developing the Draft Solar PEIS, it is surprising to find both Nevada’s electric utility agency, Public Utilities Commission of Nevada (PUCN), and Arizona’s Arizona Corporation Commission (ACC) absent from the coordinating agencies list.²⁷ Although BLM possesses sole jurisdiction to approve land uses on BLM lands, both state agencies oversee environmental standards or certificates, which must be met before utility developers may proceed with proposed projects.²⁸ Likewise, water resource managers in Nevada, Arizona, and California did not serve as participating agencies.²⁹ BLM should make all attempts possible to engage these groups and should outline a programmatic system to initiate this engagement (e.g., MOUs, formal notification requirements, or other methods). Without collaboration efforts,

²¹ 43 U.S.C. § 1765(a)(iii)-(iv).

²² 43 C.F.R. § 2801.2.

²³ *See id.*

²⁴ CAL. DESERT DISTRICT, CAL. BUREAU OF LAND MGMT., THE CAL. DESERT CONSERVATION AREA PLAN, AS AMENDED 95 (1980) (reprint 1999).

²⁵ MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT CALIFORNIA DESERT DISTRICT AND THE CALIFORNIA ENERGY COMMISSION STAFF 1, *available at* http://www.energy.ca.gov/siting/solar/BLM_CEC_MOU.PDF (*hereinafter* CEC MOU).

²⁶ MEMORANDUM OF UNDERSTANDING BETWEEN THE CALIFORNIA DEPARTMENT OF FISH AND GAME, THE CALIFORNIA ENERGY COMMISSION, THE BUREAU OF LAND MANAGEMENT, AND THE U.S. FISH AND WILDLIFE SERVICE REGARDING THE ESTABLISHMENT OF THE CALIFORNIA RENEWABLE ENERGY ACTION TEAM (“REAT MOU”), November 17, 2008, *available at* <http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.76169.File.dat/RenewableEnergyMOU-CDFG-CEC-BLM-USFWS-Nov08.pdf> (last visited April 26, 2011).

²⁷ DRAFT SOLAR PEIS, *supra* note 2, at 1-19, 20.

²⁸ NEV. REV. STAT. § 704.865; ARIZ. REV. STAT. ANN. § 40-360.02.

²⁹ DRAFT SOLAR PEIS, *supra* note 2, at 1-19, 20.

especially concerning water resource access, solar project development proposals may face a deadlock between state and federal authorities.

5. *The Solar PEIS and SEZ-Specific Analyses Cannot Replace Project Specific EIS and Should Not Serve as a Rubber Stamp for Future Projects*

The more specific the guidance for a particular project and the greater the direction provided towards navigating the legal mandates, political agreements, and policy concerns, the faster solar projects will be approved to meet the nation's current economic urgency and the better these projects will serve the community and the nation.

To this end, the BLM's SEZ alternative is the better choice for providing guidance for solar development on public lands compared to the SEDP (BLM's preferred alternative). The SEZ alternative limits development to areas with known environments and investigated affects. The conversations regarding the tensions between development and conservation in these areas has already begun and relationships have already been formed.

However, the SEZ alternative should not serve as a rubber stamp for future solar projects. BLM needs to take a close look at each project on a case-by-case basis and should attempt to apply innovative answers to regionally-specific resource/development tensions. The Solar PEIS above all should establish a framework that facilitates this process on all projects and provides guidance towards how these conflicting interests should be addressed.

Thank you for this opportunity to provide comments. If you have any further questions, please feel free to contact me at 781-898-4799 or by e-mail at smcintyre@vermontlaw.edu.

Sincerely,

Siobhan McIntyre
JD Candidate 2011
Vermont Law School
P.O. Box 263
S. Royalton, VT 05068
smcintyre@vermontlaw.edu

*the views I have expressed are my own and do not represent the views or opinions of Vermont Law School.

Thank you for your comment, Penny Mason.

The comment tracking number that has been assigned to your comment is SolarD11791.

Comment Date: April 30, 2011 16:23:59PM
Solar Energy Development PEIS
Comment ID: SolarD11791

First Name: Penny
Middle Initial:
Last Name: Mason
Organization:
Address: P.O. Box 1491
Address 2:
Address 3:
City: Joshua Tree
State: CA
Zip: 92252
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am not in favor of the project as it currently proposed. The fact that the project surrounds the southern portion of the JTNP Wilderness, will disrupt wildlife corridors and destroy habitat of wildlife, some endangered (tortoise, burrowing owls), make this project unacceptable in it's current form. The proximity to JTNP is a large concern. The park is already suffering stress from encroachment through development and smog.

Thank you for your comment, Angela Scott.

The comment tracking number that has been assigned to your comment is SolarD11792.

Comment Date: April 30, 2011 16:44:52PM
Solar Energy Development PEIS
Comment ID: SolarD11792

First Name: Angela
Middle Initial: N
Last Name: Scott
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Hello, I hope that we all understand that this small creature has endured so much. The area is critical habitat for our State Reptile. They should not be cast aside to make way for a green project...kind of not in line with our use of a natural source by means of extermination of another native species. If we are so readily willing to do away with the Desert Tortoise who is to say we are not ourselves stepping closer to our own extinction ...after all we are simply another species on this planet. This big organization can certainly use the relocation of tortoises money by purchasing a less critical part of our beautiful living desert.
Thank you and best wishes.

Thank you for your comment, Deborah Michalak.

The comment tracking number that has been assigned to your comment is SolarD11793.

Comment Date: April 30, 2011 17:53:49PM
Solar Energy Development PEIS
Comment ID: SolarD11793

First Name: Deborah
Middle Initial: K
Last Name: Michalak
Organization:
Address: PO Box 604
Address 2: 363 E Copper Ave
Address 3:
City: Crestone
State: CO
Zip: 81131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom It May Concern,

I am very concerned about large-scale solar projects being erected on public lands that are supposed to be for preservation of wildlife, natural beauty and open space. It is my understanding that these projects have a lot of pitfalls and that it is the large corporations, like Chevron and BP, who have the initiative to undertake these projects. These corporations don't have a good track record of mitigating damages caused to natural lands, and so it seems foolhardy to subsidize them with government money. It is also my understanding that the BLM has a choice here; that it's not mandated that they offer their land to these projects.

If, after reading the public comments, the BLM decides to give land, I would like them to give only disturbed lands such as Superfund sites.

Sincerely,

Deborah Michalak

Thank you for your comment, Elizabeth Michalak.

The comment tracking number that has been assigned to your comment is SolarD11794.

Comment Date: April 30, 2011 18:20:57PM
Solar Energy Development PEIS
Comment ID: SolarD11794

First Name: Elizabeth
Middle Initial: S
Last Name: Michalak
Organization:
Address: Post Office Box 604
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear BLM Representatives,

It has come to my attention that the BLM is considering allowing the development of industrial solar on public lands, and that they are using the '05 Energy Policy Act as justification. According to Janine Blaeloch, lead author of "US Public Lands Solar Policy: Wrong From The Start," this policy contains no mandate for renewable energy generation on public lands. Because industrial solar is optional as far as policy is concerned, I urge the BLM to push for research into alternative means to solar energy before irreversibly determining the use of precious open space.

Industrial-scale solar is a huge undertaking with lasting impacts, and if it's worth spending the time and money to conduct a PEIS, isn't it also worth researching alternatives, to insure that this nation's resources are used in the most efficient manner? Certainly, such research would be outside the BLM's scope, but it is within their scope to refuse the use of their land until or unless its use can be proven, through thorough and unbiased surveys, to be the smartest long-term choice for our country as a whole—not just for the BLM's financial picture or for corporate interest.

Even if it is decided that centralized, as opposed to distributed, solar, makes the most sense, the BLM should require all solar projects to be restricted to lands which have already been damaged and are unusable for other purposes, such as mine lands.

Thank you for considering my comments.

Sincerely,

Elizabeth Michalak
719-588-0287

Thank you for your comment, Charles Wittman.

The comment tracking number that has been assigned to your comment is SolarD11795.

Comment Date: April 30, 2011 21:19:02PM
Solar Energy Development PEIS
Comment ID: SolarD11795

First Name: Charles
Middle Initial:
Last Name: Wittman
Organization: Architectural Fiberglass Corp
Address: 1395 Marconi Blvd
Address 2:
Address 3:
City: Copiague
State: NY
Zip: 11726
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Christopher Lish.

The comment tracking number that has been assigned to your comment is SolarD11796.

Comment Date: April 30, 2011 21:20:02PM
Solar Energy Development PEIS
Comment ID: SolarD11796

First Name: Christopher
Middle Initial:
Last Name: Lish
Organization:
Address:
Address 2:
Address 3:
City: Olema
State: CA
Zip: 94950
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Subject: Make Solar "Smart from the Start" to Protect Wildlife Habitat (DOE-HQ-2009-0003-0996 and DOE-HQ-2009-0003)

Dear Secretary Ken Salazar,

I strongly support our nation's need to immediately transition from dirty coal and fossil fuels to clean renewable energy. I also strongly support protection of our public lands. We can do both!

The recently released Solar Energy Draft Programmatic Environmental Impact Statement (DPEIS) is an important step forward for solar energy development in the U.S. because it encourages renewable energy development while endeavoring to protect wildlife. The designation of Solar Energy Zones (SEZs) is one important way that the Solar Energy Draft PEIS accomplishes this goal.

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks, Wilderness and other Wilderness-quality lands, or endangered and/or threatened species habitat. Solar energy should be developed only in SEZs that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

While concentrating solar development within specified zones makes sense, several of these SEZs threaten the resources of some of our most iconic desert national parks—like Death Valley National Park and Joshua Tree National Park. I strongly encourage that a more common sense approach be adopted that protects these spectacular places, their abundant wildlife, pristine night skies, clean air, and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs—or new solar development in general—within at least 15 miles of national parks unless the National Park Service determines that the proposed development does not unacceptably impact or diminish national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I strongly believe that four SEZs need to be modified:

1. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to wildlife, water resources, night sky viewing, and scenic vistas from Joshua Tree National Park.
2. California's Riverside East SEZ must be reduced in size and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness.
3. Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands. The Amargosa Valley SEZ must be reduced or reconfigured to reduce these negative impacts.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands

National Monument.

The Solar Energy Draft PEIS can also be made even stronger by limiting solar energy development to only 23 Solar Energy Zones (the 24 SEZs proposed in the DPEIS minus the Iron Mountain SEZ). While a process should be established to formally identify and review additional solar zones, until then, additional public land outside the 23 zones should not be developed because:

1. the need for additional space for development has not yet been demonstrated; and
2. the additional land has not been thoroughly examined for possible wildlife conflicts.

I also encourage the Department of the Interior to make sure that in cases where crucial habitat for (both listed and nominated) endangered and threatened species overlap with SEZs, these critical habitat areas will also be placed off-limits to development.

I believe that solar energy must be developed quickly in the United States. However, the best way to get solar energy projects built quickly is to plan them responsibly from the start. Please take these steps to make sure that America's solar industry is developed in a smart, ecologically sound manner that protects our national treasures and wildlife. Once amended, I will strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. With a strong Solar Energy PEIS, we can ensure that we set the best precedent for solar energy development in our country.

Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources.

Sincerely,
Christopher Lish
Olema, CA 94950

Thank you for your comment, Todd Barr.

The comment tracking number that has been assigned to your comment is SolarD11797.

Comment Date: April 30, 2011 22:54:15PM
Solar Energy Development PEIS
Comment ID: SolarD11797

First Name: Todd
Middle Initial:
Last Name: Barr
Organization:
Address: P.O. Box 511
Address 2:
Address 3:
City: Manassa
State: CO
Zip: 81141
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I stongly oppose any solar developement or such consideration on BLM lands, including the Kiowa Hill allotment on which we are permitted to graze cattle. The maps indicate, by color, that the area in which we are permitted would not be allowed for such developement (solar). Resource protection is our greatest concern, and may be jeopardized by such developement.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD11798.

Comment Date: May 1, 2011 09:08:42AM

Solar Energy Development PEIS

Comment ID: SolarD11798

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

I favor solar and wind power and oppose power supplied by coal.

Thank you for your comment, Gary Thomasian.

The comment tracking number that has been assigned to your comment is SolarD11799.

Comment Date: May 1, 2011 17:32:02PM
Solar Energy Development PEIS
Comment ID: SolarD11799

First Name: Gary
Middle Initial:
Last Name: Thomasian
Organization:
Address: 23512 Spindle Way
Address 2:
Address 3:
City: Murrieta
State: CA
Zip: 92562
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support the development of Domestic Renewable Energy which will help to stimulate new jobs and further create new research and development opportunities.

This mandate should not be at the expense of changing the existing Wilderness Landscape which is part of our American Heritage.

With so much uncertainty and conflict swirling around the 24 solar energy zones this will only keep the attorneys knee deep in financial gain but will have little to show for meeting the goal of generating 10K Megawatts of solar energy on public lands.

I propose that by installing solar generating panels on all roof tops within Metropolitan areas we can avoid the conflicts and still achieve our Energy Independence.

Thank you

Thank you for your comment, Yvette Winston.

The comment tracking number that has been assigned to your comment is SolarD11800.

Comment Date: May 1, 2011 17:54:20PM

Solar Energy Development PEIS

Comment ID: SolarD11800

First Name: Yvette

Middle Initial: M

Last Name: Winston

Organization:

Address: 1328 E 48th St

Address 2:

Address 3:

City: Chicago

State: IL

Zip: 60615

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, David Beaumont.

The comment tracking number that has been assigned to your comment is SolarD11801.

Comment Date: May 2, 2011 00:45:12AM
Solar Energy Development PEIS
Comment ID: SolarD11801

First Name: David
Middle Initial:
Last Name: Beaumont
Organization: Mojave Trails Group
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar PEIS Comment
From: David Beaumont, Founder Mojave Trails Group

This document is in violation of NEPA.

The entire document, and the resulting section, A.2.2.6, which includes mitigation for Recreational Impacts, fails to establish mitigation for a wide variety of other lawful recreational uses of public lands.

Examples of such are as follows, but not limited to:

Access for the handicapped, physically challenged, or aged individuals; Rock Hounding; Star Gazing using mechanical devices; campsites where access was achieved by motorized vehicles; hunting activities; in short, any type of recreation which requires the use of motorized vehicles to transport people and their equipment for such recreational activities.

To correct this omission the following shall be done:

1. Conduct a study to fully and clearly identify all motorized vehicle dependant recreational activities in the SEZ's, and the specific locations of such activities inside the SEZ's, of all states affected.
2. Establish that it shall be the policy of this document to afford mitigation for the loss of all recreation of the types identified in the study established in item "1" above.
3. Establish that it shall be the policy of this document that such mitigation lands shall be of equal or greater value to the recreational interests which have suffered loss.
4. Change the meaning and contents of the first sentence of the third (3rd) bullet point under A.2.2.6 Design Features For Recreation Impacts from:

"Replacement of acreage lost for off-highway vehicle use shall be considered as part of the analysis of project-specific impacts." to read and mean as follows: " Replacement of acreage lost for off-highway vehicle use, and any other motorized vehicle dependant recreational activity, shall be mitigated with equal, or better, opportunities to maintain the overall quality of recreation for a wide variety of human experiences."

Sincerely,
David Beaumont
Mojave Trails Group
savecaliforniasdeserts@gmail.com

Thank you for your comment, Bradford Berger.

The comment tracking number that has been assigned to your comment is SolarD11802.

Comment Date: May 2, 2011 00:51:14AM
Solar Energy Development PEIS
Comment ID: SolarD11802

First Name: Bradford
Middle Initial: W
Last Name: Berger
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Yes, we need to develop solar power, and we need to do it immediately. However, to allow the public land in our desert regions to be decimated by open access by private solar companies, or even nationalized ones, will cause a devastating loss of habitat, wildlife corridors, and open space.

If solar arrays are to be installed, they should be installed on already degraded lands - the Imperial Valley has much agricultural land that due to water and salinity issues is no longer useful - these should be used first.

Solar arrays installed on pristine desert is just plain wrong. The roads that must be made to install and service the arrays are very destructive. The water to clean the panels is scarce and needed for other uses.

We must balance our energy use with land conservation. Covering the southwest with solar panels is just a business-as-usual knee-jerk reaction. We need an integrated approach where power isn't transported to far-away cities, but used where it's produced.

In closing, please limit solar arrays to already degraded agricultural lands and do not allow the arrays to be placed on public lands.

Thank you,
Bradford W. Berger

Thank you for your comment, Bradley Powell.

The comment tracking number that has been assigned to your comment is SolarD11803.

Comment Date: May 2, 2011 09:42:33AM
Solar Energy Development PEIS
Comment ID: SolarD11803

First Name: Bradley
Middle Initial: E
Last Name: Powell
Organization: Arizona Wildlife Federation
Address: 210 West Corral Drive
Address 2:
Address 3:
City: Payson
State: AZ
Zip: 85541
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: awfsolarcomment.doc

Comment Submitted:

May 02, 2011
Draft Solar Energy Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, IL 60439

RE: Comments on the Draft Solar PEIS for solar Energy Development in Six Southwestern States

Dear Solar PEIS Project Team,

The Arizona Wildlife Coalition is the States oldest wildlife conservation organization and is an affiliate of the National Wildlife Federation. Our membership represents a wide spectrum of Arizona's outdoor community. We are committed to the stewardship of Arizona's public lands, to protect and enhance fish and wildlife habitats and to increase public access to quality hunting and fishing.

We heartily support the planning efforts of the Bureau of Land Management to guide the development of solar energy resources on public lands in the Southwest. The haphazard implementation of energy development across the west has resulted in significant impacts to fish, wildlife, air and water resources. It's our hope that this planning effort can help chart a course that is much better balanced relative to the development of energy and the protection of important fish and wildlife habitats.

We appreciate the massive effort it took to complete the analysis contained in this 10,000 page solar EIS. We are encouraged by the development of a zone concept to guide development in the future but are perplexed at the logic that guided the development of the preferred alternative. The EIS clearly points out that the solar zones will provide more than enough acreage to allow for the commercial development of solar resources that is projected.

We offer the following general recommendations:

- Utilize the Zones identified in the Solar PEIS for future utility scale development. The zones encompass 675,000 acres and contain adequate acreage to meet the projected solar energy production needs.
- Develop a process for the refinement and expansion of zones for future development. This process should involve adequate analysis and public involvement.
- Carefully review any proposed analysis within the zones to minimize impacts to fish and wildlife resources. While the analysis is significant in the PEIS it is still not site specific enough to ensure that the solar projects are conducting in a manner that reduces impacts to the publics resources. Consider offsite mitigation when necessary to offset impacts.

- The use of non competitive right of way permits is archaic and not well suited for energy development projects on BLM lands. Competitive leasing or other methods designed to ensure that the public's resources are valued and administered appropriately are needed.
- Currently there are many solar lease applications being held by the BLM that were received prior to the development of this EIS. These lease applications should be analyzed and treated consistent with the zones concept in this PEIS. Proponents of these lease applications should be provided the opportunity to withdraw their proposal or adjust it to an area within the solar energy zones.

Our specific comments relative to Arizona are as follows:

Under the Preferred Alternative, the BLM will make available 4.4 million acres for industrial solar in Arizona. Of this 4.4 million, 0.5%, or 21,816 acres, would be developed as outlined in the Reasonable Foreseeable Development Scenario (RFDS). This is 48% of Arizona's BLM land being opened for development, but less than .5% predicted for development in the next 20 years. Of all states included in the Preferred Alternative, Arizona holds the highest percentage of BLM lands, yet offers the lowest RFDS acreage.

Preferred Alternative Impacts on Big Game:

Mule deer: All 4.4 million acres available for solar development under the Preferred Alternative in Arizona challenge mule deer populations. While crucial winter ranges and migration corridors have been excluded from the Preferred Alternative regions, desert basin and range scenarios exist, i.e., Arizona's southwestern corner and along the western border. The Preferred Alternative does open 179,000 acres of mule deer winter range to potential development. Watering holes and quality habitats are more important in these areas. Development will infringe on healthy habitats and force deer into more marginal habitats. A region of considerable concern for winter range is Arizona Game and Fish Department Region hunt area 12a, the Kaibab Plateau near Lee's Ferry, well known for its trophy class bucks that attract hunters from around the world. A majority of mule deer winter range on the northern and southeastern edges of Marble Canyon is slated for solar development. Development of these regions has the potential to irreversibly affect the prized Kaibab Plateau mule deer herd.

Bighorn Sheep: Regions within prime bighorn sheep habitats along Arizona's western border, and regions in the Arizona Strip, are at threat under the Preferred Alternative. Separation of critical migration corridors could introduce herd commingling, which would adversely affect genetic diversity

Pronghorn: Arizona Game and Fish Department Region 3 hunt areas, and the Arizona Strip portions of Region 2 will be directly impacted by the Preferred Alternative; the majority of large, intact pronghorn habitats on BLM lands will be open for development. Arizona is known throughout the world for its trophy-sized pronghorns. These pronghorn illustrate a tradition of conservation in the state and also contribute to the local economy. The regions available for development in the Arizona Strip have been identified as some of the highest quality habitats for pronghorn by the Arizona Game and

Fish. Habitat fragmentation, road development and closed access, are all probable scenarios should the Preferred Alternative be fully developed.

Upland Game Birds: Under the Preferred Alternative, access to quail and dove hunting areas could be denied. Consultation with local hunting and fishing clubs and Arizona Game and Fish is imperative prior to project design.

Arizona Solar Energy Zone (SEZ) Alternative:

Under the SEZ Alternative, Arizona would make available 13,735 acres to solar development, in 3 SEZs. These include: Brenda (3,878 acres), Bullard Wash (7,239 acres), and Gillespie (2,618 acres). Each of these three zones does include habitat for Gambel's quail, mourning dove, white winged dove, cougars, and mule deer, but none have been identified as critical habitat.

We do appreciate the opportunity to participate in this important planning process for the development of utility scale solar power on BLM lands in the West. We look forward to working closely with the BLM to refine this document to help guide a responsible renewable energy program on public lands for the future.

A handwritten signature in cursive script that reads "Bradley Powell". The signature is written in dark ink on a light-colored background.

Bradley Powell
Vice President
Arizona Wildlife Federation

Thank you for your comment, Kenneth Lytle.

The comment tracking number that has been assigned to your comment is SolarD11804.

Comment Date: May 2, 2011 11:46:47AM

Solar Energy Development PEIS

Comment ID: SolarD11804

First Name: Kenneth

Middle Initial: E

Last Name: Lytle

Organization: Lytle Ranches

Address: HC 74 Box 245

Address 2:

Address 3:

City: Pioche

State: NV

Zip: 89043

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment: Ken's solar comment letter II.rtf

Comment Submitted:

May 2, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 South Cass Avenue – EVS/900
Argonne, Illinois 60439

RE: Second comments to the Solar Programmatic Environmental Impact Study

To Whom It May Concern:

My family has been ranching in Nevada for almost 150 years, and I am a fourth-generation rancher in that same business. For over 100 years we have been using the area that you have labeled Dry Lake Valley North on your maps outlining proposed solar locations. The Simpson allotment and everything north of that constitutes our entire winter/spring grazing allotments where our cows graze from November through April. Without the use of this area, we would be forced out of the cattle ranching business. Not only do we use this area, but four other large ranching operations operate here as well. I feel that there is only one section of this proposed area that may be suitable for solar and that would be the portion labeled as the Ely Springs Cattle and Sheep allotments. Recently that section of the proposed area was purchased by Vidler Water, a company that has expressed a desire to house solar facilities on its allotment.

Besides being a crucial area for some of Lincoln County's largest ranching operations, I feel that the Dry Lake Valley North area is also unsuitable for solar development for other reasons. First of all, one of the main types of vegetation that grow in the area is white sage (or winter fat), a very delicate plant that is ideal for grazing. This plant is easily destroyed by man-made traffic and can not be reestablished. If a plant dies, it is gone forever. Dry Lake Valley North definitely represents some of the best winter grazing land in the state of Nevada. It seems ludicrous that this area would even be considered as a site for solar facilities. Secondly, the area is very dusty. Most times of the year, a fine, powdery silt becomes airborne since some degree of wind is usually blowing. I believe dust and solar facilities don't mix well. Next, the ranchers in the area not only lose all or most of their winter AUMs (animal units per month), but they also lose thousands of summer AUMs since it is impossible to sustain their herds without the winter portion. Most importantly, these ranchers also lose their stock-based vested water rights (all of these ranches own a considerable amount of vested water rights dating back into the 1800s) since they have little or no cattle to show beneficial use. I believe compensating these ranchers for their water losses (property which they own) would prove to be very costly. Finally, these ranching operations are very important to the economy of Lincoln County; it is essential that this area of Dry Lake Valley remain intact for these ranches to survive.

In 2009 at a meeting in Caliente, Nevada, with BLM personnel and ranchers in the area, several alternative sites were selected to replace those containing areas with grazing allotments that are currently being used. For some reason, the alternative sites were just

added to your study and the original grazing sites remained in the study. It feels as if our hard work and comments were completely ignored. I would strongly urge you to replace the current proposed solar areas with these other suggested sites that have few, if any, detrimental effects or impacts. Most of these outlined areas contain dry lake beds with little vegetation or surface areas that are not suitable for adequate grazing. These sites also have power transmission lines running adjacent to them, making them more ideal than the present locations.

In closing, I would like to request that you redefine the Dry Lake Valley North area to include only the Ely Springs allotments. I would also like to urge you to consider the alternate sites outlined in the scoping meeting in order to cause the least amount of adverse effects.

Sincerely,

Kenneth Lytle
Permittee in the Dry Lake Valley North proposed solar area

Thank you for your comment, Donna Lytle.

The comment tracking number that has been assigned to your comment is SolarD11805.

Comment Date: May 2, 2011 11:56:21AM
Solar Energy Development PEIS
Comment ID: SolarD11805

First Name: Donna
Middle Initial: B
Last Name: Lytle
Organization: Cross Over V Ranch
Address: HC 74 Box 245
Address 2:
Address 3:
City: Pioche
State: NV
Zip: 89043
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Donna's solar comment letter II.rtf

Comment Submitted:

May 2, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 South Cass Avenue – EVS/900
Argonne, Illinois 60439

RE: Second Comments to the Solar Programmatic Environmental Impact Study

To Whom It May Concern:

I am writing this letter in protest to the proposed solar area in Dry Lake Valley North. I disagree strongly with a large portion of this area being designated as a future solar site. In fact, the only section I believe should become a possible site is the Ely Springs allotments since the owner (Vidler Water) of those allotments expressed a wish to place solar facilities on his portion of the area.

There are several reasons for my protest. First of all, from the Simpson allotment all the way to the top northern boundary makes up our total winter/spring grazing allotment. Not only does our entire cattle herd spend the cold winter months in this area, but it also serves as the calving grounds for our cattle since the temperatures are a bit more moderate than any other locations we have. Without this land, our ranching operation would go out of business, along with four other large ranches in Lincoln County. Since our family has been in the business for over 150 years, not only would these consequences destroy our heritage, they would also be detrimental to the economy of Lincoln County since we ranchers make up a large portion of the tax base. Not only would our winter grazing lands become useless, but our summer ranges with thousands of AUMs and over 100 stock watering rights, would also be of no use to us since we no longer would have cattle to use them. Our herd numbers are dependent on the numbers of cattle we are able to place in the Dry Lake Valley since it is impossible to purchase feed or to physically undertake that burden for the large numbers we are able to locate in Dry Lake. Because of the recent Wayne Hage court decision, I believe it would also be very costly for the government or for the developer to compensate us for our range improvements and for our numerous vested water rights.

In addition to the great financial burden placed on all parties involved, there would also be great environmental impacts. Our portion of the Dry Lake Valley makes up some of the best winter grazing areas in all of Nevada, primarily because of the abundance of white sage. Once this plant is destroyed, studies have shown that there is very little or no success with trying to reintroduce it to an area. Additionally, because of the soil type that exists in the area, any disturbance to the vegetation there would turn the area into a dust bowl. Already there is much dust that circulates throughout these sections. In fact, I believe the prevalent amount of dust already present in the area would not mix well with the solar equipment.

Presently we have a 31-mile pipeline that brings water to 5 reservoirs throughout our allotment. These reservoirs not only provide water for our cattle, but they also supply the wildlife and the wild mustang herd in this area with water. Without our water rights and our pipeline, these reservoirs would become dry, and the wild horse herds and wildlife would suffer greatly. We also have two wells located at two of the reservoirs that are included in the range improvements made by members of these local ranching families. Again, compensation would be extremely expensive.

At a recent meeting at the Caliente BLM, local ranchers met with Wells McGiffert, the Ely BLM Renewable Energy Project Manager, and proposed alternate sites. For some reason, our work and collaboration was ignored and the alternate sites were just added to the original proposed area. We were told that the alternate sites would replace the original. I urge you strongly to consider these proposed sites and to redefine any of the current locations that detrimentally impact local ranchers. Moreover, Nevada has numerous sites with little or no impact that invite solar developers to take advantage of. I would first urge you to place these sites on any private lands that are inviting developers; for example, the Seno Brothers' (previously owned by Harvey Whitamore) Coyote Springs, a Lincoln County development, has set aside over 8,000 acres for solar development. I am also wondering why the huge area of the Nevada Test Site has not been considered for these projects since it is currently managed by the government and has the perfect resources available to accommodate these sites; this area would also eliminate negative impacts to individuals who enjoy or rely upon the multiple use aspect of public lands. I believe your findings will guide all future developers to the sites which you select. Please give the areas careful consideration before selecting them in order to minimize adverse effects to everyone.

Sincerely,

Donna Lytle

Lytle Ranches and Permittee in the Dry Lake Valley North proposed solar area

Thank you for your comment, Michael Connor.

The comment tracking number that has been assigned to your comment is SolarD11806.

Comment Date: May 2, 2011 12:02:29PM
Solar Energy Development PEIS
Comment ID: SolarD11806

First Name: Michael
Middle Initial: J
Last Name: Connor
Organization: Western Watersheds Project
Address: P.O. Box 2364
Address 2:
Address 3:
City: Reseda
State: CA
Zip: 91337
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 05-02-11-WWPCCommentsSolarDPEIS.pdf

Comment Submitted:



Michael J. Connor, Ph.D.
California Director
P.O. Box 2364, Reseda, CA 91337-2364
Tel: (818) 345-0425
Email: mjconnor@westernwatersheds.org
Web site: www.westernwatersheds.org

Working to protect and restore Western Watersheds

May 2, 2011

Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue-EVS/240
Argonne, IL 60439

Filed electronically through: <http://solareis.anl.gov>

**COMMENTS ON THE DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT
STATEMENT FOR SOLAR ENERGY DEVELOPMENT IN SIX
SOUTHWESTERN STATES**

To whom it may concern:

Western Watersheds Project thanks you for the opportunity to comment on the Department of Interior Bureau of Land Management (“BLM”) and Department of Energy (“DOE”) joint Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (“DPEIS”).

Western Watersheds Project works to protect and conserve the public lands, wildlife and natural resources of the American West through education, scientific study, public policy initiatives, and litigation. Western Watersheds Project has over 1,600 members nationwide with offices in Arizona, California, Idaho, Montana, Utah, and Wyoming. Western Watersheds Project, as an organization and on behalf of its members, is concerned with and active in seeking to protect and improve wildlife habitats, riparian areas, water quality, and other sensitive resources and ecological values.

Western Watersheds Project recognizes that global climate change poses new challenges to our already stressed public lands. However, while climate change threatens biodiversity and entire fragile ecosystems, our response to climate change also threatens our public lands and their wildlife. Accordingly, WWP supports responsible development of power plant projects. Responsible development requires the use of comprehensive, ecologically sound, science-based analysis in determining power plant locations. This is best achieved by focusing energy developments on private or severely altered lands that are located close to points of use to minimize new disturbance or further fragmentation of fragile, native ecosystems. The ecological impacts from renewable energy project development should be fully mitigated with significant and lasting actions.

Western Watersheds Project has actively participated in the scoping process. We submitted scoping comments from our Boise, Idaho Office on July 7, 2008, from our California Office on July 15, 2008, and additional scoping comments from our California Office on September 10, 2009.

In our comments on the DPEIS we have followed the general approach of the DPEIS documents, and address the overall evaluation first followed by some comments on the individual state analyses. Because the mission of Western Watersheds Project is to protect public lands and their resources most of our comments are directed to the BLM.

1. INTRODUCTION, AND PURPOSE AND NEED

Western Watersheds Project does not believe that the best use of any of our Nation's multiple-use public lands is for single-use, industrial-scale energy development, nor do we believe industrial-scale energy development on public lands to be consistent with the Federal Land Policy Management Act ("FLPMA"). We do believe that the federal government should look to ways it can promote distributed energy, and use of brown fields, and other degraded areas within urban areas for industrial production to ensure that as many diverse wildlife habitats and areas of connectivity persist to facilitate changes species distribution due to climate change. That approach best protects and enhances the Nation's water, wildlife, and other natural resources as required by Secretarial Order 3285A1.

FLPMA mandates the BLM to manage the public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values" and to "manage the public lands under principles of multiple use and sustained yield." The utility-scale solar energy developments envisioned in the PEIS would require landscape level conversion of desert lands into vast industrial tracts. These tracts will be permanently and irreversibly degraded, and will no longer be available for multiple-use. Although the life of the solar power plants themselves is only expected to be 20-30 years, the character of these public lands will be permanently changed. FLPMA's mandates should be the primary driver for this planning process.

The DPEIS cites a number of Executive Orders, Congressional acts, and federal agency orders and policies that it states establish requirements for the agencies related to renewable energy development and that provide the drivers for specific actions being taken or being proposed by these agencies to facilitate solar energy development. DEIS at 1-2.

Executive Order 13212: Signed by President Bush on May 18, 2001 this Executive Order states "For energy-related projects, agencies shall expedite their review of permits or take other actions as necessary to accelerate the completion of such projects, while maintaining safety, public health, *and environmental protections*. (Our emphasis added).

Energy Policy Act of 2005: Section 211 of the Act states, "It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the

date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity.”

This is a recommendation by Congress, not a mandate. There is no obligatory requirement for the Secretary to do so, nor is there language in the Energy Policy Act that allows the Secretary to short-change environmental protections or identify large slabs of public lands for industrial development. The repeated claim made in the DPEIS that the Energy Policy Act requires the Secretary to approve 10,000 megawatts of new energy plants is simply untrue.

Energy Independence and Security Act of 2007: Section 603 of the Energy Independence and Security Act of 2007 requires the DOE to assess methods to integrate electric power from utility-scale solar facilities into regional electricity transmission systems, to identify transmission system expansions needed to move solar-generated electricity to growing electricity demand centers, and to consider methods to reduce the amount of water consumed by concentrating solar power systems. There is no mandate to use public lands for industrial solar development.

Secretarial Order 3285A1: This amended secretarial order dated February 22, 2010 sets a policy of “Encouraging the production, development, and delivery of renewable energy is one of the Department’s highest priorities. Agencies and bureaus within the Department will work collaboratively with each other, and with other Federal agencies, departments, states, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission *while protecting and enhancing the Nation’s water, wildlife, and other natural resources*. (Our emphasis added). It also calls for development of a strategy for “identifying and prioritizing the specific locations in the United States best suited for large-scale production of solar, wind, geothermal, incremental or small hydroelectric power on existing structures, and biomass energy (e.g., renewable energy zones).”

National Environmental Policy Act (“NEPA”) Sec. 1502.13 requires that an EIS specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action. NEPA review cannot be “used to rationalize or justify decisions already made.” 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000). The statement of purpose and need is closely tied to the alternatives reviewed in a NEPA process since “the stated goal of a project necessarily dictates the range of ‘reasonable’ alternatives.” *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that “[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives” in violation of NEPA).

According to the DPEIS:

The scope of this PEIS is limited to utility-scale solar development, in part, because the Energy Policy Act of 2005 and DOI Secretarial Order 3285A1 require that the BLM take steps to facilitate development at that scale (see Section 1.1). The development of distributed generation, small-scale solar energy

facilities, such as roof-top mounted PV systems, is not included in the scope of this PEIS. While such solar energy development will be an important component of future electricity supplies (and is the focus of separate DOE initiatives; see Section 2.5.1), current research indicates that development of both distributed generation and utility-scale solar power will be needed, along with other energy resources and energy efficiency technologies (NREL 2010c). One analysis of available roof space concluded that up to 23% of required electricity supplies could be met with roof-top PV systems, although integrating PV into the electric grid at levels that high could be challenging (Denholm and Margolis 2008). On a per watt basis, small-scale PV systems are more expensive than utility-scale systems (NREL 2010c). DPEIS at 1-4;

The DPEIS states that BLM has identified utility-scale solar energy development as a potentially critical component in meeting the applicable orders and mandates discussed in Section 1.1. However, the DPEIS provides no meaningful justification as to why utility scale solar on public land is a critical component in meeting the listed Executive Orders, Congressional acts, and federal agency orders. It provides no justification for eliminating other alternatives off the bat such as distributed generation, promotion of small-scale facilities, and facilitating the use of private lands (even though Secretarial Order 3285A1 expressly requires “agencies and bureaus to work collaboratively with ... private landowners to encourage the timely and responsible development of renewable energy and associated transmission.”). The citations provided such as NREL 2010c are not primary references, not comprehensive, and not up to date.

The Purpose and Need section ignores the large amount of public land that is already being developed for solar power plants and the expected amounts of energy that would be generated. In the California Desert Conservation Area alone current solar energy project planning and development that is underway would produce over 19,100 MW from public lands, and a number of additional projects on public lands have been approved in Nevada.

Nor does the Purpose and Need section address the Secretary’s clear direction to protect and enhance the Nation’s water, wildlife, and other natural resources. Our public lands are the last, best places for native wildlife and rare plants. In the context of climate change, maintaining broad swaths of untrammeled landscapes connected by matrix habitat is the only approach to maintaining the flexibility needed to ensure that the greatest number of species will be able to move and adapt to changing conditions. Fragmentation through solar developments, and the accompanying transmission lines and roadways, reduces the chances of these species survival.

In sum, the BLM’s Purpose and Need section is overly narrow and constrained in violation of NEPA, and does not even meet the requirements of many of the orders, acts and policies that the BLM claims to be driving this process.

2. RANGE OF ALTERNATIVES

The selection and clear presentation of alternatives is the “the heart” of the NEPA process. NEPA requires the agencies to evaluate and compare a range of reasonable alternatives.

The BLM considers the following three alternatives in the DPEIS:

(1) A **no action** alternative that continues the issuance of right-of-way (ROW) authorizations for utility-scale solar energy development on BLM administered lands by implementing the requirements of the BLM’s existing solar energy policies on a project-by-project basis. Lands available for solar energy development would include those areas currently allowable under existing applicable laws and statutes (approximately 99 million acres in the six-state study area) and in conformance with the approved land use plan(s).

(2) The **proposed action**. A solar energy development program alternative that applies new program administration and authorization policies and design features for utility-scale solar energy development on BLM-administered lands to a subset of BLM administered lands that would be available for solar energy ROW applications (approximately 22 million acres. Within the available lands, the BLM would identify approximately 677,400 acres (2,741 km²) in solar energy zones, which are lands identified by the BLM as best-suited for utility-scale production of solar energy and where the BLM would prioritize development (as well as development of associated transmission infrastructure).

(3) A **solar energy zone (SEZ) alternative** that applies the same new program administration and authorization policies and design features to utility-scale solar energy development but restricts applications to SEZs only (up to approximately 677,400 acres in the six-state study area).

All three alternatives considered in the EIS would result in similar levels of industrial-scale solar power plant development in the desert and/or would not achieve the stated purpose and need:

Alternative (1) the “no action” alternative would allow development to continue as it currently proceeds. Since all approved projects are now being litigated, this is clearly not an efficient and effective approach;

Alternative (2) the preferred alternative is poorly and incompletely described. It consists of identifying solar energy zones (SEZ) where BLM staff would prioritize applications and an additional, enormous area that would be open for development but where applications would receive a lower priority treatment from staff. The DPEIS does not explain why the BLM even wants to propose opening up 100 times more land than it has identified any need for, nor has staff to handle. How is this going to help the BLM respond in a more efficient and effective manner to solar power plant applications? How does this alternative protect and enhance the Nation’s water, wildlife, and other natural resources? In fact, this alternative appears to have been thrown in at the last minute given the statement in the DPEIS that “Only those species that are known to occur in the SEZ regions are discussed in Appendix J because the need for an expanded species analysis by alternative was identified too late in preparation of the Draft PEIS to be accommodated in

this version of the document. It is anticipated that a discussion of all species with potential for impacts under each alternative will be developed between the Draft and Final PEIS.” DEIS at RG-8. How could the BLM not be aware of the need to consider the impacts of its proposed action on threatened and endangered species?

Alternative (3) the SEZ alternative is the DPEIS’ “Goldilocks alternative”. Unfortunately, although it purports to restrict solar power plant development to the designated SEZ, this SEZ alternative is effectively the same as the proposed action since BLM can expand, add, remove, or reduce SEZs in the future.

NEPA requires agencies to rigorously explore and objectively evaluate all reasonable alternatives. BLM’s analysis of a limited number of similar alternatives makes this a grossly inadequate range of alternatives.

The BLM has not considered the following alternatives:

- (A) A climate change alternative that would exclude all public lands from solar energy development to provide maximum flexibility and opportunity for species and their habitats to survive climate change impacts;
- (B) An alternative that would use presence of an endangered, threatened or candidate species as an exclusion in the screening criteria so that SEZ are not designated on habitat for endangered, threatened or candidate species;
- (C) An alternative that constrains the range of technologies that could be used, to promote technologies that minimize water use and environmental footprints;
- (D) An alternative that focuses development on private land; and,
- (E) A distributed energy alternative.

These five alternatives would promote responsible energy production, would minimize or avoid impacts to sensitive resources, and would protect and enhance the Nation’s water, wildlife, and other natural resources. BLM has ignored or unfairly dismissed these alternatives.

3. IMPACTS OF SOLAR ENERGY DEVELOPMENT AND POTENTIAL MITIGATION MEASURES

FLPMA § 201 [43 U.S.C. 1711] (a) requires the Secretary to prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values (including, but not limited to, outdoor recreation and scenic values), giving priority to areas of critical environmental concern. This inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values.”

Despite this inventory requirement, the BLM states in the DPEIS that for its preferred alternative it was unable to obtain complete geographic information system (GIS) data across the six-state study area and thus could not map the exact footprint of the alternative nor calculate the exact acreage. DPEIS at 2-3. It has compounded this by failing to provide a quantitative analysis

of the cumulative effects of the preferred alternative on listed and candidate species. These obvious, gross deficiencies need to be rectified.

Based on data in Tables 2.2-1 and ES 2-1, the approximate areas by alternative are:

State	Total State Acreage	BLM-Administered lands (Acres)		
		No Action	Preferred Alternative	SEZ Alternative
Arizona	72,700,000	9,218,009	4,485,944	13,735
California	100,200,000	11,067,366	1,766,543	339,090
Colorado	66,500,000	7,282,061	148,072	21,050
Nevada	70,300,000	40,794,055	*9,084,050	171,265
New Mexico	77,800,000	12,188,361	4,068,324	113,052
Utah	52,700,000	18,182,368	2,028,222	19,192
Total	440,200,000	98,732,220	21,581,154	677,384

*The estimate for Nevada given in Table ES.2-1 is 9,587,828; we do not know which is the BLM's actual estimate.

The scale of the permanent degradation and loss of the public lands and public resources that could result from this PEIS process is unprecedented.

BLM is obligated under FLPMA to “minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved.” 43 U.S.C. §1732(d)(2)(a). Other laws, including the Endangered Species Act, also entail the need for mitigations to minimize impacts. BLM is required to consider measures to mitigate potential environmental consequences in its NEPA analysis. 40 C.F.R. § 1502.16. The NEPA implementing regulations define "Mitigation" to include:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
 - (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
 - (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
 - (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
 - (e) Compensating for the impact by replacing or providing substitute resources or environments.
- [40 C.F.R. §1508.20]

The scale of the degradation and the potential massive loss of public resources will make development of appropriate mitigation measures extremely costly and difficult. All of the mitigation measures outlined in §1508.20 are applicable to various aspects of solar energy development.

In order to minimize adverse impacts, the BLM should drop many of the proposed study areas from further consideration as Solar Energy Zones. The BLM's siting approach, based on

slope, proximity to utility corridors (which invariable pass through valleys and over bajadas) and existing land use designations has effectively resulted in the targeting of desert tortoise habitat in California, Nevada, and Arizona. The BLM's preferred alternative opens 12 percent of "desert tortoise" habitat to solar development. DPEIS at ES-21. That BLM is even willing to entertain opening up 12 percent of the habitat of any listed species is problematic; that fact that this is the BLM's preferred action is simply outrageous. BLM should reconsider its siting criteria to promote avoidance of listed species.

Section 5.10.5.1 Siting and Design must be modified to include a requirement to avoid species habitat that provides important connectivity between populations, and to avoid habitat that provides important corridors for wildlife movement. Without this, the DPEIS will need to undertake an extensive analysis of impacts to habitat connectivity for all special status species.

High quality Mojave Desert shrublands and high quality sagebrush habitats or those that have good restoration potential should not be developed for solar energy in areas where ESA listed or candidate species and other Special Status Species or rare species occur. This applies in particular to desert tortoise, greater sage-grouse, and Gunnison sage-grouse which require landscape level conservation measures to promote recovery.

In order to compensate for the enormous habitat losses, and the additional direct, indirect, and cumulative impacts to sensitive resources caused by the presence of solar power plants and associated infrastructure, the acquisition of off-site compensation lands will be needed and the BLM will need to reduce the multiple impacts of all other consumptive uses authorized by any given land use plan. The BLM should use the PEIS to modify all subject land use plans to allow voluntary buyout of grazing permits. This would then provide a win-win situation for the developers and permittees. Developers could use buyout to offset site-specific impacts from their projects on wildlife, sensitive species, riparian zones, and other resources; permittees who would have their grazing privileges restricted would benefit from the ability to cash out. The ecological benefits of retiring allotments are high and this action may be easier to accomplish than other proposed management solutions. Livestock grazing is a landscape level impact, and the action area for livestock impacts tends to very large with a footprint indicated by the size of the allotment itself. Removing livestock removes direct and indirect impacts at a landscape level as well as reducing impacts on specific, sensitive resources such as riparian areas, cultural sites, and sensitive species and rare plant habitats. Removal of livestock benefits wildlife by removing negative interspecies interactions, reducing competition for forage, and reducing the risk of spread of invasive plants. Combined with the removal of range improvements, this measure would also help reduce the impacts of other threats such as OHV activities and unauthorized route use by eliminating "attractive nuisances", and would reduce subsidized predators such as ravens and coyotes that use those range improvements. It would also reduce trampling impacts to biological crusts and allow allotment lands to reach full potential as carbon sinks, thus helping to offset the loss of carbon sequestration from utility-scale developments. After the initial buyout, it would potentially reduce BLM costs associated with rangeland management and administration.

A combination of both acquisition of compensation lands and an overall reduction of impacts will be required to achieve a net decrease in cumulative impacts to sensitive and listed species to offset the habitat loss and other impacts.,.

In addition, the Mojave Desert acts as a carbon dioxide sink on a par with grasslands and temperate forests.¹ In order to assure a net climate change benefit, the BLM should require that all solar energy projects demonstrate a clear net carbon dioxide reduction benefit. The loss of the project sites carbon dioxide sink capability should be factored into the mitigation calculations. Any requirement for the operation of gas-powered or other fossil fuel power plants to accommodate loads etc should also be factored into the calculation.

The BLM should clearly adopt a policy of “no net loss” of public lands whereby an equivalent acreage of private lands and inholdings are acquired by project developers and these compensation lands are conserved in perpetuity. Habitat quality of compensation habitat must be of an equal or better quality than the habitat lost to solar projects. This would protect and mitigate for impacts for common desert flora and fauna, and would be in addition to any habitat acquisition required to offset impacts to special status species.

4. IMPACTS AND CUMULATIVE EFFECTS

The National Environmental Policy Act (“NEPA”) requires agencies to take a “hard look” at the potential environmental impacts of its proposed actions. The PEIS must fully consider the direct, indirect and cumulative effects of the proposed policy and actions. Further, NEPA directs agencies to “rigorously explore and objectively evaluate all reasonable alternatives” [40 C.F.R. 1502.14] A consideration of alternatives that lead to similar results is not sufficient to meet the intent of NEPA. The PEIS must address all substantial questions raised by the public. The PEIS should present the environmental impacts of the proposal and the alternatives in comparative form based on the information and analysis presented in the sections on the Affected Environment (40 C.F.R. § 1502.15) and the Environmental Consequences (40 C.F.R. § 1502.16). This more sharply defines the issues, provides a clear basis for choice among options by the decisionmaker and the public, and ensures that the choice not be arbitrary and capricious.

Emissions and Climate Change Effects

The DPEIS repeatedly states or implies that the use of solar facilities to generate electricity “would displace air emissions that would otherwise be released from fossil fuel-fired power plants.” DPEIS at 8.1-163. There is no support in the DPEIS or elsewhere for this statement; the solar power plants proposed in the preferred alternative are apparently *in addition to*, not *in lieu of*, fossil fuel energy generation. Nowhere does the DPEIS discuss the fossil fuel-fired power plants that will be displaced by the construction of the proposed industrialized, decentralized solar power plants proposed here. Even if solar power plants were to displace coal fired plants, additional power generation or extensive storage facilities would be needed to offset

¹ Wohlfahrt, G., Fenstermaker, L. F. and Arnone, J. A. III. 2008. Large annual net ecosystem CO₂ uptake of a Mojave Desert ecosystem. *Global Change Biology*. 14(7): 1475-1487.

the imbalance between solar electric generation which is sunlight dependent and actual demand for power. The DPEIS does not explain how many new fossil-fuel power plants (and their emissions output) will be needed to ensure continuity of energy generation to match consumption.

Effects on Wildlife and Special Status Species

The DPEIS does not take the requisite hard look at impacts to the wildlife, vegetation, and threatened and endangered species in the massive action area for the preferred alternative. This is a major omission that merits recirculation of the DPEIS.

DESERT TORTOISE

The BLM's preferred alternative opens 12 percent of "desert tortoise" habitat to solar development. DPEIS at ES-21. First, this statement does not distinguish between the listed *Mojave* desert tortoise population and the candidate *Sonoran* desert tortoise. Second, this habitat consists largely of the essential matrix habit that connects desert tortoise populations and conservation areas. Third, this habitat includes peripheral desert tortoise populations that may be important in the species' response to climate change. Thus decisions made in this PEIS process could have highly significant consequences for both these taxa. Despite the requirements to do so, the PEIS does not provide quantitative estimates of the size of the impacted population. This is particularly problematic given the BLM's recent need to re-initiate consultation with te USFWS over impacts to desert tortoise at the Ivanpah Solar Electric Generating System project where it seriously underestimated the number of affected tortoises.

Mojave desert tortoises, listed as threatened under the ESA, occur in the affected areas of the following 8 SEZs: Amargosa Valley, Delamar Valley, Dry Lake, Dry Lake Valley North, East Mormon Mountain, Iron Mountain, Pisgah, and Riverside East. Sonoran desert tortoises, candidate species for ESA listing, may occur in the affected areas of the following 3 SEZs: Brenda, Bullard Wash, and Gillespie. These SEZ will directly impact desert tortoises in at least four of the six Recovery Units identified in the 1994 Recovery Plan², and may seriously compromise connectivity and gene flow between the Evolutionarily Significant Units of desert tortoise that occupy them.

The BLM needs to analyze the cumulative effects of development on desert tortoise for each alternative. It needs to determine the affected population size, fully analyze the cumulative effects of fragmentation, and fully analyze the impacts to connectivity between desert tortoise genetic units and between desert tortoise conservation areas. Unless additional safeguards are built in, we do not see how the USFWS will be able to avoid issuing a jeopardy finding over impacts to desert tortoise.

GOLDEN EAGLE

² Fish and Wildlife Service. 1994. Desert Tortoise (Mojave Population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon. 73 pages plus appendices.

Golden eagle (*Aquila chrysaetos*) is a fully protected species under The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). The USFWS currently does not issue “take” permits for this species because the species is declining. Loss of foraging habitat that results in a decrease in productivity or nest abandonment is considered "take". The DPEIS recognizes that golden eagles use many of the solar power development areas including most of the proposed SEZ as foraging areas.

McCrary et al. 1986³ studied a small, prototype thermosolar facility. They found that bird mortality occurred through collisions with structures such heliostats and from burning when birds flew through points where energy was focused from the heliostats. They cautioned that “Since Solar One is only a 10 megawatt pilot facility, future project designed to produce hundreds of megawatts will require several thousand heliostats and much taller receiver towers. The greater magnitude of these facilities may produce non-linear increases in the rate of avian mortality when compared to Solar One and extrapolations from this study should be made with caution. The removal of large tracts of desert from biological production for solar power generation and the ecological effects caused thereby should also be of concern.” Given the large areas that may be developed, the range of technologies, and the existing database we believe that there is ample information regarding the potential risk to golden eagles, and believe that this program will take golden eagles. BLM should propose avoidance of any take by restricting the areas open to development and by restricting the technologies used to those that do not require structures that may place eagles at risk.

GREATER SAGE-GROUSE & GUNNISON’S SAGE-GROUSE

High quality sagebrush habitats or those that have good restoration potential should not be developed for solar energy in areas where greater sage-grouse and Gunnison sage-grouse occur because these species require landscape level conservation measures to promote their recovery. The cumulative effects analysis does not quantify the impacts to the species populations, nor does it provide a quantitative analysis of the cumulative effect of the transmission lines and fences, and access roads that will be engender by each alternative. These deficits must be addressed.

FISH & AQUATIC SPECIES

Many aquatic species will be affected or may be affected by water drawdown and by water use. However, there is no analysis of the cumulative impacts of water use on fish and wildlife and their habitats within each SEZ.

Livestock Grazing

The DPEIS proposes “Wherever there are reductions in grazing use, opportunities for mitigating this loss through changes in livestock management or installation of range improvements should be considered.” DPEIS at 5-12. There is no analysis of the cumulative effects of this proposal on sensitive resources including wildlife.

³ McCrary, M. D., McKernan, R. L., Schreiber, R. W., Wagner, W. D. and Sciarrotta, T. C. 1986. Avian Mortality at a Solar Energy Power Plant. *Journal of Field Ornithology*. 57(2): 135- 141.

Water Resources

Water is one of the most precious desert resources, and maintaining surface waters and flows, and ground water supplies is essential for conserving desert ecosystem function. Developing large tracts of land for solar power plants impact surface waters and groundwater. Many of the desert basins are already in a serious water overdraft situation and the entire western United States is facing serious water shortages under all climate change scenarios. It is critical that the BLM ensures that solar development does not allow unacceptable impacts to both the quantity and quality of water resources and the ecosystems, habitat and species that depend on them. The BLM should require that any water needs for authorized power plants be completely offset by reductions in other uses within the basin.

The DPEIS analysis of the risks of hydrological disruption posed by large-scale power plants is inadequate. The DPEIS should include uniform mitigation and monitoring measures for the ephemeral washes on the public lands. The ecological condition of these washes is extremely important for multiple reasons, including the hydrologic health of the watershed (infiltration, erosion, downstream water quality), biodiversity (migratory corridors and habitats), and vegetation (the majority of vegetation occurs alongside of these supplemental water sources). In some states, such as California, state agencies assert jurisdiction and require mitigation for impacts to ephemerals streambeds. However, this is not true in Arizona. The BLM must require full mitigation in the form of purchase of replacement ephemeral streambed habitat.

5. CALIFORNIA PROPOSED SOLAR ENERGY ZONES

California gets the lion's share of the acreage of the proposed solar study areas. The maps depict four study areas within the FLPMA designated California Desert Conservation Area: Imperial East (12,830 acres), Iron Mountain (109,642 acres), Pisgah (26,282 acres), and Riverside East (202,295 acres). The maps also depict vast tracts of land sweeping across the Mojave and Colorado Deserts that are lands being considered open development in the DPEIS preferred alternative.

Development of these four solar study areas would result in a massive loss of habitat, major fragmentation of entire desert ecosystems and loss of connectivity. This is clearly incompatible with the purpose of the California Desert Conservation Area espoused in FLPMA, which is "to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality". Contrary to the BLM's goal of facilitating siting of solar power plants, the proposed SEZ themselves are located in relatively resource rich locations. This makes them both controversial and inappropriate.

There is a considerable amount of solar energy power plant development already underway in California with 19,100 MW on public lands within the CDCA alone, and the goal of 10,000 MW mentioned in the Energy Policy Act and Secretarial orders has clearly been exceeded. Given the large amount of public land which is already slated for development for

solar power plants in California, the BLM should readdress its purpose and need, and reconsider the need for locating any Solar Energy Zones in the state.

Comments Specific to the Proposed Imperial East SEZ (California)

The proposed Imperial East SEZ includes 5,722 acres of public land. It is located in Imperial County in southeastern California, near the United States–Mexico border between I-8 and State Route 98, and just north of the All-American Canal.

We do not support the designation of the Imperial SEZ. There are multiple conflicts with cultural resources and wildlife and habitat resources associated with this proposed SEZ. It is located immediately east of a cultural ACEC (Lake Cahuilla – C) and immediately southwest of East Mesa ACEC.

Existing transmission lines in the area are inadequate to deal with the assumed output and “upgrades of existing transmission lines would be required to bring electricity from the proposed Imperial East SEZ to load centers; however, at this time the location and size of such new transmission facilities are unknown.” DPEIS at 9.1-3.

Cultural Resources: The Imperial East SEZ lies between Lake Cahuilla cultural ACECs C and D and is an area rich in important cultural resources. According to the DPEIS, “One archaeological survey has been conducted within the Imperial East SEZ in the northwest corner of the SEZ.” The size of this surveyed area is not provided but appears cover only a small proportion of the SEZ. The DPEIS recognizes that Lake Cahuilla ACECs C and D could be exposed to additional human traffic, resulting in an increased risk of loss of prehistoric resources. DPES at 9.1-6. The Specific Design Feature to deal with this issue is: “Once construction of solar energy facilities begins, the BLM would monitor to determine whether increases in traffic in the ACECs occurs and whether additional management measures are required to protect the resources in these areas.” This is inadequate since it only monitors for impacts. The emphasis should be on avoidance. The BLM should survey the entire SEZ for cultural significance prior to making any decision to designate this SEZ. It should establish clear measures to avoid any impacts to the adjacent and nearby ACECs.

Yuma Clapper Rail: The proposed Imperial East SEZ is immediately north of a “wetland” mitigation north of the All American Canal area that provides a nesting location for the endangered Yuma clapper rail (CNDDB occurrence 17). The proposed SEZ includes 44 acres of potentially suitable habitat for the species. The Yuma clapper rail is a California fully protected species. This means that state agencies cannot issue take permits for the species. The SEZ area boundary should be altered to exclude actual and potential Yuma clapper rail habitat and to provide an appropriate buffer to eliminate potential impacts on the local hydrology.

Flat-tailed Horned Lizard: The proposed Imperial East SEZ includes significant amounts of occupied flat-tailed horned lizard habitat. The proposed SEZ falls within the BLM’s designated East Mesa Flat-tailed Horned Lizard Wildlife Habitat Management Area and is adjacent to the East Mesa ACEC. The DPEIS estimates that development of this SEZ will have indirect impacts on 9.0% of available potentially suitable habitat in the region. DPEIS at 9.1-133.

The USFWS's recent decision to withdraw its proposed listing decision for the Flat-tailed horned lizard relied in part on the assumption that "the overall acreage of potential impacts from development of energy facilities is likely to be small compared to the total range of the species". FWS 2011⁴ at 14228. Designation and development of this SEZ will clearly jeopardize this USFWS assumption. The proposed Imperial East SEZ boundaries should be reconfigured to avoid impacts to the flat-tailed horned lizard or the proposed SEZ should be abandoned.

Bighorn Sheep: The proposed Imperial East SEZ includes bighorn sheep habitat. According to the DPEIS (at 9.1-105), "Because it is a BLM sensitive species, the desert bighorn sheep is discussed in Section 9.1.12." However, there is no mention of bighorn sheep in section 9.1.12 let alone any discussion. Nor are bighorn sheep discussed anywhere else in the proposed Imperial East SEZ write-up with the exception of a mention in the cumulative effects section (DPEIS at 9.1-287) that projects may block bighorn sheep dispersal corridors. This inadequacy needs to be rectified.

Golden Eagle: The DPEIS recognizes that the fully protected golden eagle (*Aquila chrysaetos*) may forage on the proposed Imperial East SEZ. The USFWS currently does not issue "take" permits for this species because the species is declining. Loss of foraging habitat that results in a decrease in productivity or nest abandonment is considered "take". Required upgrades to existing transmission lines may exacerbate the risks of take.

Because there are multiple conflicts with cultural resources and wildlife and habitat resources associated with this proposed SEZ, BLM should withdraw the proposed Imperial East SEZ from further consideration.

Comments Specific to the Proposed Iron Mountain SEZ (California)

The proposed Iron Mountain SEZ includes 106,522 acres of public land. It is located in San Bernardino County in southeastern California in Ward Valley between an ACEC, the Chemehuevi Desert Wildlife Management Area (DWMA), and state highway 62.

We do not support the designation of the Iron Mountain SEZ. There are multiple conflicts with wildlife and habitat resources associated with this proposed SEZ. It is located immediately south of the Chemehuevi DWMA and provides patches of desert tortoise habitat that provide the connectivity between the Northern and Eastern Colorado Desert Tortoise Recovery Units. It is also habitat for several rare plants including multiple occurrences of Harwood's eriastrum and Harwood's milkvetch. Large-scale clearance and engineering construction within this site will severely disrupt essential hydrological processes.

The proposed SEZ includes the southern swathe of Ward Valley, well known to the public from the long-running controversy over the nuclear waste facility that was once proposed there. Northern Colorado Recovery Unit desert tortoise populations, bighorn sheep, raptors, hepatic tanager, rare plants including Harwood's eriastrum, and important cultural resources would be directly and indirectly impacted by any power plant projects in this area.

⁴ FWS. 2011. Endangered and Threatened Wildlife and Plants; Withdrawal of Proposed Rule To List the Flat-Tailed Horned Lizard as Threatened. Federal Register. 76(50): 14210- 14268. Tuesday, March 15, 2011.

The proposed Iron Mountain SEZ overlies the Chocolate Mountains - Turtle Mountains - Ward Valley connectivity area, an essential habitat connectivity linkage which provides habitat for species occupation and movement between ecotypes in the region (Spencer *et al.*, 2010). It provides important connectivity and linkage matrix for the desert tortoise, bighorn sheep and other species.

Since designation of the proposed Iron Mountain SEZ is opposed by many state agencies including the California Energy Commission we do not understand why the BLM has continued to waste public resources and not dropped the proposed SEZ from further study. Because there are multiple conflicts with cultural resources and wildlife and habitat resources associated with this proposed SEZ, BLM should immediately withdraw the proposed Iron Mountain SEZ from further consideration.

Comments Specific to the Proposed Pisgah SEZ (California)

The proposed Pisgah SEZ includes 23,950 acres of public land. It is located in San Bernardino County in southeastern California, about 100 mi (160 km) northeast of Los Angeles. The proposed Pisgah SEZ would be sandwiched between two ACECs, the Ord-Rodman DWMA to the west and the Pisgah ACEC to the east, and the Cady Wilderness Study Area to the north.

We oppose the designation of the proposed Pisgah SEZ. This is a resource rich area and there are multiple resource conflicts which make this area highly unsuitable as a SEZ. Desert tortoise, bighorn sheep, Mojave fringe-toed lizard, raptors, rare plants including white-margined beardtongue, small flowered androstephium and Emory's crucifixion-thorn, other sensitive species and cultural resources would be directly and indirectly impacted by utility-scale projects. A recent study has cautioned identification of this area because of multiple impacts to desert tortoise and bighorn sheep movement.⁵ The SEZ is adjacent to known pockets of high desert tortoise density, and this area provides the only connectivity between tortoises in the Southern Mojave and Central Mojave populations as identified by Murphy et al, 2007⁶, and it will impact connectivity between the West Mojave Recovery Unit and the eastern desert tortoise recovery units. The site is immediately adjacent to two ACECs and a Wilderness Study area, and includes part of the Pisgah Lava Flow Research Natural Area. Large-scale clearance and engineering construction within this site will severely disrupt essential hydrological processes. For all these reason, this sensitive and significant area should be removed from further consideration as a Solar Energy Zone.

Because there are multiple conflicts with cultural resources and wildlife and habitat resources associated with this proposed SEZ, BLM should immediately withdraw the proposed Pisgah SEZ from further consideration.

⁵ Bare, L., Bernhardt, T., Chu, T., Gomez, M., Noddings, C. and Viljoen, M. 2009. Cumulative Impacts of Large-scale Renewable Energy Development in the West Mojave. Effects on habitat quality, physical movement of species, and gene flow. Masters Thesis. University of California, Santa Barbara. 144 pp. Available at: http://fiesta.bren.ucsb.edu/~westmojave/images/Wemo_Final.pdf

⁶ Murphy, R. W., Berry, K. H., Edwards, T. and McLuckie, A. M. 2007. A Genetic Assessment of the Recovery Units for the Mojave Population of the Desert Tortoise, *Gopherus agassizii*. Chelonian Conservation and Biology 6(2): 229–251.

Comments Specific to the Proposed Riverside East SEZ (California)

The proposed Riverside East SEZ is the largest of the proposed SEZs in the six-state study area, with a total area of 202,896 acres. It sprawls along Interstate 10 from the Joshua Tree National Park/Desert Center area to Blythe, California.

There are multiple resource conflicts at this site in part because the study site is extremely large and ranges across the heart of California's Colorado Desert region.

We oppose the designation of the proposed Riverside East SEZ. The northeastern portion includes extensive occupied desert tortoise habitat. The entire polygon effectively divides the Northern Colorado Desert Tortoise Recovery Unit from the Eastern Colorado Desert Tortoise Recovery Unit, and development thus threatens to sever connectivity entirely. The proposed study area also includes bighorn sheep, raptor, and sensitive bat habitats, and would impact many rare plant species including Coachella valley milkvetch, jackass clover at Palen Lake, and Harwood's milkvetch. There are important cultural sites particularly those associated with the dry lakes. The polygon also includes Ford Dry Lake and development would impact off-road vehicle use. A number of ACECs are entirely surrounded and isolated by the proposed SEZ. Large-scale clearance and engineering construction within this site will severely disrupt essential hydrological processes.

Because there are multiple resource conflicts with this sprawling proposed SEZ, the BLM should remove this area from further consideration as a Solar Energy Zone.

6. ARIZONA PROPOSED SOLAR ENERGY ZONES

The BLM's preferred alternative opens 7,009 square miles of land in Arizona to solar development, an area 326 times the size of the SEZ-designated lands. DPEIS at ES-6, Table ES.2-1. No other state has such a large percentage of total BLM acres open to solar development as Arizona under the preferred alternative (49 percent), nor such a great disparity between the SEZ alternative and the preferred alternative.

The BLM anticipates that 214,000 acres will be developed within the next 20 years under the reasonably foreseeable development scenario (RFDS). DPEIS at ES-14. This is well within the SEZ acreage of 677,384 acres. DPEIS at ES-6, Table ES.2-1. It is therefore entirely unclear why the BLM's preferred alternative entails opening over ten times the amount of land necessary for solar development under its own projections; the ratio of land under the SEZ alternative meets the criteria the BLM specifies for the preferred alternative, that is "adequate amounts of land available to support the level of development projected in the RFDS and would provide a great deal of flexibility in siting both solar energy facilities and associated transmission infrastructure." DPEIS at ES-29. There is no justification as to why the BLM needs to designate so many acres as open to power plant development.

The SEZ-specific design features for the Arizona SEZs include the development of additional range infrastructure and changes to grazing management to mitigate the loss of AUM that may be associated with the solar developments. Range “improvements”/developments need a separate NEPA process to ensure against adverse effects.

We are concerned with the estimated fresh surface water and groundwater use the solar developments would entail. Arizona is facing serious water shortages under all climate change scenarios, including a tenuous allocation from the Colorado River. Allocating potable water for solar development, either through allowing surface water transfers or groundwater pumping, is giving away precious public trust resources for private development. We do not believe that the DPEIS does an accurate or thorough analysis of the risks of hydrological disruption the proposed action poses to Arizona’s public lands. The threats of drawdown are too easily dismissed in the DPEIS. See, for example, DPEIS at 8.1-62. Overdraft in the Brenda SEZ groundwater basin has already caused substantial ecological and geologic impacts from subsidence. If the BLM were proposing to allow solar development on existing in-holdings, urban-adjacent lands, or other areas that might already have infrastructural support for it, the agency could be requiring the use of non-potable water (effluent) in the generation of these “renewable” energy supplies. Given the slow rate of aquifer recharge, we don’t believe that the current proposals are truly “renewable.”

The DPEIS should be amended to reflect the current status of the Sonoran desert tortoise which is a candidate species for listing. 75 FR 78094-78146, December 14, 2010. The USFWS specifically identified the disturbance anticipated by the Sterling Solar Generating Facility, a solar development not included in the DPEIS and apparently not considered in the reasonable foreseeable development scenario on the Black Mountains desert tortoise population. The USFWS determination that the Sonoran desert tortoise warranted listing discussed the threats from new transmission lines and roads from solar development. The FWS makes plain that solar developments, combined with other threats in the species habitat, makes Sonoran desert tortoise eligible for endangered species status. In the finding, the agency acknowledges that new threats may elevate the species for full ESA protection. We believe that if the BLM goes forward with the locations listed in the DPEIS for Arizona, this alone may compel full listing of this taxon.

The BLM relies up the implementation of programmatic design features to reduce impacts to special status species and, presumably, finds these suitable reductions in the threat to Sonoran desert tortoise as well. However, desert tortoise is a highly mobile species, known to move across large distances and between mountain ranges. *See* Connor and Rosmarino, 2008. Thus, even if the solar installations are not directly on top of tortoise burrows, the impacts within the habitats of this species cannot be dismissed.

While the DPEIS minimizes the scale of the impacts to the Sonoran desert tortoise by isolating the acreage at each SEZ, it is important to acknowledge the range-wide threats this species faces, including the cumulative effects of solar development at other SEZs and on other solar project sites. Where the BLM discusses compensatory mitigation by improving habitats on acquired lands, we propose the agency consider retiring grazing allotments and reducing this known adverse effect in tortoise habitat.

The DPEIS does not include mitigation or monitoring measures for the ephemeral washes on the public lands proposed for development. The ecological condition of these washes is extremely important for multiple reasons, including the hydrologic health of the watershed (infiltration, erosion, downstream water quality), biodiversity (migratory corridors and habitats), and vegetation (the majority of vegetation occurs alongside of these supplemental water sources). Because the Arizona BLM does not measure or monitor rangeland health attributes in washes, the downstream impacts of the SEZ developments will go unquantified and unmitigated. The BLM must simultaneously develop land health standards and practices that will capture any consequences of the solar developments, with baseline data on the ephemeral wash environment collected before any development takes place. See, for example, the wetlands on the Bullard Wash SEZ; the ecological health of these important habitats would not be monitored under any existing monitoring protocols employed by the BLM. DPEIS at 8.2-68.

Comments Specific to the Proposed Brenda SEZ (Arizona)

The SEZ-specific design features for the Brenda SEZ in Arizona include the development of additional range infrastructure and changes to grazing management to mitigate the loss of AUM on the Crowder-Weisser allotment. DPEIS at 8.1-5. As we suggested in our earlier comments, the BLM should have considered simply allowing for relinquishment of those AUM as well. This is especially pertinent because the Crowder-Weisser allotment provides habitat for the Sonoran desert tortoise, a species that would be adversely affected by additional range developments and grazing concentration areas. By range “improvements,” the agency usually means additional water supplies, a cumulative impact that the DPEIS fails to analyze at this SEZ location. DPEIS at 8.1-7.

The DPEIS hints at potential compensatory mechanisms to balance acreage of habitat loss but does not commit to a mitigation program for the solar proposal. DPEIS at 8.1-148. It suggests improving the carrying capacity for tortoise on acquired lands or enhancing tortoise habitat on federal land, but it does not commit to any clear course of action to do so. The proposed action should have specific offsets and actions identified if the BLM expects the public to have any faith in these mitigation measures. For example, the BLM could have used the PEIS to modify all land use plans to allow voluntary buyout of grazing permits

The DPEIS posits a reduction in 315 AUM from the Crowder-Weisser allotment due to the footprint of the Brenda SEZ. DPEIS at 8.1-29. The DPEIS discusses absorption of the AUM on other parts of the vast acreage associated with this allotment. The DPEIS should acknowledge, and the BLM should clarify, that earlier assessments of the rangeland health of this allotment have specifically indicated, “The public lands [of the allotment] do not regularly produce sufficient amounts of forages to sustain a consistent livestock grazing program throughout the allotment.” Crowder-Weisser Standards and Guidelines Assessment. The active use on the allotment has been substantially lower than the permitted use for this reason. Therefore, the proposed action should be to simply eliminate the acreage associated with the solar development and adjust the AUM on the permit to the actual forage remaining on the allotment.

We're concerned about the "should" statements in the SEZ-specific design features tables (e.g. "Bouse Wash should be avoided... Tyson Wash should be spanned by the transmission line," DPEIS at 8.1-9). Because these are supposed to be mitigation measures for reducing the impact of solar development on wildlife resources, the DPEIS must use imperative language ("will" and "shall") to make these hard and fast commitments. Without this, the mitigation measures promised in the DPEIS are merely suggested remedies and the contingent effects analysis is meaningless.

We note that the DPEIS only assesses the impact of the acoustic environment on the human communities surrounding the Brenda SEZ. DPEIS at 8.1-14. It does not consider the acoustic impacts of the proposed developments on the native and migratory wildlife species of the region, an oversight that must be remedied before the final EIS. The sonic considerations are not even addressed in the species-specific analysis later in the chapter. See, for example, DPEIS 8.1-152.

In our scoping comments, we specifically raised the issue of invasive species infestation in the Brenda SEZ. The DPEIS does not respond specifically, but generally describes, "Noxious weeds could become established." DPEIS at 8.1-8. This ignores the site-specific information that problematic invasive weeds are already there. The DPEIS reports that no noxious weeds are present on the Brenda SEZ (DPEIS at 8.1-72) but does not consider whether weeds are nonetheless present, including *Brassica tournefortii*, a highly flammable and invasive pest plant. Moreover, while BLM does not report these species being on the proposed SEZ in August 2009, it does not describe whether they are present on the proposed transmission line footprint or within the cumulative impact area.

The DPEIS claims that there are no ground-disturbing activities associated with the project developments within the area of indirect effects. DPEIS at 8.1-146. This disregards the effects of hazardous waste spills travelling through the soil, affecting biological soil components, reductions to soil integrity and stability.

Section 8.1.11 of the DPEIS describes the impacts to wildlife and aquatic biota that could occur with the potentially affected area of the proposed Brenda SEZ. DPEIS at 8.1-79. We find it remarkable that the same justification is provided for nearly every species that the BLM considers: "Small overall impact." The reality is, cumulatively, the impact will be profound within the area that the SEZ is located, likely the complete obliteration of suitable habitat for many dozens of species and hundreds of individuals. The DPEIS should not minimize but rather disclose the extent and intensity of the proposal.

It is not clear from the DPEIS whether the BLM has considered the cumulative impacts of the Brenda SEZ in context of the "Quartzsite Solar Energy Project" in La Paz County, Arizona. The Quartzsite project was scoped in January 2010, and it is also located on a section of the Crowder-Weisser allotment very near to the proposed SEZ. The potential for this additional (and undescribed in the DPEIS) development in the same area is a present and reasonably foreseeable future action that should have been analyzed and disclosed. The Quartzsite project is likely to have serious visual impacts (given the extent of proposed infrastructure) and cumulative effects on wildlife species in the area.

Comments Specific to the Proposed Bullard Wash SEZ (Arizona)

The Bullard Wash SEZ is in a remote desert area, with the nearest major road approximately 5 miles away to the south and the nearest transmission line 5 miles to the north of the SEZ. DPEIS at 8.2-1. The extent to which this area has already been impacted by human activities is unspecified, but its remoteness and inaccessibility make it an inappropriate site for new, industrial development. The BLM should have considered lands that are already along roadway corridors or transmission lines in order to minimize the footprint of the solar development.

The Bullard Wash SEZ is situated in an area recognized for its remoteness and inaccessibility, as signified by the high number of Wilderness Areas and Areas of Critical Environmental Concern in the surrounding public lands. DPEIS at 8.219. The experience of visitors to these places and the integrity of the habitats for non-human species reflect the lack of industrialized landscapes, exactly the opposite of what the BLM is now proposing. The BLM must commit to limiting types of solar development at this SEZ to those which would not impact the viewshed. DPEIS at 8.2-21. Moreover, the experience of Wilderness is not only visual, but a feeling of solitude that cannot be calculated in spatial analysis. BLM has not conducted a social assessment to determine these impacts to human experience of the natural environment.

We note that the DPEIS only assesses the impact of the acoustic environment on the human communities surrounding the Bullard Wash SEZ. DPEIS at 8.2-14. This does not consider the acoustic impacts of the proposed developments on the native and migratory wildlife species of the region, an oversight that must be remedied before the final EIS. The sonic considerations are not even addressed in the species-specific analysis later in the chapter.

The Bullard Wash SEZ occurs on three perennial/ephemeral grazing allotments. DPEIS at 8.2-27. Similar to the Brenda SEZ, the BLM cannot posit a ratio-based reduction in AUM on these allotments scaled to acreage lost; desert vegetation is extremely patchy and a new “carrying capacity” estimate would need to be done before grazing is reauthorized on the newly-demarcated boundaries of each allotment. Where the DPEIS says, “Quantification of the impact on the grazing permittees would require a specific analysis...” (DPEIS at 8.2-28) it should more appropriately read, “A new EIS will be completed to determine a range of alternatives for the downsized allotments.”

The calculations of the impacts to groundwater inflows from the Bullard Creek SEZ’s groundwater basin from solar development are an issue not just for the geological stability of the area (subsidence), but because the contribution of groundwater to the nearby surface waters of the Havasu Lake and Bill Williams river also relates to the extent of riparian habitat available for imperiled species. The DPEIS does not address these “downstream” impacts of the proposed solar development. DPEIS at 8.2-64. Stating that withdrawals “should” be limited to prevent impacts to riparian areas is insufficient protection for these special habitats. DPEIS at 8.2-80.

Comments Specific to the Proposed Gillespie SEZ (Arizona)

The Gillespie SEZ is described in the PEIS as “undeveloped and rural” and “undeveloped scrubland characteristic of a semiarid desert valley.” DPEIS at 8.3-1. The proposed action would completely change the description of this landscape, converting the undeveloped character to an industrialized power generation station, permanently stripping these lands of their rural and desert valley character.

We note that the map included in the DPEIS does not address the designation of the nearby BLM lands. DPEIS at 8.3-2. The lands to the east to the east of the SEZ are within the Sonoran Desert National Monument, a place so special and remarkable that it was so designated in 2001. The proclamation describes this area as having “an extraordinary array of biological, scientific, and historic resources. The most biologically diverse of the North American deserts... excellent habitat for a wide range of wildlife species.” Surely, the BLM does not expect the public to believe those values stop at the arbitrary boundaries of the monument? The Gillespie SEZ and the surrounding public lands are equally important to the ecological integrity of the region.

The DPEIS discusses mitigating the loss of 14.6 percent reduction in future ephemeral grazing authorizations in the Layton allotment as a result of development in the Gillespie SEZ. Table 8.3.1.3-1. It is unclear how the BLM determined this reduction; carrying capacity is not arbitrarily determined by acreage, but should be based on actual available resources. DPEIS at 8.3-30. This description also fails to correspond with descriptions later in the document that admit the Gillespie SEZ would affect four grazing allotments. DPEIS at 8.3-29.

It is similarly unclear why the BLM believes that it would be appropriate to mitigate impacts to grazing allotments with additional range developments. Range developments have profound impacts of vegetation, soils, and invasive species. We suggested, and BLM has ignored, that the agency facilitate the retiring of grazing allotments as a mitigation measure instead of increasing livestock impacts on the remaining, undeveloped lands.

The amount of water being discussed in the DPEIS is enormous. Table 8.3.1.3-1. The availability of this water has not been demonstrated. DPEIS at 8.3-56. Water availability in Arizona is extremely uncertain, and the idea that Arizona will give up a share of its precious water to produce electricity for export to California and the west-wide grid is highly speculative. The DPEIS fails to account for these transfers or substantiate its claims about available water resources in the Phoenix AMA.

Impacts to the riparian areas dependent on the same aquifer should be considered more thoroughly than the DPEIS currently considered them. The admissions in the cultural resources section of Table 8.3.1.3-1 are striking: “Development in the proposed SEZ would eliminate some traditionally important plants and some habitat of traditionally important animal species.” This conflicts with statements elsewhere in the DPEIS that downplay the significance of the effects on habitat.

It is clear from the map in Figure 8.3.3.1-1 that the areas being considered by the BLM for solar development would completely fragment and isolate the specially-reserved areas on BLM lands. The continuity and connectivity benefits of adjacent Wilderness, monuments, and

special resource management areas would be utterly undone by opening all the other BLM lands in the region. With industrialized solar development in the interstices, the value of the habitats at each otherwise protected area is diminished. The preferred alternative would have isolating consequences for wildlife populations.

The statements in the DPEIS regarding the decommissioning and reclamation of the solar site are entirely unrealistic. The DPEIS states that the site would be reclaimed to its preconstruction state. 8.3-61. One only need to watch this video (http://www.youtube.com/watch?feature=player_embedded&v=5BGRD21H07Y) to understand how impossible it will be to ever restore the Sonoran desert to pre-industrialized state. (The video is taken in California at the BrightSource Energy development on BLM land.) The unlikelihood that this site can ever be “reclaimed” (and we note that BLM is using the language of the 1872 Mining Act rather than the contemporary “restoration”) is demonstrated by the inclusion of precipitation data later in the DPEIS. DPEIS at 8.3-65. The area averages 7.6 inches of rain annually. Id. Perennial vegetation in this desert is slow-growing and would take centuries to re-colonize the development site. This realistic time-frame should be made more explicit in the DPEIS. Statements such as “Re-establishment of desert scrub communities in temporarily disturbed areas would likely be very difficult and might require extended periods of time,” (DPEIS at 8.3-73) are misleading because the use of the descriptor “temporary” is inaccurate and the “extended periods of time” is vague. This is a permanent and wholesale destruction of native vegetation that will take centuries, if ever, to restore.

7. NEVADA PROPOSED SOLAR ENERGY ZONES

Seven SEZ have been proposed in Nevada: Amargosa Valley (32,699 acres), Dry Lake (16,516 acres), Delamar Valley (17,932 acres), Dry Lake Valley North (49,775 acres), East Mormon Mountain (7,418 acres), Gold Point (5,830 acres), and Miller’s (19,205 acres).

Four of these SEZ (Amargosa Valley, Dry Lake, Delamar Valley and, East Mormon Mountain) are in desert tortoise habitat.

Six of the seven SEZ are located within BLM grazing allotments: Millers (Monte Cristo Allotment), Gold Point (Magruder Mountain Allotment), Dry Lake (Dry Lake Allotment) Mormon Mountain (Gourd Springs and Summit Springs allotments), Dry Lake Valley (Wilson Springs, Simpson and Ely allotments), and Delamar (Buckhorn and Oak Springs allotments).

Three of the SEZ (Amargosa Valley, Dry Lake Valley North, and Delamar Valley) are situated in regions of the state with very limited ground and surface waters. These water-related issues make these areas unsuitable for further consideration.

Comments Specific to the Proposed Amargosa Valley SEZ (Nevada)

The proposed 31,625 acre Amargosa Valley SEZ is located in Nye County in southern Nevada near the California border. The proposed Amargosa Valley site lies between Death

Valley National Park and Ash Meadows National Wildlife Refuge and is part of the Death Valley regional groundwater flow system.

The 23,000 acre Ash Meadows National Wildlife Refuge provides habitat for 12 species listed under the Endangered Species Act. The refuge was established specifically to protect these threatened and endangered species. Most of the listed species are dependent on aquatic or wetland environments within the refuge. The refuge also includes the National Park Service administered Devil's Hole, the only known habitat for the Devil's Hole pupfish. On November 4, 2008, the Nevada State Engineer issued Order 1197 announcing that new applications to appropriate additional water from the Amargosa Desert basin within 25 miles of Devil's Hole would be denied due to concern over the effect of groundwater pumping on the water level in Devil's Hole. Based on the above, the Amargosa Valley study area should be eliminated from further consideration as a Solar Energy Zone.

The desert tortoise section does not discuss important information relevant to the analysis of impacts. The desert tortoise population in the local area (Amargosa Desert/Pahrump Valley) can be genetically delineated from other desert tortoise populations in Nevada, yet none of the established Nevada desert tortoise ACECs adequately conserves this population (Britten *et al.*, 1997⁷). The genetic lineation of the "Amargosa" desert tortoise sub-type has been confirmed and refined by Haggerty, 2008⁸.

The Amargosa desert tortoise subtype is also of scientific interest since it occupies the northern end of the species range. The limited occurrence, importance to genetic diversity and under representation of the sub-type in conservation areas underlies the need to conserve this desert tortoise population. This is especially important given the threats posed by global climate change. As the USFWS 2008 Draft Revised Recovery Plan noted, "Climatic regimes are believed to influence the distribution of plants and animals through species-specific physiological thresholds of temperature and precipitation tolerance. Warming temperatures and altered precipitation patterns may result in distributions shifting northward and/or to higher elevations, depending on resource availability (Walther et al. 2002). We may expect this response in the desert tortoise to reduce the viability of lands currently identified as "refuges" or critical habitat for the species." (USFWS 2008 at 133) The proposed Amargosa SEZ will block any northward shift of this population because it crosses the Amargosa Valley.

The cumulative effects analysis points out that there are 14,070 acres in the proposed SEZ that already have approved projects or projects under NEPA analysis. The SEZ estimates that another 25,300 acres would be developed over a 20 year analysis horizon. However, the DPEIS does not include any analysis of the potential impacts and effects of over 39,000 acres of desert tortoise habitat being destroyed.

⁷ Britten, H. B., Riddle, B. R., Brussard, P. F., Marlow, R. and Lee, Jr., T. E. 1997. Genetic delineation of management units for the desert tortoise, *Gopherus agassizii*, in the northeastern Mojave Desert. *Copeia* 1997: 523-530.

⁸ Haggerty, B. 2008. Ecological Genetics of the Mojave Desert Tortoise. PhD. Dissertation. University of Nevada, Reno. 244 pp.

Because of resource conflicts related to water resources, desert tortoise, other threatened and endangered species, and other special status species, BLM should remove the Amargosa SEZ from further consideration.

Comments Specific to the Proposed Dry Lake Valley North SEZ & Delamar Valley SEZ (Nevada)

The Dry Lake and Delamar Valleys are part of the White River Flow System. Groundwater in these two basins has been fully appropriated over-appropriated in down gradient basins. These proposed Dry Lake Valley North SEZ and Delamar Valley SEZ are inappropriate locations for solar energy project development due to the lack of groundwater. BLM should remove the proposed Dry Lake Valley North SEZ and the Delamar Valley SEZ from further consideration.

Comments Specific to the Proposed East Mormon Mountain SEZ & Dry Lake SEZ (Nevada)

The proposed Dry Lake SEZ is located on the Dry Lake playa. Playas are significant ecotypes that are underrepresented in conservation areas. Barren, usually alkaline desert playas (dry lakebeds), are found in closed basins in the Intermountain West. These basins are intermittently (once every few years) or seasonally (every year) flooded. Water is prevented from percolating through the soil by an impermeable subsurface layer and is left to evaporate. Salt crusts and high salt in the soils greatly affect species composition. While the appearance is barren, some species such as iodinebush, black greasewood, spiny hopsage, Lemmon's alkali grass, Great Basin wildrye, saltgrass, or saltbush occur around the margins of the playa. This system grades into salt-desert scrub and sagebrush habitats. Downwind of playas, active and stabilized sand dunes often form. Thus if the subsurface of a playa is disturbed, the playa's integral role in the ecosystem may irreversibly untangle.

Both the proposed East Mormon Mountain SEZ and the proposed Dry Lake SEZ include desert tortoise habitat. East Mormon Mountain is immediately adjacent to the Mormon Mesa DWMA and Beaver Dam Slope DWMA in the Northeastern Mojave Recovery Unit. Recent monitoring reports from USFWS indicate that the northern populations within the Northeastern Mojave desert tortoise Recovery Unit are low and appear to be declining. Because environmental stressors are indicated as a reason for this species decline, these SEZ should be withdrawn from further consideration as Solar Energy Zones.

Comments Specific to the Proposed Gold Point SEZ (Nevada)

The proposed Gold Point SEZ, totaling an area of 4,810 acres, is located in upper Lida Valley, a closed basin lying between MacGruder Mountain and Slate Ridge. The locale is currently pristine and remote from load centers, and a new transmission line would be needed to provide access from the SEZ to the transmission grid. There resident pronghorn herd that stays in the Valley year-round. No other active energy development projects have been proposed near this site. Because of its remoteness, pristine condition, lack of water, and other conflicts, BLM should withdraw the proposed Gold Point SEZ from further consideration.

8. UTAH PROPOSED SOLAR ENERGY ZONES

Three proposed SEZ have been identified in Utah: Escalante Valley (6,614 acres), Milford Flats South (6,480 acres), and Wah Wah Valley (6,097 acres).

The ground water situation in the region is critical with most of the basins currently over-appropriated and closed to new surface water and groundwater appropriations (Utah DWR 2010).

The three study areas lie within BLM grazing allotments. Escalante Valley is within Butte Allotment, Milford Flats South is within the Minersville allotment group, Wah Wah Valley is in Wah-Wah Watson Allotment.

Bald eagle, *Haliaeetus leucocephal*, may occur on all the Utah SEZ. Bald eagles are protected under the under The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c). Although the DPEIS mentions the loss of foraging habitat it fails to analyze risks from structures associated with solar power plants. This deficit must be addressed. The DPEIS recognizes that the fully protected golden eagle (*Aquila chrysaetos*) may forage on the proposed Utah SEZ. The USFWS currently does not issue “take” permits for this species because the species is declining. Loss of foraging habitat that results in a decrease in productivity or nest abandonment is considered "take". Although the DPEIS mentions the loss of foraging habitat it fails to analyze risks from structures associated with solar power plants. Required upgrades to existing transmission lines may exacerbate the risks of take.

Comments Specific to Escalante Valley SEZ (Utah)

The proposed 6,614 acres Escalante Valley SEZ is located in Iron County in southwestern Utah.

This relatively remote site would need construction of extensive new access roads. New transmission lines or upgrades of existing transmission lines would be required to bring electricity from the proposed Escalante Valley SEZ to load centers. The size and location of these are not described further in the DPEIR. However, since these will have similar impacts to the SEZ itself, they must be described in the cumulative effects analysis.

The proposed Escalante Valley SEZ is within Butte grazing allotment and would remove about 20% of the allotment. The SEZ-Specific Design Features states “Consideration should be given to the feasibility of replacing all or part of the lost AUMs through changes in grazing management or in development of additional range improvements on public lands remaining in the allotment.” DPEIS at 13.1-5. We suggested in our scoping comments that the BLM should also allow for relinquishment of those AUMs. It is unclear why the BLM believes that it would be appropriate to mitigate impacts to grazing allotments with additional range developments. Range developments have profound impacts of vegetation, soils, and invasive species. We suggested, and BLM has ignored, that the agency facilitate the retiring of grazing allotments as a mitigation measure instead of increasing livestock impacts on the remaining, undeveloped lands.

If development of additional range improvements involves developing waters or constructing fences, the BLM must include the impacts of these foreseeable projects in the cumulative effects analysis.

The proposed Escalante Valley SEZ provides habitat for a number of candidate species and other special status species including the greater sage-grouse, western burrowing owl, the ferruginous hawk, the pygmy rabbit, the bald eagle, and the Utah prairie dog. The Escalante Valley SEZ and its affected area are completely within crucial pronghorn habitat. The cumulative effects must include an analysis of the expected new road construction, and new transmission lines and upgrades on each of these species.

Although it has not been surveyed, the BLM believes that the proposed Escalante Valley SEZ has a high potential for containing prehistoric sites in the dune area on the west side of the SEZ; it also has some potential for containing historic sites. The BLM states that “A cultural resource survey of the entire area of potential effects, including consultation with affected Native American Tribes, would first need to be conducted to identify archaeological sites, historic structures and features, and traditional cultural properties, and an evaluation would need to follow to determine whether any are eligible for listing in the NRHP as historic properties.” But this is yet another example of putting the cart before the horse. BLM needs to do these surveys and consultations prior to defining the SEZ, so that the agency can ensure that the SEZ is an area with low resource conflicts.

Comments Specific to Milford Flats South SEZ (Utah)

The proposed 6,480 acres Milford Flats South SEZ is located in Beaver County in southwestern Utah about 21 mi (34 km) northeast of the proposed Escalante Valley SEZ.

This SEZ would need construction of extensive new access roads (about 5 miles). About 19 miles of new transmission lines or upgrades of existing transmission lines would be required to bring electricity from the proposed Milford Flats South SEZ to load centers. The size and location of these are not described further in the DPEIR. However, since these will have similar impacts to the SEZ itself, these reasonably foreseeable projects must be considered in the cumulative effects analysis.

The proposed Milford Flats South SEZ is within the Minersville allotment group and would remove about 10-15% of the allotments. DPEIS 13.2-5. The SEZ-Specific Design Features states “Consideration should be given to the feasibility of replacing all or part of the lost AUMs through changes in grazing management or in development of additional range improvements on public lands remaining in the allotment.” DPEIS at 13.2-5. We suggested in our scoping comments that the BLM should also allow for relinquishment of those AUMs. It is unclear why the BLM believes that it would be appropriate to mitigate impacts to grazing allotments with additional range developments. Range developments have profound impacts of vegetation, soils, and invasive species. We suggested, and BLM has ignored, that the agency facilitate the retiring of grazing allotments as a mitigation measure instead of increasing livestock impacts on the remaining, undeveloped lands. If development of additional range

improvements involves developing waters or constructing fences, the BLM must include the impacts of these foreseeable projects in the cumulative effects analysis.

The proposed Milford Flats SEZ provides habitat for a number of list, candidate, and other special status species including the greater sage-grouse, western burrowing owl, the ferruginous hawk, the pygmy rabbit, the bald eagle, and the Utah prairie dog. The Milford Flats SEZ and its affected area are completely within crucial pronghorn habitat. The cumulative effects must include an analysis of the expected new road construction, and new transmission lines and upgrades on each of these species.

The BLM states that “A cultural resource survey of the entire area of potential effects, including consultation with affected Native American Tribes, would first need to be conducted to identify archaeological sites, historic structures and features, and traditional cultural properties, and an evaluation would need to follow to determine whether any are eligible for listing in the NRHP as historic properties.” But this is yet another example of putting the cart before the horse. BLM needs to do these surveys and consultations prior to defining the SEZ, so that the agency can ensure that the SEZ is an area with low cultural resource conflicts.

Comments Specific to Wah Wah Valley SEZ (Utah)

The proposed 6,097 acres Wah Wah Valley SEZ is located in Beaver County in southwestern Utah about 21 miles northwest of the proposed Milford Flats South SEZ.

The proposed Wah Wah Valley SEZ will have serious impacts on special status species particularly the greater sage-grouse. Transmission access to the proposed Wah Wah Valley SEZ currently does not exist. The nearest existing transmission line is a north-south running 130-kV about 42 miles east of the SEZ. As of February 2010, there were no ROW applications for solar projects within the SEZ. Because of the resource conflicts, the lack of transmission and the lack of demand, BLM should drop this SEZ from further consideration.

The proposed Wah Wah Valley SEZ will occupy about 2.6% of the Wah-Wah Lawson allotment. DPEIS 13.3-23. The SEZ-Specific Design Features states “Consideration should be given to the feasibility of replacing all or part of the lost AUMs through changes in grazing management or in development of additional range improvements on public lands remaining in the allotment.” DPEIS at 13.1-5. We suggested in our scoping comments that the BLM should also allow for relinquishment of those AUMs. It is unclear why the BLM believes that it would be appropriate to mitigate impacts to grazing allotments with additional range developments. Range developments have profound impacts of vegetation, soils, and invasive species. We suggested, and BLM has ignored, that the agency facilitate the retiring of grazing allotments as a mitigation measure instead of increasing livestock impacts on the remaining, undeveloped lands. If development of additional range improvements involves developing waters or constructing fences, the BLM must include the impacts of these foreseeable projects in the cumulative effects analysis. In this case, the effect on the permittee would be so small that BLM should simply decrease the authorized AUM pro rata.

The proposed Wah Wah Valley SEZ provides habitat for a number of candidate species and other special status species including the greater sage-grouse, western burrowing owl, the ferruginous hawk, the pygmy rabbit, the bald eagle, the golden eagle, and the Utah prairie dog. The Wah Wah Valley SEZ and its affected area are completely within crucial pronghorn habitat. The cumulative effects must include an analysis of the expected new road construction, and new transmission lines and upgrades on each of these species. The proposed transmission line that would be required to develop this SEZ passes through crucial greater sage-grouse brooding habitat. That conflict alone is sufficient to enough to invalidate any further selection of this proposed SEZ

Only one small, 2-acre survey for a gravel pit has been conducted within the proposed Wah Wah Valley SEZ; consequently, no archaeological sites have been recorded by the BLM. DPEIS at 13.3-231. Although it has not been surveyed, the BLM believes that the proposed Wah Wah Valley SEZ has the potential to contain significant cultural resources, although the potential is relatively low. The BLM states that “A cultural resource survey of the entire area of potential effects, including consultation with affected Native American Tribes, would first need to be conducted to identify archaeological sites, historic structures and features, and traditional cultural properties, and an evaluation would need to follow to determine whether any are eligible for listing in the NRHP as historic properties.” But this is yet another example of putting the cart before the horse. BLM needs to do these surveys and consultations prior to defining the SEZ, so that the agency can ensure that the SEZ is an area with low resource conflicts.

9. THE DPEIS IS FATALLY FLAWED AND WILL REQUIRE RECIRCULATION OF A REVISED DPEIS

The DPEIS is fatally flawed in a number of respects that will require the BLM to prepare a supplemental NEPA document for recirculation for public comment. The DPEIS provides no quantitative estimates of the numbers of affected individuals for the many threatened and endangered, and special status species that will be affected by the three alternatives. It fails to even list the threatened and endangered species that occur in the areas opened to development under the preferred alternative.

The BLM states in the DPEIS that for its preferred alternative it was unable to obtain complete geographic information system (GIS) data across the six-state study area and thus could not map the exact footprint of the alternative nor calculate the exact acreage. DPEIS at 2-3.

These deficiencies amount to failure to comply with provisions of the Endangered Species Act, FLPMA as well as NEPA. The BLM should prepare a revised Draft PEIS that reviews an adequate range of alternatives, that adequately describes the direct, indirect, and cumulative impacts, and that takes a hard look at those environmental impacts.

We thank you for the opportunity to provide these comments on the Draft PEIS, and we look forward to seeing our recommendations incorporated in the next iteration of this document.

Please continue to include Western Watersheds Project on your list of interested public for all future mailings.

Sincerely,

A handwritten signature in black ink that reads "Michael J. Connor". The signature is written in a cursive style and is underlined with a single horizontal line.

Michael J. Connor, Ph.D.,
California Director
Western Watersheds Project
P.O. Box 2364
Reseda, CA 91337-2364.
(818) 345-0425
<mjconnor@westernwatersheds.org>

Thank you for your comment, Jason Lloyd.

The comment tracking number that has been assigned to your comment is SolarD11807.

Comment Date: May 2, 2011 12:05:49PM
Solar Energy Development PEIS
Comment ID: SolarD11807

First Name: Jason
Middle Initial: M
Last Name: Lloyd
Organization: L Bar C Ranch
Address: P.O. Box 281
Address 2:
Address 3:
City: Pioche
State: NV
Zip: 89043
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Jason's solar comment letter II.rtf

Comment Submitted:

May 2, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 South Cass Avenue – EVS/900
Argonne, Illinois 60439

RE: Comments to the Solar Programmatic Environmental Impact Study

To Whom It May Concern:

I am very concerned with the current proposed solar site in Dry Lake Valley North. I am the grandson of Kenneth Lytle, and I run cattle with him on his allotment in this valley. The Simpson allotment and all of the proposed area to the north of it is our entire winter range. If this grazing area is turned into a place for solar development, we lose our entire herd and would be pushed out of business. I am a sixth-generation rancher of Lytle Ranches, and my son would become a seventh-generation rancher. We have been using this valley for over 100 years.

We also own several water rights in this valley and have made many range improvements over the past 100 years. I believe that a developer would have to compensate us heavily if he or she were to choose this area for a solar site because of the recent decision made in the Wayne Hage case. Most importantly, however, would be the valuable loss of vegetation in the area since it represents one of the best white sage locations in the state of Nevada. White sage is a very delicate plant that is easily destroyed and that can not be reintroduced. Once this valuable range is destroyed, it is ruined forever.

The ranchers in this area also contribute significantly to the economic survival of Lincoln County. For over 150 years the ranchers in this area of Dry Lake Valley North have played a big role in contributing to the welfare of this county.

At a meeting in 2009, at the Caliente BLM, ranchers and government representatives met and outlined alternate areas for solar that would have few, if any, impacts on all aspects involved. These alternate site were supposed to replace the original conflicting sites, yet it seems that our hard work and comments were ignored. The alternate sites were must added to the original to make the studied area in Dry Lake Valley North a ridiculous number of proposed acreage. I urge you to reconsider the areas you have outlined for solar if they affect grazing rights whatsoever. This state needs to keep these grazing grounds intact for the future needs of our country. Everyday, ranchers across the United States are selling out to developers for the huge price tag attached to their lands. The number of ranchers, especially the small rancher, is declining rapidly. Please don't add to this demise.

Sincerely,

Jason Lloyd

Thank you for your comment, John Moody.

The comment tracking number that has been assigned to your comment is SolarD11808.

Comment Date: May 2, 2011 12:41:23PM
Solar Energy Development PEIS
Comment ID: SolarD11808

First Name: John
Middle Initial: R
Last Name: Moody
Organization: Desert Survivors
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment: Solar PEIS.docx

Comment Submitted:

May 1, 2011

Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Ave – EVS/240
Argonne, Illinois 60439

I would like to provide the following Comments upon the Draft Solar PEIS, dated December 2010 on behalf of the citizen activist group Desert Survivors.

- 1) Due to the large size and complexity of the Draft PEIS the review and comment period is inadequate and should be extended. The California Affected Environment section (8-13) is almost 1500 pages long. Even a cursory review of it indicated issues. Even as a organization focused upon primarily California Desert issues, with over thirty years visiting the areas we need more time to adequately review and comment. A Draft PEIS of this magnitude needs significantly more time for public comment.
- 2) Significant issues raised during the Scoping Process do not appear to have been adequately addressed, merely sidestepped.
- 3) The Draft PEIS fails to contextualize the drive to industrial scale energy development on Federal lands. Because of the unbelievable scale of the project and its potentially devastating impact on the affected ecological communities and landscapes more effort should have been taken to address the need for such a rushed program. How or if this program fits into a National energy policy is critical to understanding the ecological sacrifices it accepts.
- 4) Alternatives such as distributed generation are seemingly dismissed as inadequate; inadequate to what?
- 5) The Draft PEIS appears to facilitate a rushed grab of generally intact Federal lands for short term industrial scale energy production. While the life cycle of many of the proposed projects are only about thirty years, the ecological devastation to the desert lands will be permanent. If this scale of destruction is truly necessary or desirable it needs to be more adequately justified and opened to comment.
- 6) Given that the technology and economics of alternative energy production are rapidly changing the Draft PEIS should identify more alternatives than those presented. Additionally, more actual comparison and contrast between alternatives is needed.
- 7) Again, because of the huge scale of the Program, truly a national endeavor redirecting National energy policy, more effort to address alternatives such as use of private and previously impacted lands should be addressed.
- 8) The alternative of Federal buy back of degraded private lands or subsidization of Utility acquisition of those lands should be developed.
- 9) The Draft PEIS needs to better address the post project ecological condition of the project lands. The desert eco-systems will not be restorable on bladed lands. So what are the

long term consequences of such destruction? What are the mitigations that will most closely replicate the sustainable ecological systems that exist there now? What are the steps necessary to achieve those ends?

- 10) The Draft PEIS needs to better address the potential biological needs of plant and wildlife communities facing the rapid onset of climate change. An analysis of past climatic change events and the projection of potential alternative scenarios to the Program area, as a basis for environmental impact analysis between alternatives are appropriate for such a large project.
- 11) The cumulative impact of these projects necessitates a broad scale regional and landscape scale review and analysis that this Draft PEIS fails to do. Individual project level EIS or EA will not address the cumulative environmental impacts. This Draft PEIS should do that, but is inadequate.
- 12) There is not currently adequate baseline knowledge of the biological conditions or integrity of the proposed Program Area to develop a Final PEIS. The idea that it can be addressed with an expanded species analysis between the Draft PEIS and the Final PEIS is absurd to the point of criminality. The deserts of the American southwest have been historically understudied. We really do not even know how many different species we could expect to find. UC Riverside has indicated that at current rates of study we can expect to still be finding new species for another couple of hundred years. This Draft PEIS streamlines a process to utterly devastate huge swaths of prime habitat in the next 5 to 10 years. The Draft PEIS needs to address our lack of knowledge of what exists now, and identify strategies to address regional and landscape level study and analysis as a prerequisite to disturbance. This Draft PEIS will undoubtedly contribute to the eradication of species that we do not even know exist today.
- 13) The technical alternatives to Industrial Scale Solar Projects in the Desert are not adequate and do not address the evolving nature of such technologies.
- 14) The economics of distributed generation should be better developed and analyzed. The Distributed versus Industrial Scale Solar on Intact Federal Land comparison is false. A blend of distributed and industrial scale is more realistic and allows for more rational prioritization of land use and protection. It is not black or white, either/or and this Draft PEIS appears to over-simplify the issues.
- 15) Cumulative effects analysis should be addressed in the Draft PEIS. A project-specific environmental review will not address the regional and landscape level impacts that this scale of land use change will cause.
- 16) The proposed BLM SEZs were inadequately developed and the process not sufficiently open to public participation. The proposed SEZs should be set aside until an open and rigorous process of analysis and identification is done. The process was rushed and under resourced. Multiple BLM staffers have privately indicated that the process was a paper drill and could have been done better if it had not been rushed. Additionally, several public stakeholder groups have undertaken to identify less harmful alternatives to

the proposed SEZs and have been shunned or denied participation in the interagency discussions. Desert Survivors along with several other stakeholder groups identified over 100,000 acres in the California desert regions that would be better suited to industrial scale use but were not allowed to participate.

- 17) Distributed small parcel (under 247 acres) use needs to be incorporated into the Draft PEIS as an alternative to Industrial Scale projects.
- 18) The BLM land use plans for all the proposed project areas need to be developed and finalized before a PEIS is for the project is finalized.
- 19) This Draft PEIS is inadequate to support the development of a Final PEIS. A second Draft PEIS that is broader in scope and finer in detail needs to be developed and vetted before a Final PEIS is considered.
- 20) The overall appearance of this Draft PEIS is that it was well funded to create an inadequate but speedy endorsement for a new industrial gold rush into the desert lands of the American Southwest.

Please accept these comments from Desert Survivors, with over 700 active members dedicated to the protection of the American Deserts as you consider your next steps in this process

Sincerely,

John R. Moody
Director at Large (Issues)
Desert Survivors

Thank you for your comment, Jenny Neeley.

The comment tracking number that has been assigned to your comment is SolarD11809.

Comment Date: May 2, 2011 13:52:19PM

Solar Energy Development PEIS

Comment ID: SolarD11809

First Name: Jenny

Middle Initial: L

Last Name: Neeley

Organization: Sky Island Alliance

Address: 300 East University Blvd.

Address 2: Suite 270

Address 3:

City: Tucson

State: AZ

Zip: 85705

Country: USA

Privacy Preference: Don't withhold name or address from public record

Attachment: BLM solar PEIS_SIA comments.pdf

Comment Submitted:



**SKY
ISLAND**
ALLIANCE

Protecting our Mountain Islands
and Desert Seas

May 2, 2011

Linda Resseguie, BLM Solar PEIS Project Lead
Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: Comments on Draft Programmatic Environmental Impact Statement for Solar Energy
Development in Six Southwestern States

Dear Ms. Resseguie:

These comments are being submitted in response to the Bureau of Land Management (BLM) and Department of Energy (DOE) Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar Development PEIS). Sky Island Alliance (SIA) is a non-profit conservation organization dedicated to the protection and restoration of the rich natural heritage of native species and habitats in the Sky Island region of the southwestern United States and northwestern Mexico. We work with many partners to establish protected areas, restore healthy landscapes, and promote public appreciation of the region's unique biological diversity. We appreciate the opportunity to comment on the PEIS. We submit these comments as a supplement to the comments we submitted jointly with The Wilderness Society and other organizations in a letter dated May 2, 2011.

SIA is generally supportive of the Solar Energy Zones (SEZ) Alternative, but strongly opposes the Solar Development Program (SDP) Alternative. In light of the significant failings of the SDP Alternative, we are very concerned that the BLM has designated it as their preferred alternative. We strongly urge the BLM to instead choose the SEZ Alternative and incorporate the suggested modifications found below and in our previously submitted comments.

The BLM should select the Solar Energy Zones (SEZ) Alternative as its preferred alternative.

For the proposed solar energy program to be successful in the long-term, it must provide clear policy and concrete guidelines that will effectively and efficiently guide projects to the most appropriate locations. This will reduce obstacles and provide certainty for construction of the most appropriate projects, while limiting environmental impacts to the greatest extent possible.

The SEZ Alternative outlined in the Solar Development PEIS provides an excellent framework for such a program. First, and most importantly, this program adopts a land-use planning approach and identifies the most appropriate and least environmentally sensitive locations for solar energy development, and guides solar projects to those areas. To identify the most appropriate BLM

lands for solar development, the agency correctly focused on those lands that provide excellent solar resources, flat land, and proximity to existing roads and electrical transmission lines. The agency also attempted to limit environmental conflicts by filtering out those areas encompassing important wildlife habitat, wildlands, recreation areas and other important resources.

We strongly support this approach for identifying lands appropriate for solar development. However, we believe the process for identifying areas to include in SEZs needs to be refined in order to take into consideration and provide protection for other critical natural resource values. For example, the categories of lands deemed inappropriate for solar development must include not only officially protected BLM lands, such as designated Wilderness areas, National Monuments, and other lands included in BLM's National Lands Conservation System (NLCS), but should also include those areas that are considered suitable for wilderness designation or that are shown to have wilderness characteristics. This includes Citizens' Wilderness Proposals.

BLM lands that are adjacent to designated Wilderness areas, NLCS lands, or other protected areas should also be removed from consideration in order to provide a buffer and fully protect those resources. This should include areas adjacent not only to protected BLM lands, but to all federally protected lands, regardless of the managing agency, as well as state trust lands, private lands and lands designated for protection by local jurisdictions through land use planning processes. This includes the Conservation Lands System developed by Pima County, Arizona, as part of the Sonoran Desert Conservation Plan, and the Arizona Wildlife Linkages Assessment planning effort developed by many federal, state and non-profit partners, including the BLM and Sky Island Alliance.

The SEZs currently under consideration in the DPEIS include more than three times as much land as the BLM forecasts will be developed during the 20-year life of the PEIS. Though the acreage of the SEZs may change through refinements in the PEIS process, such as those recommendations offered above, it is clear that the SEZ Alternative offers plenty of flexibility to build a foundation for solar development on public lands. In conjunction with the recommendations submitted jointly with The Wilderness Society and others, including a recommendation that the BLM create a process for designating new SEZs, we believe the SEZ alternative provides an excellent framework for an effective solar energy development program that reduces to the greatest extent possible environmental impacts that may result from solar development.

The BLM should reject the Solar Development Program (SDP) Alternative.

We strongly oppose the SDP Alternative, and urge the BLM to reject this alternative and instead select the SEZ Alternative as its Preferred Alternative. The BLM should not carry forward a plan that opens approximately 22 million acres to development, over 100 times more land than what the agency's own analysis says will likely be needed in the next twenty years. By identifying such a grossly excessive amount of acreage for potential solar development, this alternative offers virtually no guidance or certainty for those looking to develop low-conflict solar energy projects, and it includes far too many places that should instead be protected from such development.

The SDP Alternative includes 4.45 million acres of BLM lands in Arizona, representing more than a third of all surface lands managed by the agency across the state, despite the fact that the BLM's own Reasonably Foreseeable Development Scenario anticipates only approximately 21,816 acres of solar energy development on its lands over the next twenty years. Aside from being extremely overbroad, a significant portion of the area within Arizona identified as open for solar development in the SDP Alternative is completely inappropriate for solar development and must be excluded from consideration, including areas within the Sky Island region that provide important wildlife habitat and landscape connectivity, the health and integrity of which are critical for the wellbeing of the entire region. These areas include those lands encompassed by Pima County's Sonoran Desert Conservation Plan Conservation Lands System, and lands within the San Pedro river valley.

Sonoran Desert Conservation Plan Conservation Lands System

Sky Island Alliance is a proud member of the Coalition for Sonoran Desert Protection, and we fully support the comments submitted by the Coalition in their letter dated May 2, 2011. Should the BLM choose to move forward with the SDP Alternative as its Preferred Alternative, it should remove all lands that overlap with the Sonoran Desert Conservation Plan Conservation Lands System and associated Management Areas. This includes the following acreage:

- 57,211 acres that overlap with Important Riparian Areas;
- 85,167 acres that overlap with Biological Core Management Areas; and
- 1,418,536 acres that overlap with Multiple Use Management Areas.

Please refer to the Coalition for Sonoran Desert Protection's May 2, 2011 comment letter for more information on the Sonoran Desert Conservation Plan, the associated Management Areas, and why it is critical that the BLM lands that overlap with these areas be protected in their entirety. As stated above, it is important that adjacent lands are also eliminated from consideration in order to buffer these important lands from harmful land use activities.

Lands within San Pedro River Valley

The SDP Alternative would allow roughly 15,000 acres of land in the San Pedro River watershed to be available for solar development. We strongly recommend that these acres be removed from further consideration for solar development, should the BLM choose to move forward with the SDP Alternative as its Preferred Alternative.

The San Pedro River is last free-flowing river in the southwest United States, and is home to an incredible abundance of biodiversity: over 400 bird species, 100 butterfly species, 83 mammals, and 47 amphibian and reptile species have been documented along the River and adjacent lands. Congress recognized the significance of this place and in 1988 created the San Pedro National Riparian Conservation Area (SPNRCA) in order to protect this rare desert riparian area. The San Pedro River is also internationally significant as an important flyway that provides habitat for hundreds of migratory and native birds, and as such was designated by state and national Audubon Important Birding Area (IBA) science committees as a Global IBA in 2008.

It is critical that this area remain free from land use activities that have the potential to compromise the river, its water resources, and surrounding valley and watershed. Riparian areas are the single most imperiled ecosystem type in the desert southwest, and the San Pedro River and surrounding valley already face enormous pressure from human development, off-road vehicle use and livestock grazing, among other things. The area inside the boundaries of the SPNRCA is omitted from the SDP Alternative, however it is critical that lands adjacent to the SPNRCA and the entire watershed that feeds the river also be spared from solar energy development.

We appreciate the opportunity to comment on the Solar Development PEIS. Please continue to include SIA as an interested party and direct all future public notices and documents to me at the address below.

Sincerely,



Jenny Neeley
Conservation Policy Director

Thank you for your comment, Rebecca Schwendler.

The comment tracking number that has been assigned to your comment is SolarD11810.

Comment Date: May 2, 2011 13:56:13PM
Solar Energy Development PEIS
Comment ID: SolarD11810

First Name: Rebecca
Middle Initial: H
Last Name: Schwendler
Organization: Cultural Resources Preservation Coalition
Address: c/o National Trust for Historic Preservation
Address 2: 535 16th St., Suite 750
Address 3:
City: Denver
State: CO
Zip: 80202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: CRPC comments on Solar PEIS_5.2.11.pdf

Comment Submitted:

Please see the attached file.

Cultural Resources Preservation Coalition
c/o Rebecca Schwendler
National Trust for Historic Preservation
535 16th Street, Suite 750
Denver, CO 80026

May 2, 2011

Linda J. Resseguie
Solar Energy Draft PEIS
Argonne National Laboratory
9700 South Cass Avenue
EVS/240
Argonne, IL 60439

Submitted electronically at <http://solareis.anl.gov/involve/comments/index.cfm>

**Re: Comments on the Draft Programmatic Environmental Impact Statement
for Solar Energy Development in Six Southwestern States
(EIS No. 20100466)**

Dear Ms. Resseguie:

The Cultural Resources Preservation Coalition (Coalition) commends the efforts of the Bureau of Land Management (BLM) to identify areas appropriate for solar energy development while limiting impacts to significant cultural resources. We feel strongly that, by guiding these energy projects to locations with the fewest possible resource conflicts, the BLM can facilitate efficient and cost-effective clean energy solutions while conserving the unique qualities of America's federal public lands. To this end, the BLM can use the Solar Programmatic Environmental Impact Statement (PEIS) to guide solar energy development without circumventing existing cultural resource laws and to increase the likelihood that impacts to significant cultural resources will be avoided, minimized or mitigated.

In general, the Coalition supports BLM's identification of specific solar energy zones (SEZs) that exclude an extensive list of cultural resource lands and resources. Accordingly, we support the SEZ Program Alternative, which would limit development to 677,000 acres, with some modifications. However, we remain concerned that the near-complete absence of prior cultural resource inventories and tribal consultation for specific SEZs will continue to be an impediment to effective planning for the management and protection of cultural resources. As such, the identified SEZs must remain flexible and subject to continued refinement as the BLM learns more about the potential for significant cultural resources to be affected by the plans.

In contrast, we find the Solar Energy Development Program Alternative (preferred alternative) to be unacceptable. As outlined in detail in the attached comments, we believe that the preferred alternative would leave too many significant cultural

resources vulnerable to direct and indirect impacts from solar energy development, and would undermine the entire SEZ concept and process.

Interests of the Cultural Resources Preservation Coalition

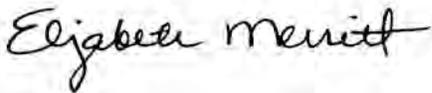
The Cultural Resources Preservation Coalition is a group of historic preservation, tribal, archaeology, anthropology, trails, recreation, business, and place-based organizations, led by the National Trust for Historic Preservation. The Coalition advocates for the protection of irreplaceable cultural resources located primarily on federal public lands managed by the BLM, the United States Forest Service, and the National Park Service.

Conclusion

When planning for large-scale solar energy development on federal public lands, the BLM must prioritize the protection of outstanding cultural resources, including—but not limited to—significant concentrations of prehistoric and historic archaeological sites, historic trails and Native American traditional cultural properties and sacred sites. We urge the BLM to select the SEZ Program Alternative as the preferred alternative in the PEIS, because it would likely result in far fewer impacts to significant cultural resources than the current preferred alternative.

We appreciate the opportunity to provide these comments and we look forward to participating further in the PEIS process.

Sincerely,



Elizabeth S. Merritt
Deputy General Counsel
National Trust for Historic Preservation

Carrie Gregory
Vice-President
Alliance for Historic Landscape Preservation

Damon Dozier
Director of Public Affairs
American Anthropological Association



Linea Sundstrom
Chair, Conservation Committee
American Rock Art Research Association



Michael J. Painter
Coordinator
Californians for Western Wilderness

Christina McVie
Board Secretary
Friends of Ironwood Forest



Thomas Hulen
Executive Director
Friends of the Sonoran Desert National Monument



Greg Seymour
Board Member
Nevada Archaeological Association

Douglas D. Dykeman
President
New Mexico Archaeological Council



Gary Werner
Executive Director
Partnership for the National Trails System

Leonard Becker
President & Co-Founder
Sacred Sites International Foundation

Enclosure: Recommendations for the Solar PEIS from the CRPC

Cc: Nancy Brown, BLM Liaison, Advisory Council on Historic Preservation
Lee Webb, Dep't of Energy Liaison, Advisory Council on Historic Preservation
Caroline Hall, Advisory Council on Historic Preservation
Reid Nelson, Advisory Council on Historic Preservation
Dr. Robin L. Burgess, Federal Preservation Officer, BLM
James Garrison, Arizona SHPO
Milford Wayne Donaldson FAIA, California SHPO
Edward Nichols, Colorado SHPO
Ronald M. James, Nevada SHPO
Jan Biella, Acting New Mexico SHPO
Wilson Martin, Utah SHPO

**Recommendations to the Bureau of Land Management Regarding the Draft
Programmatic Environmental Impact Statement for Solar Energy Development in
Six Southwestern States**

**Cultural Resources Preservation Coalition
May 2, 2011**

The Cultural Resources Preservation Coalition supports the identification of specific Bureau of Land Management (BLM) lands for solar energy development, a key goal outlined in the draft Programmatic Environmental Impact Statement (PEIS). However, we do not support the BLM's preferred alternative—the Solar Energy Development Program Alternative—as it would leave open more than 21 million acres of mostly unsurveyed public land in six western states to utility-scale solar development. Instead, we favor the Solar Energy Zone (SEZ) Program Alternative (SEZ alternative)—with some modifications—which would limit utility-scale solar energy development to 677,384 acres in 24 SEZs.

I. **The preferred alternative is unacceptable because it will likely impact an exceedingly large number of significant cultural resources.**

Despite the fact that the preferred alternative excludes the highest profile cultural resources, such as national historic trails (NHTs), national historic landmarks (NHLs), properties listed on the National Register of Historic Places (National Register), and traditional cultural properties (TCPs), from direct physical damage or destruction by solar energy development, these resources would remain vulnerable to visual and cumulative impacts. National Register-eligible cultural resources discovered during project planning would also be open to impacts. Furthermore, under the preferred alternative, 258 tracts of land are located within one mile of an NHT. Development on those lands would likely cause numerous adverse effects to the viewsheds and settings of those trails and their associated sites. By contrast, under the SEZ alternative, only two SEZs (De Tilla Gulch and Fourmile East, both in Colorado) lie within one mile of an NHT (Old Spanish NHT). Thus, the SEZ alternative is much more effective than the preferred alternative at reducing potential conflicts with significant cultural resources.

Exposing NHTs and thousands of other nationally significant cultural resources to adverse impacts from solar energy development is unacceptable, as well as inefficient and costly for developers. As currently drawn, the 24 SEZs contain more than three times as much land as the BLM forecasts will be developed during the 20 year life of the PEIS. Therefore, it is unnecessary for BLM to open so much additional public land for development.

Recommendations:

- In the event that BLM chooses the current preferred alternative, despite its overwhelming disadvantages and the lack of demonstrated need, we make several recommendations in sections II, III, IV, and VI below for reducing and mitigating its harm to significant cultural resources.
- Preferably, the BLM should de-select the Solar Energy Development Program Alternative as the preferred alternative and, instead, choose the SEZ Program Alternative as the preferred alternative, with the modifications recommended below in sections V and VI.

II. Specific areas, located outside the SEZs and identified as open to solar energy development under the preferred alternative, should be excluded from development consideration.

Recommendations:

- **Arizona**
 - ***Ironwood Forest National Monument:*** The BLM should exclude the following three parcels from around the Ironwood Forest National Monument:
 1. A small “b”-shaped parcel located adjacent to and immediately south and west of the Monument and northeast of the Tohono O’odham Reservation, less than 20 miles west of I-10 between Tucson and Casa Grande.
 2. A tiny parcel located northwest of the northwestern-most part of the Monument boundary in the Sawtooth Mountains.
 3. A parcel located north of the middle of the Monument, surrounded by state lands.

Any solar energy development on these small, isolated parcels would undoubtedly have significant visual impacts on the Monument and/or the Reservation, and potentially on traditional cultural properties.
 - ***Pinal County Open Space:*** The BLM should exclude a larger “c”-shaped area of land located less than 10 miles east of I-10 between Tucson and Casa Grande. This area is currently cited as open space in the 2009 Pinal County Comprehensive Plan and contains numerous prehistoric archaeological sites.
 - ***Red Rock Canyon:*** The BLM should exclude solar energy development in the area of Red Rock Canyon, located north of I-8 southwest of Phoenix. The geologically unusual canyon contains prehistoric rock alignments, a concentration of petroglyphs that are hundreds to

thousands of years old, and several rock shelters containing cultural resources.

- ***Santa Rosa Wash:*** The BLM should exclude solar development south of I-8 around Santa Rosa Wash, located west of Tucson, because of the area's many large pre-classic period Hohokam villages.
 - ***Area Southwest of the West Silver Bell Mountains:*** The BLM should exclude the southern portion of the area southwest of the West Silver Bell Mountains from solar energy development. Located near the Aguirre Wash, this area surrounds the old Spanish mission site of Santa Ana del Chiquiburitac. This was the last mission constructed in Primeria Alta in the late 1700's by Tohono O'odham laborers for Spanish Franciscan friars. Very few Spanish mission sites remain in Arizona so this one is undoubtedly nationally and regionally significant.
 - ***Poston Butte:*** The BLM should exclude the area around Poston Butte, northwest of Florence, from solar energy development because of its extensive, intact cultural landscape associated with major habitation sites and a prehistoric canal system. While most of the archaeological sites are located on private land that adjoins BLM land, the BLM land includes associated archaeological features.
- **Nevada**
 - ***Area West of Delamar Valley SEZ:*** The BLM should exclude areas to the west and south of the Delamar Valley SEZ from solar energy development because of their significant concentrations of petroglyphs.
 - ***"Double Negative" Art Installation:*** Located in or near the East Mormon Mountain SEZ, the area surrounding this 1969 geological art installation should be excluded from solar energy development to protect it from physical and visual impacts.
- **New Mexico**
 - ***Chupadera and Mesa Well Canyon:*** The BLM should exclude the Chupadera and Mesa Well Canyon area north of SR380 from solar energy development, as it contains significant late prehistoric village sites, including several large pueblos numbering more than 100 rooms.
 - ***Aqua Fria National Monument Area:*** The BLM should exclude a larger area surrounding Agua Fria National Monument from solar energy development, given that several prehistoric habitation sites are known

on BLM lands east of I-17 and west of the monument, and additional significant sites are likely in the area.

III. Certain areas and resources, located outside the SEZs, may be at risk from development under the preferred alternative and should be avoided.

Recommendations:

- **Arizona**
 - ***Gila Bend Mountains:*** The BLM should avoid solar energy development in the Gila Bend Mountains, as they contain a rich array of prehistoric rock features and aboriginal trails. Notable concentrations of these features are found in scattered locations at the mountain edges fronting the Gila River, Red Rock Canyon and two unnamed canyons on the eastern slopes of the mountains. The cultural resources are believed to span thousands of years of human occupation in the area and represent the important prehistoric cultural traditions of the Hohokam and Patayan.
 - ***Sentinel Plain:*** The Gila Bend Mountains and the Gila River cut through the significant cultural landscape of the Sentinel Plain north of I-8 and west of Gila Bend. When evaluating locations for solar energy development, the BLM should avoid impacts to cultural resources in this landscape. For example, within the Gila Bend Mountains are canyons that include extensive rock features and trail systems, rock shelters, bedrock mortars, check dams, rock rings, masonry rooms, and petroglyphs. In fact, the Sentinel Plain area includes one of the most extensive galleries of prehistoric petroglyphs in western North America and several segments of prehistoric and historic trail segments, including the Juan Bautista de Anza and Mormon Battalion national historic trails and the Butterfield Overland Trail. Prehistoric rock features often referred to as geoglyphs are also found throughout the Sentinel Plain area near the Gila River. All of these fragile patterns on the landscape will be irrevocably lost if subject to the increased ground disturbances associated with solar energy development.
 - ***North End of the Picacho Mountains:*** The BLM should avoid solar development near the north end of the Picacho Mountains, as the whole area contains significant concentrations of petroglyphs. In addition, Picacho Mountain plays a role in the creation story of the Tohono O'odham Nation so it should be well separated from solar energy development.

- **Colorado**
 - ***Paleoindian sites:*** When evaluating the appropriateness of solar energy development in the San Luis Valley, in particular, the BLM should carefully consider potential impacts to rare Paleoindian sites and landscapes that generally are located in dunal areas.

- **Nevada**
 - ***Prehistoric and Dry Lakes:*** When evaluating the appropriateness of solar energy development in Nevada, the BLM should carefully consider potential impacts to likely significant archaeological and sacred sites and landscapes around prehistoric and dry lakes, such as ancient Lake Tonopah. These may need to be protected both physically and visually.
 - ***Dunal Areas:*** When evaluating the appropriateness of solar energy development in Nevada, the BLM also should carefully consider potential impacts to dunal areas, which often contain significant early cultural sites. Dunal landscapes should receive subsurface testing, not just surface survey, and should have their great research potential protected.

- **Utah**
 - ***Southeast San Juan County:*** The BLM should avoid solar energy development in the southeast corner of San Juan County, east of I-191 and along the corridor between Bluff, Blanding, and Monticello. Both areas contain nationally significant cultural resources spanning thousands of years, including very large pueblos, cliff dwellings, rock art, and historic homesteads.

IV. **Several directives for identifying and protecting cultural resources are missing from the preferred alternative**

Recommendations:

- **The BLM must consult with the NPS if National Historic Landmarks could be affected.**

While NHLs are physically protected from solar energy development under both action alternatives, they may still be visually, indirectly and/or cumulatively affected by solar development. Section 110(f) of the National Historic Preservation Act (NHPA) requires federal agencies, to the maximum extent possible, to undertake such planning and actions as may be necessary

to minimize harm to NHLs. 16 U.S.C. § 470h-2(f). Given that the NPS administers the NHL program, the BLM must consult with NPS any time there is the potential for NHLs to be adversely affected. The Section 106 regulations specifically require the agency to notify the NPS and invite the NPS to participate in Section 106 consultation whenever “there may be an adverse effect” on an NHL resulting from the undertaking. 36 C.F.R. § 800.10(c). In this case, there is clearly the potential for adverse effects to NHLs. Accordingly, we urge the BLM to initiate consultation with the NPS at the earliest possible opportunity.

- **The BLM should map and assess transmission line routes in the PEIS because those lines will be necessary for solar development outside of the SEZs.**

In addition to the solar installations themselves, the transmission lines needed to carry the energy produced—particularly under the preferred alternative—would have great individual and cumulative impacts to significant cultural resources and whole cultural landscapes. Related access roads and other infrastructure could also cause significant impacts. The attempt to assess environmental impacts on areas open for solar energy development—particularly outside the SEZs—without also assessing the impact of the transmission lines (and other infrastructure) necessary to transport that energy is misleading and incomplete. Individual lines and related webs of lines would potentially impact far more cultural resources than would individual solar developments themselves, and would be particularly detrimental to NHTs and TCPs, where viewsheds and settings are primary elements of their significance. Even if the individual transmission lines needed to carry the energy produced by utility-scale solar projects cannot be assessed specifically in the PEIS, the transmission infrastructure must be assessed concurrently with the projects that would require it. In other words, future project-specific EISs for solar development should include evaluations of the projects’ specific transmission line needs and routes. If these reviews are not done concurrently, the analysis of cumulative effects of solar energy development will be grossly inadequate.

- **The BLM should outline measures for directing projects to SEZs.**

It is unclear why the BLM invested significant time, money and effort to identify and then refine the SEZs if these will not be the primary target areas for solar energy development. The SEZs were selected for their combination of excellent solar resources, flat land, proximity to existing roads and transmission lines, and limited conflicts with important cultural and natural resources and values. These low-conflict areas are assumed to provide the

best locations for successful projects and will lead to solar development that is faster, cheaper and better for the environment, consumers and project developers. Accordingly, even if the preferred alternative were selected, the BLM should create strong incentives for developing solar energy projects within SEZs and strong disincentives for developing outside them. Information about these incentives and disincentives should be included in the final PEIS.

- **The BLM should identify characteristics of priority areas for development outside SEZs.**

In addition to creating strong incentives for project development within SEZs, the BLM should guide the project development that does occur outside SEZs to the most appropriate lands. These could include previously disturbed places (e.g., brownfields and abandoned mine lands), areas located close to existing transmission lines, and previously inventoried lands containing few or no conflicts with significant resources. In the Final PEIS, the BLM should provide a list of characteristics of priority development areas.

V. **The SEZ Program Alternative, with some modifications, should be the preferred alternative.**

As stated above, we generally support the SEZ alternative and urge the BLM to accept it, with some modifications, in place of the current preferred alternative. We commend the BLM on excluding from the SEZs numerous categories of significant cultural resources, such as NHTs, NHLs, properties listed in the National Register, and TCPs.

Still, the paucity of inventories and proactive tribal consultation conducted for the SEZs precludes us from wholeheartedly endorsing the SEZ alternative as is and from identifying all of our potential concerns with the SEZs here. Therefore, we propose adjustments to the boundaries of several SEZs based on known cultural resource issues and we recommend additional steps for refining the SEZs and for avoiding conflicts with significant cultural resources.

Recommendations:

- **The BLM should carefully consider the impacts of certain SEZs to cultural resources and adjust the SEZ boundaries, as appropriate.**
 - ***Dry Lake (NV):*** As currently drawn, the southeastern portion of the SEZ encompasses the Old Spanish Trail/Mormon Road site, which is listed in the National Register as a district, and comes close to the trail

itself. ***We recommend that the BLM move the southeastern boundary of the SEZ to the west of I-15 to help reduce impacts to the trail and associated sites.***

- ***Fourmile East (CO):*** As currently drawn, the eastern edge of the Fourmile East SEZ in Colorado comes within one mile of the Old Spanish NHT. Additionally, the SEZ overlays the Los Caminos Antiguos Scenic Byway. The PEIS acknowledges that at least 12 miles of the Old Spanish NHT would be adversely affected by solar development. Furthermore, the PEIS recommends that solar development on the east side of the byway (in this area, State Highway [SH] 150) not be approved, in order to reduce adverse impacts to the byway's eastern viewshed and to the NHT. PEIS at 10.3-28. Accordingly, ***we recommend that the BLM move the eastern boundary of the SEZ to some distance (e.g., at least 0.25 miles) west of SH 150.***

- ***Riverside East (CA):*** As currently drawn, the west end of the Riverside East SEZ in California nearly surrounds a portion of Joshua Tree National Park. This nationally significant landscape contains important cultural and natural resources, as well as high scenic values, all of which could be severely impacted by adjacent solar development. ***We recommend that the BLM redraw the western boundary of this SEZ so that, at a minimum, the SEZ is located completely east of SR 177.*** This will greatly reduce the potential visual impacts to Joshua Tree National Park's significant cultural and natural resources.

- ***De Tilla Gulch (CO):*** The southern boundary of this SEZ is located only 0.25 miles from the Old Spanish NHT and a segment of the trail may actually run through the SEZ. Of the portion of trail that runs immediately south of the SEZ, the PEIS states, "Pending completion of a study on the significance and definition of management needs (if any) of the trail, solar development should be restricted to areas that do not have the potential to adversely affect the setting of the trail." PEIS at 10.2-5. Given the small size of the SEZ and its proximity to the trail, however, it is doubtful whether the SEZ could be developed in a way that would avoid adversely affecting the tread and/or setting of the trail. Therefore, we recommend, at a minimum, that the BLM require a combination of mitigation measures to minimize impacts to high potential route segments located within the SEZ viewshed. Examples of mitigation measures could include, for example, restrictions on the height of solar development; painting of solar structures to reduce visibility; and contribution of educational or land purchase funds for off-site activities. This recommendation applies to both the known high potential route segment located southeast of the SEZ and to any additional segments the BLM may identify during its current inventory

work close to the SEZ. Potential developers should be aware that there would likely be high mitigation costs for projects within this SEZ because adverse impacts to nationally significant trail resources could not be avoided. Given the large number of potential conflicts between solar development and NHT preservation in this area, ***we urge the BLM to consider removing this SEZ from development.***

- ***Afton (NM):*** This SEZ has the potential to visually impact dozens of miles of the El Camino Real NHT and Scenic Byway and the Butterfield Trail Scenic Byway. While the settings of the relevant portions of these trails and byways have already been somewhat impacted by I-25 and an adjacent railroad line, ***we urge BLM to use a variety of mitigation measures to avoid or reduce visual impacts*** to any unaltered high potential historic sites and route segments of these nationally significant resources. In addition, ***we recommend that the BLM prevent development in dune areas within the SEZ***, as these are likely to contain concentrations of historic properties. ***We also urge the BLM to take into consideration the visual impacts*** of development within the SEZs on the many cultural areas of critical environmental concern and special recreation management areas that surround the SEZ, as they contain numerous significant prehistoric habitation and rock art sites.

- ***Red Sands (NM):*** Sacred to various Native American Tribes, Lone Butte is actually encompassed by the proposed Red Sands SEZ. The same SEZ is surrounded by other sacred mountains, including San Andrews (21 miles to the west), Sacramento (7 miles to the east), and White (39 miles to the north-northeast). PEIS at 12.3-13. The BLM should work closely with the appropriate Tribes to determine whether development of this SEZ could cause adverse impacts to sacred viewsheds, and whether those impacts could be adequately mitigated. If they could not be, ***the BLM should consider modifying the SEZ boundaries or excluding the Red Sands SEZ altogether.***

VI. **Several directives for identifying and protecting cultural resources are missing from both action alternatives.**

As stated above, we favor the SEZ alternative, but we do not support the preferred alternative. Nonetheless, both action alternatives should include the following additional directives pertaining to cultural resources:

Recommendations:

- **The BLM should describe the process for creating additional SEZs.**

While the 24 currently proposed SEZs should provide far more land for solar energy development than will be needed over the next decades, we understand that other lands outside the current SEZs may be appropriate for SEZ designation and subsequent project development. Therefore, in the Final PEIS, the BLM should outline a process for designating new SEZs, as appropriate, in the future. This will ensure that only the lands with the best solar resources and the fewest conflicts with cultural and natural resources will be made available for utility-scale development. By creating a rigorous process for SEZ additions, the BLM will help to ensure that our nation can meet its future energy needs with projects that can be developed and implemented successfully, without sacrificing our cultural and natural heritage. At a minimum, ***we request that the BLM conduct Class II surveys of potential future SEZs*** to help identify—and then avoid through SEZ boundary modifications—potential impacts to significant cultural resources.

- **The BLM should specify exactly what “limited additional environmental review” is, in contrast with “in-depth environmental analysis.”**

In multiple locations, the PEIS states that, because in-depth analyses have already been performed for the SEZs, or would be for future SEZs, project-specific resource analysis could or would be performed at a limited or lower level. See PEIS at 1.17, 2.13. In the Final PEIS, the BLM should outline what such limited environmental reviews would consist of and exactly when they would be used in lieu of more thorough analyses. The PEIS should clearly state that project-specific National Environmental Policy Act (NEPA) and NHPA reviews will still be conducted, regardless of the projects’ locations, as required by law. However, if the BLM means that Environmental Assessments (as opposed to EISs) would be used to assess the impacts of projects located in SEZs, the Final PEIS should state that explicitly.

- **As part of the development of the PEIS, the BLM should conduct at least Class II surveys in areas for which no cultural resource inventories and/or tribal consultation have yet been completed.**

For at least seven of the proposed SEZs, less than 1% of the land has already been surveyed for cultural resources. And for thirteen other proposed SEZs, less than 5% of the land has already been surveyed. We assume that lands outside the SEZs generally have had a similar paucity of cultural resource inventories. This low level of information about the location of cultural

resources is completely inadequate for assessing potential impacts to historic properties under both NEPA and Section 106 of the NHPA. Therefore, we urge the BLM to conduct at least reconnaissance level (Class II) surveys of uninventoried solar development priority areas—including both the SEZs and areas outside them—prior to issuing the Final PEIS, in order to better determine what historic properties might be present. By identifying areas of significant cultural resources from the outset, and then directing projects to areas that do not contain them, the BLM can help to ensure that projects will be completed successfully and efficiently, while minimizing impacts to significant cultural resources.

Findings from these Class II surveys should be used to help identify exclusion areas, as well as to develop predictive models about the distributions of cultural resources. They should not, however, be used as substitutes for intensive Class III surveys conducted as part of project-specific NEPA and NHPA reviews. BLM Manual 8100, which concerns managing cultural resources, cites the use of Class II reconnaissance surveys to “[develop] recommendations about further inventory needs in previously unsurveyed areas.” Glossary at 7. Furthermore, BLM Manual 8110 provides great detail about the use of Class II field surveys to identify and evaluate cultural resources. It states:

A class II survey is most useful for improving cultural resource information in a large area, such as for planning or EIS purposes, where insufficient systematic identification work has been done in the past . . . Class II survey may be appropriate when comparing alternative locations for proposed undertakings . . . [and] when class I data are found to be biased or otherwise insufficient to allow for reasoned judgments during general land use planning or activity planning.

BLM Manual 8110 at .21B. These situations are exactly those presented by the SEZs and other areas open to solar energy development under the preferred alternative; the vast majority of these areas have not been surveyed for cultural resources, but knowledge of resource locations is vital for evaluating potentially appropriate locations for solar energy projects.

- **The PEIS should more thoroughly evaluate noise, light and cumulative impacts to cultural resources.**

The significance of some cultural resources, including NHTs and TCPs, depends in large part on atmospheric integrity and historically appropriate setting. Accordingly, Chapter 5 of the PEIS should more explicitly

acknowledge the potential impacts of noise and light on these and other cultural resources.

Likewise, potential cumulative impacts to significant cultural resources should be outlined more thoroughly. The PEIS states that “Cumulative effects on cultural resources from foreseeable development in the six-state region are expected to be small because of the relatively small fraction of total land disturbed.” PEIS at 6-100. However, this statement does not acknowledge (as other sections of the PEIS do) the potentially significant and far-ranging impacts that solar energy development, particularly outside the SEZs, could have on linear resources such as NHTs and scenic byways, whose historic character and scenic value are highly dependent upon the integrity of the landscape and setting surrounding the corridors.

- **The BLM should require, not just recommend, the use of specific measures for avoiding, minimizing, and/or mitigating impacts to significant cultural resources.**

The state-specific chapters of the PEIS propose some well-developed design features for avoiding, minimizing, and/or mitigating impacts to specific kinds of cultural resources, particularly NHTs. See PEIS at 10.3-15 and 10.3-28. In order to ensure that impacts truly are avoided, minimized, and/or mitigated, these design features should be required, not simply recommended. This would not only better protect the resources but provide greater certainty for project steps and ultimate success.

- **Prior to finalizing the PEIS, the BLM should develop a plan to systematically inventory all segments of National Historic Trails (NHTs) and candidate NHTs that are located within the viewsheds of approved solar development areas and SEZs.**

Under the statute establishing the National Trails System, , high potential historic sites are “those historic sites related to the route, or sites in close proximity thereto, which provide opportunity to interpret the historic significance of the trail during the period of its major use.” The criteria for identifying high potential sites include “historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion.” 16 U.S.C. § 1251(1). Similarly, high potential route segments are “those segments of a trail which would afford high quality recreation experience in a portion of the route having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route.” *Id.* § 1251(2). Because high potential historic sites and route segments are identified as such precisely because of their greater than

average scenic values, and relative freedom from intrusion, those values must be protected to maintain the integrity of the sites and segments. Sites and segments of NHTs that are eligible for or listed on the National Register of Historic Places generally also feature significant viewsheds. Therefore, trail sites, viewsheds and settings must be preserved. National Register Bulletin 30, "Guidelines for Evaluating and Documenting Rural Historic Landscapes," may enhance identifications of NHT landscapes and significances. See Bulletin 30 at 27.

The PEIS itself says,

Because the landscape setting observed from units of the National Park system, national historic sites, national trails, and Tribal cultural resources may be a part of the historic context contributing to the historic significance of the site or trail, project siting should avoid locating facilities that would alter the visual setting in a way that would reduce the historic significance or function, even if compliant with VRM objectives. This requirement does not supersede or amend national historic sites, national trails, and Tribal cultural resources requirements cited in other sections, but is in addition to and supportive of them.

PEIS at 5-193. Accordingly, in order to better avoid impacts to NHTs and to better ensure project success, the BLM should attempt to identify all high-potential historic sites and route segments and National Register-eligible sites and segments of NHTs that could be visually or otherwise impacted by solar energy development.

- **The BLM should prescribe specific additional avoidance and/or mitigation measures for certain areas and cultural resources.**

We commend the BLM for establishing protective buffers around NHTs, but a standard buffer of 0.25 miles on either side of a trail corridor centerline is generally inadequate for protecting both the physical traces and settings of the trails. Some historic trail corridors themselves are actually wider than 0.25 or even 0.5 miles, and many have sweeping vistas and landscapes that are an important part of the setting, so this minimal buffer is far too narrow in those cases. In other locations, where trail segments have already lost integrity, a 0.25 mile buffer may not be necessary. Therefore, as an alternative, we urge the BLM to identify trail avoidance areas using *viewshed analyses* around high potential historic sites and route segments and National Register-eligible and -listed sites and segments, rather than standard linear zones. This approach first requires trail inventories and eligibility assessments to identify such

segments. At an absolute minimum, viewshed analyses and visual simulations should be conducted as elements of NEPA analyses for all projects proposed within 5 miles of NHTs, to guide project locations to the places that are least harmful to the trails.

If viewshed analyses are not possible, we recommend that BLM exclude from solar development all areas located within 5 miles of high potential historic sites and route segments and National Register-eligible and -listed sites and segments of NHTs. The five-mile buffer zone should specifically prohibit photovoltaic systems, parabolic troughs, and dish engine technologies. If power towers are to be used, we recommend that the exclusion corridor be expanded to 7 miles on each side of these significant sites and segments of NHTs. At a minimum, development should be severely limited within NHT corridors—particularly for high potential historic sites and route segments—and visual and other impacts should be stringently minimized and mitigated, according to distance and level of impact. These measures will support preservation of the historic viewsheds and settings that are vital to the trails' national significance, while largely removing potential conflicts with and hurdles for development.

In addition to the 0.25-mile exclusion corridor, the PEIS itself recommends development far from NHTs in order to minimize impacts to NHTs. See PEIS at 10.1-6, 12.1-5. Furthermore, the PEIS states that, "Because the landscape setting observed from units of the National Park system, national historic sites, national trails, and Tribal cultural resources may be a part of the historic context contributing to the historic significance of the site or trail, project siting shall avoid locating facilities that would alter the visual setting in a way that would reduce the historic significance or function, even if compliant with VRM objectives." PEIS at A-79. Therefore, it would seem that creating wider exclusion corridors for NHTs would help to build more certainty into the solar development process, both for trail protection and for project development.

Furthermore, as defined in the National Trails System Act, NHTs have a combination of historic and recreational elements. As such, trails should also be thought of in relation to sections of the PEIS that prescribe measures to avoid impacts to recreation areas. For example, in Appendix A regarding development policies and design, the PEIS specifically states that "Solar facilities shall not be placed in areas of unique or important recreation resources." PEIS at A-39. While the extent of these "areas" is undefined, NHTs should be considered in this context, as well. The PEIS should also acknowledge that increases in ambient noise level could have a negative effect on all recreational uses, including people traveling in the vicinity of

NHTs. In addition, because trails generally run through terrain that's easiest to traverse, the PEIS should explicitly consider cumulative impacts to low-elevation, not just high-elevation, recreation areas.

Because NHTs may still be affected by solar energy development, the PEIS should also include recommendations for off-site mitigations, including acquiring new trail easements not already on public lands, documenting pre-development landscapes through photographs and data collection as a form of "data recovery," developing interpretive sites, and creating history and outdoor education curricula for schools. The PEIS should also acknowledge the potential need for the establishment of alternative (substitute) trail corridors to maintain the integrity of trail networks if recreation and visitation of sections of NHT are interrupted by solar development.

- **The BLM should conduct additional government-to-government consultation with Native American tribes prior to finalizing the PEIS, to identify additional lands for exclusion.**

We commend the BLM for identifying in the PEIS some TCPs and other areas that are sacred to Tribes. Still, we strongly encourage the BLM to consult with Tribes to identify additional areas that should be excluded from solar energy development, particularly under the preferred alternative. Impacts to TCPs and sacred areas generally are very difficult to mitigate so avoidance of these areas will result in greater certainty for both project proponents and Tribes.

VII. Conclusion

We greatly appreciate the opportunity to comment on the PEIS, which represents a proactive effort to ensure that solar energy development on BLM lands is planned in a way that avoids unnecessary impacts to significant historic places in America. We feel strongly that BLM can fulfill its mandate to protect America's outstanding historic and cultural resources while meeting its goal to support and sustain the renewable energy economy. We urge BLM to adopt the SEZ alternative, which has clearly emerged as the most reasonable approach for achieving America's renewable energy goals while limiting the risks of damage to the nation's heritage.

Thank you for your comment, Chase Huntley.

The comment tracking number that has been assigned to your comment is SolarD11811.

Comment Date: May 2, 2011 13:59:50PM
Solar Energy Development PEIS
Comment ID: SolarD11811

First Name: Chase
Middle Initial:
Last Name: Huntley
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City: Washington
State: DC
Zip: 20036
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Solar DPEIS Programmatic Comment Letter (TWS and partners) 05012011.pdf

Comment Submitted:

Please accept and fully consider these comments on behalf of The Wilderness Society, Natural Resources Defense Council, Defenders of Wildlife, Sonoran Institute, Wild Utah Project, New Mexico Wilderness Alliance, Tucson Audubon Society, Audubon Wyoming, Friends of Ironwood Forest, Arizona Wilderness Coalition, Southern Utah Wilderness Alliance, California Wilderness Coalition, Nevada Conservation League & Education Fund, Nevada Wilderness Project, Audubon New Mexico, Soda Mountain Wilderness Council, Center for Native Ecosystems, Western Environmental Law Center, Californians for Western Wilderness, Gila Resources Information Project, Gila Conservation Coalition, National Audubon Society, San Luis Valley Ecosystem Council, and the Sierra Club.

We appreciate the opportunity to submit these comments to the Bureau of Land Management on the draft Programmatic Environmental Impact Statement (PEIS) for agency-wide solar energy program and policy. We are submitting these comments today via the Argonne National Lab website.

To achieve the President's and Secretary's visions of sustainable, environmentally responsible renewable energy development, particularly solar energy, our organizations urge BLM to adopt a Modified Solar Energy Zone (SEZ) Program Alternative that would take into account the general approach of the SEZ Alternative while ensuring SEZs are truly prioritized for development and defining the process for continuing to evaluate and add to SEZs. The Modified SEZ Program Alternative we propose would incorporate the following key elements:

- Utility-scale development is limited to SEZs identified in the PEIS and designated in the Record of Decision (ROD), which would be modified from the Draft PEIS in accordance with additional comments and recommendations. Some of our recommendations on the particular Solar Energy Zones are contained in state-specific comments submitted by some of our groups under separate covers. SEZs designated in the final PEIS require additional site-specific NEPA analysis.
- Additional SEZs may be designated based on determinations of need and in accordance with the criteria and more detailed process set out below. A need has already been demonstrated for additional SEZs in California and we urge BLM to continue review of the West Chocolate Mountains site and initiate analysis of a West Mojave SEZ, based on feedback submitted by some of our groups last year, immediately. Similarly, additional SEZs are needed in Arizona and Arizona BLM's on-going Restoration Energy Design Project should be used to identify potential new SEZs. The need for new SEZs should be analyzed at least every five years. Future SEZs would be fully analyzed at the time of designation to ensure they take a hard look at key issues, including wildlife, cultural resources, transmission, and cumulative impacts, and thus could allow project permitting with tiered NEPA analyses.
- Applications filed before June 30, 2009 (the date the BLM made maps of Solar Energy Study Areas available) would be processed subject to current BLM guidance, including meaningful screening of applications according to Instruction Memorandum Number 2011-061 (which should be modified to reflect the consensus recommendations of the California Desert Renewable Energy Working Group attached as Appendix IX) and others; projects would then be prioritized for processing starting with those having the fewest conflicts. BLM would extinguish all applications located on lands excluded from development under the final PEIS. New applications and those filed on or after June 30, 2009, will be restricted to zones.

Over the last few years, several of our organizations have worked closely with the BLM, industry representatives, utility representatives and others to address the challenges of guiding solar energy development to the right places, taking into account technical, environmental, cultural, transmission, and other needs. We have seen first-hand how difficult it is for BLM to extinguish

applications that are submitted for the wrong places, and how speculative applications further complicate the process of moving appropriately-sited projects forward. We know also that permitting projects of the scale and intensity of these solar energy projects is difficult anywhere in the desert. And we have worked hard to improve and support projects, and to help developers and utilities understand the opportunities and limitations for additional development in our wild, fragile deserts.

Based on these experiences, we believe the Modified SEZ Program Alternative provides a clear, effective path from the current situation to a world where projects and transmission are sited expeditiously in the areas of high energy resource and least environmental impact. In addition to facilitating BLM's permitting, it can help utilities and other entities plan for needed transmission to meet renewable portfolio standards and other renewable energy goals.

We appreciate your serious consideration of these comments and urge you to adopt the Modified SEZ Program Alternative. We look forward to continuing to work with you to develop a Solar Energy program for BLM lands that moves forward our goals of clean air, reduced greenhouse gas emissions, and protection of our nation's great western desert ecosystems.

May 1, 2011

Mr. Bob Abbey
Director, Bureau of Land Management
Solar Energy PEIS
Argonne National Laboratory
9700 South Cass Avenue
EVS/240
Argonne, IL 60439

Dear Mr. Abbey:

Please accept and fully consider these comments on behalf of The Wilderness Society, Natural Resources Defense Council, Defenders of Wildlife, Sonoran Institute, Wild Utah Project, New Mexico Wilderness Alliance, Tucson Audubon Society, Audubon Wyoming, Friends of Ironwood Forest, Arizona Wilderness Coalition, Southern Utah Wilderness Alliance, California Wilderness Coalition, Nevada Conservation League & Education Fund, Nevada Wilderness Project, Audubon New Mexico, Soda Mountain Wilderness Council, Center for Native Ecosystems, Western Environmental Law Center, Californians for Western Wilderness, Gila Resources Information Project, Gila Conservation Coalition, National Audubon Society, San Luis Valley Ecosystem Council, and the Sierra Club.

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- Utility-scale development is limited to SEZs identified in the PEIS and designated in the Record of Decision (ROD), which would be modified from the Draft PEIS in accordance with additional comments and recommendations. Some of our

recommendations on the particular Solar Energy Zones are contained in state-specific comments submitted by some of our groups under separate covers. SEZs designated in the final PEIS require additional site-specific NEPA analysis.

- Additional SEZs may be designated based on determinations of need and in accordance with the criteria and more detailed process set out below. A need has already been demonstrated for additional SEZs in California and we urge BLM to continue review of the West Chocolate Mountains site and initiate analysis of a West Mojave SEZ, based on feedback submitted by some of our groups last year, immediately. Similarly, additional SEZs are needed in Arizona and Arizona BLM's on-going Restoration Energy Design Project should be used to identify potential new SEZs. The need for new SEZs should be analyzed at least every five years. Future SEZs would be fully analyzed at the time of designation to ensure they take a hard look at key issues, including wildlife, cultural resources, transmission, and cumulative impacts, and thus could allow project permitting with tiered NEPA analyses.
- Applications filed before June 30, 2009 (the date the BLM made maps of Solar Energy Study Areas available) would be processed subject to current BLM guidance, including meaningful screening of applications according to Instruction Memorandum Number 2011-061 (and others); projects would then be prioritized for processing starting with those having the fewest conflicts.¹ BLM would extinguish all applications located on lands excluded from development under the final PEIS. New applications and those filed on or after June 30, 2009, will be restricted to zones.

Over the last few years, several of our organizations have worked closely with the BLM, industry representatives, utility representatives and others to address the challenges of guiding solar energy development to the right places, taking into account technical, environmental, cultural, transmission, and other needs. We have seen first-hand how difficult it is for BLM to extinguish applications that are submitted for the wrong places, and how speculative applications further complicate the process of moving appropriately-sited projects forward. We know also that permitting projects of the scale and intensity of these solar energy projects is difficult anywhere in the desert. And we have worked hard to improve and support projects, and to help developers and utilities understand the opportunities and limitations for additional development in our wild, fragile deserts.

Based on these experiences, we believe the **Modified SEZ Program Alternative** provides a clear, effective path from the current situation to a world where projects and transmission are sited expeditiously in the areas of high energy resource and least environmental impact. In

¹ IM 2011-061 should be modified to reflect the consensus recommendations of the California Desert Renewable Energy Working Group to the Secretary of the Interior dated December 22, 2010, and attached as Appendix IX.

addition to facilitating BLM's permitting, it can help utilities and other entities plan for needed transmission to meet renewable portfolio standards and other renewable energy goals.

We appreciate your serious consideration of these comments and urge you to adopt the Modified SEZ Program Alternative. We look forward to continuing to work with you to develop a Solar Energy program for BLM lands that moves forward our goals of clean air, reduced greenhouse gas emissions, and protection of our nation's great western desert ecosystems.

Sincerely,

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**Response to the
Draft Programmatic Environmental Impact Statement for
Solar Energy Development**

Submitted by:

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Natural Resources Defense Council
Defenders of Wildlife
Sonoran Institute
Wild Utah Project
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Tucson Audubon Society
Audubon Wyoming
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San Luis Valley Ecosystem Council
Sierra Club**

TABLE OF CONTENTS

INTRODUCTION

SECTION 1. DOI ACTION

I. Make it meaningful

A. Solar Energy Zones

- 1.Solar Energy Zones (SEZs) are a key element of the proposed program.
- 2.BLM should adopt a **Modified SEZ Program Alternative** to make SEZs and the BLM’s solar energy development program more meaningful.
- 3.The **Modified SEZ Program Alternative** would provide sufficient production of energy from solar development on the public lands.

B. Zone-based Solar Energy Program through adoption of the **Modified SEZ Program Alternative**.

- 1.Modify the SEZ Alternative set out in the Draft PEIS to provide for three categories of land designation for solar energy development.
- 2.Modify the SEZ Alternative to include a process for adding new zones.

C. Pending applications for solar energy development.

- 1.Applications filed before June 30, 2009 (the date established by BLM in its Notice of Availability of SESA maps), will be considered, screened, and processed as appropriate with the exception of pending applications within lands excluded from solar energy development.
- 2.Applications filed after June 30, 2009, will be subject to the **Modified SEZ Program Alternative** as proposed in this comment letter.

D. Conservation of wildlife, habitats and ecosystems concurrent with adoption and implementation of the **Modified SEZ Program Alternative**.

- 1.The agency should adopt a “no net loss” conservation policy for the Solar Energy Program through the **Modified SEZ Program Alternative**.
- 2.The BLM should use agency wildlife policy to assess and develop the Solar Energy Program through the **Modified SEZ Program Alternative**.
- 3.The Solar Energy Program implemented through the **Modified SEZ Program Alternative** must address groundwater resources.

II. Make it legally sufficient

- A. National Environmental Policy Act
- B. BLM Wildlife Policy
- C. National Historic Preservation Act
- D. Federal Land Management Planning Act
- E. Endangered Species Act
- F. Bald and Golden Eagle Protection Act

III. Make it smart

- A. Best Management Practices
- B. Approach to mitigation

Table of Contents

- C. Approach to monitoring
- D. Adaptive management
- E. The BLM should amend appropriate RMPs for all lands not excluded from solar energy development to incorporate all the elements of the **Modified SEZ Program Alternative**, including existing and proposed additional administrative policies and required Design Features.
- F. The BLM should pilot competitive offering of solar development rights to determine the most effective approach as outlined in the **Modified SEZ Program Alternative**.
- G. The BLM should revise the legal instrument used to administer solar energy development as outlined in the **Modified SEZ Program Alternative**.
- H. The BLM should require BLM wildlife policy be incorporated in Plans of Development as outlined in **Modified SEZ Program Alternative**.
- I. The BLM must clarify the design features that require project facilities and activities to “not be located in or near occupied habitats of special status animal species.” as outlined in the **Modified SEZ Program Alternative**.
- J. The BLM should apply land exclusions to supporting infrastructure as outlined in the **Modified SEZ Program Alternative**.
- K. The BLM should clarify ROW application denial criteria as outlined in the **Modified SEZ Program Alternative**.
- L. The BLM should insist sensitive species habitat is protected in furtherance of its wildlife management objectives as outlined in the **Modified SEZ Program Alternative**.
- M. The BLM should directly address the on-site use of fossil fuel to supplement the variable nature of solar energy as outlined in the **Modified SEZ Program Alternative**.
- N. The BLM should better protect the government’s interests in the event of a transfer of project ownership as outlined in the Modified SEZ Program Alternative.
- O. The PEIS treatment of technology should be strengthened as recommended in the **Modified SEZ Program Alternative**.
- P. BLM should make decisions under the ROD on the basis of capacity-factor adjusted power production, not nameplate capacity power production.
- Q. The final Solar Energy Program should employ science-based management.

SECTION 2. DOE ACTION

- I. Analysis of alternatives**
- II. Support for DOE’s preferred alternative**
- III. Recommendations for improvement to the preferred alternative**
 - A. Improve the description of the current DOE solar energy program and its existing guidance
 - B. Broaden the scope of its analysis with regard to categories of affected lands and resources

Table of Contents

- C. Clarify what is meant by “streamlining future environmental analysis and documentation for DOE-supported projects”
- D. DOE should commit to only supporting public lands solar energy projects in zones

APPENDICES

- I. Analysis of reasonably foreseeable development scenario**
- II. Analysis of preferable legal instrument for administering solar energy program**
- III. Analysis of proposed policy elements in Draft PEIS Appendix 2**
- IV. Evaluation of existing methodologies for determining need for additional generation and acres**
- V. Recommendations for performing additional environmental analysis within designated zones**
- VI. Evaluation of solar energy technologies in the Draft PEIS**
- VII. Criteria for use in identifying and prioritizing lands to be considered for new or expanded zones**
- VIII. Survey of best management practices for renewable energy development**
- IX. Letter from California Desert & Renewable Energy Working Group to Secretary Salazar**

INTRODUCTION

Over the last few years, several of our organizations have worked closely with the BLM, industry representatives, utility representatives and others to address the challenges of guiding solar energy development on public lands to the right places, taking into account technical, environmental, cultural, transmission, and other needs. We have seen first-hand how difficult it is for BLM to extinguish applications that are submitted for the wrong places, and how speculative applications further complicate the process of moving appropriately-sited projects forward. We have worked hard to improve and support projects, and to help developers and utilities understand the opportunities and limitations for additional development in our wild, fragile desert ecosystems.

Based on these experiences and our decades of work to improve the protection and management of our public lands, we have outlined in these comments a **Modified SEZ Program Alternative** to provide a clear, effective path from the current situation to a world where projects and transmission are sited expeditiously in the areas of high energy resource and least environmental impact. In addition to facilitating BLM's permitting, it can help utilities and other entities plan for needed transmission to meet renewable portfolio standards and other renewable energy goals.

Through the Solar PEIS, the BLM is undertaking a new program. Our organizations urge BLM to adopt a **Modified SEZ Program Alternative**, instead of the preferred alternative. This modified alternative takes into account the general approach of the SEZ Alternative while ensuring SEZs are truly prioritized for development and defining the process for continuing to evaluate and add to SEZs. The **Modified SEZ Program Alternative** we propose would incorporate the following key elements:

- Utility-scale development is limited to SEZs identified in the PEIS and designated in the Record of Decision (ROD), which would be modified from the Draft PEIS in accordance with additional comments and recommendations. Most of our recommendations on the particular Solar Energy Zones are contained in state-specific comments submitted by some of our groups under separate covers and incorporated here by reference.² SEZs designated in the final PEIS require additional site-specific NEPA analysis.
- Additional SEZs may be designated based on determinations of need and in accordance with the criteria and more detailed process set out below. A need has already been demonstrated for additional SEZs in California and we urge BLM to continue review of the West Chocolate Mountains site and initiate analysis of a West Mojave SEZ, based on feedback submitted by some of our groups last year, immediately. Similarly, additional SEZs are needed in Arizona and Arizona BLM's on-going Restoration Energy Design Project should be used to identify potential new

² See: Solar DPEIS – Comments – Arizona Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – Colorado Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – New Mexico Final (TWS and partners 4-18-11)
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Solar DPEIS – Comments – Utah Final (TWS and partners 4-18-11)
Solar DPEIS - Comments – California (NRDC and partners)

Section 1. Department of the Interior Action

- SEZs. The need for new SEZs should be analyzed at least every five years. Future SEZs would be fully analyzed at the time of designation to ensure they take a hard look at key issues, including wildlife, cultural resources, transmission, and cumulative impacts, and thus could allow project permitting with tiered NEPA analyses.
- Applications filed before June 30, 2009 (the date the BLM made maps of Solar Energy Study Areas available) would be processed subject to current BLM guidance, including meaningful screening of applications according to Instruction Memorandum Number 2011-061 (and others); projects would then be prioritized for processing starting with those having the fewest conflicts.³ BLM would extinguish all applications located on lands excluded from development under the final PEIS. New applications and those filed on or after June 30, 2009, will be restricted to zones.

SECTION 1. DOI ACTION

I. Make it meaningful

Through the Solar PEIS, the BLM is undertaking a new program, which the BLM has described as:

[R]eplacing certain elements of [BLM's] existing solar energy policies (described above) with a comprehensive Solar Energy Program that would allow the permitting of future solar energy development projects to proceed in a more efficient and standardized manner. While the proposed Solar Energy Program will further the BLM's ability to meet the mandates of E.O. 13212 and the Energy Policy Act of 2005, it also has been designed to meet the requirements of Secretarial Order 3285A1 (Secretary of the Interior, 2010) related to identifying and prioritizing specific locations best-suited for utility-scale solar energy development on public lands.

According to the Draft Solar PEIS, the "BLM is developing this PEIS to evaluate a proposed program to further support utility-scale solar energy development on BLM-administered lands." DPEIS, p. 1-7. In addition:

The anticipated elements of the BLM's proposed Solar Energy Program include:

1. Identification of lands excluded from utility-scale solar energy development in the six-state study area;
2. Identification of priority areas within the lands open to solar energy development that are best suited for utility-scale production of solar energy in accordance with the requirements of Secretarial Order 3285A1 (i.e., proposed SEZs);
3. Establishment of mitigation requirements for solar energy development on public lands to ensure the most environmentally responsible development and delivery of solar energy; and

³ IM 2011-061 should be modified to reflect the consensus recommendations of the California Desert Renewable Energy Working Group to the Secretary of the Interior dated December 22, 2010, and attached as Appendix IX.

Section 1. Department of the Interior Action

4. Amendment of BLM land use plans in the six-state study area to adopt those elements of the new Solar Energy Program that pertain to planning.

DPEIS, p. 1-8.

In order to ensure that the Solar PEIS will provide an effective tool for managing development of solar energy on the public lands, the BLM needs to further delineate and expand discussions of the key aspects of this program as discussed below.

A. *Solar Energy Zones*

1. Solar Energy Zones are a key element of the proposed program.

The Draft PEIS defines a Solar Energy Zone (SEZ) as “an area with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development.” DPEIS, p. 2-10. The SEZs were identified based on solar resources, existing transmission and infrastructure, minimum size, lack of slope, screening out units of the National Landscape Conservation System and other classes of lands with high sensitivity and/or conservation values, and taking into account local conditions, institutional knowledge, and other ongoing coordination efforts. DPEIS, p. 2-10.

The general criteria used to identify SEZs will support the goals of the BLM’s program by helping to identify lands best-suited for utility-scale development. However, as discussed in detail in specific comments on each SEZ that have been submitted separately,⁴ some of the proposed SEZs encompass lands that are not suited for large-scale development and either should not be designated or should be re-drawn to protect sensitive lands and resources. Further, additional analysis of certain resources will be required to define acceptable SEZs. For example, the Draft PEIS acknowledges that identification of areas of Tribal concern was not completed prior to publication (DPEIS, p. 2-10), and notes that additional information regarding the impacts on wildlife remains to be provided.

Nonetheless, the identification of priority areas for industrial-scale energy development is key to guiding development to suitable areas, as well as to keeping such development out of inappropriate areas.

2. BLM should adopt a **Modified SEZ Program Alternative** to make SEZs and the BLM’s solar energy development program more meaningful than the Preferred Alternative.

The BLM’s preferred Solar Energy Development Program Alternative (Preferred Alternative) will not meet the objectives of the PEIS, including as set forth in the Purpose and Need Statement, or the BLM’s program. It would make available 21.5 million acres of land for utility-

⁴ See: Solar DPEIS – Comments – Arizona Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – Colorado Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – New Mexico Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – Nevada Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – Utah Final (TWS and partners 4-18-11)
Solar DPEIS - Comments – California (NRDC and partners)

Section 1. Department of the Interior Action

scale energy development, in addition to designated Solar Energy Zones (SEZs). *See*, DPEIS, Table 2.2-1, p. 2-3. The Preferred Alternative would incorporate SEZs only as areas where utility-scale solar development would be prioritized, but would not actually limit development to these areas. While the Draft PEIS discusses general approaches for directing development to SEZs, these measures are not sufficient to ensure that the SEZs will actually be prioritized by developers or the BLM.

The additional lands that would be made available have not been sufficiently analyzed to justify making them available for industrial levels of development. For instance, the BLM acknowledges that, when considering impacts to special status species, the Draft PEIS has only evaluated data in what are termed the “SEZ regions” that are defined as within 50 miles of SEZ centers. Draft PEIS, p. J-2. The Preferred Alternative, if adopted as proposed, would impact more than 400 rare, sensitive, candidate, state-listed and federally-protected plants and animals.

In contrast to the Preferred Alternative’s 21.5 million acres, the SEZs have been subjected to more analysis and, as modified in accordance with recommendations set out in separate comments,⁵ are better suited to industrial-scale solar energy development.

In order to actually guide utility-scale development to the most appropriate places on public lands, new applications should be limited to the SEZs designated through this PEIS process, and new or expanded SEZs that are designated, as needed, through the process laid out in these comments.

BLM should adopt a **Modified SEZ Program Alternative** that would take into account the general approach of the SEZ Alternative while ensuring SEZs are truly prioritized for development and defining the process for continuing to evaluate those SEZs. The Modified SEZ Alternative would incorporate the following key elements:

- a. Utility-scale development is limited to SEZs identified in the PEIS and designated in the Record of Decision (ROD), which would be modified from the Draft PEIS in accordance with additional comments and recommendations.
- b. Additional SEZs could be designated based on determinations of need and in accordance with the criteria and more detailed process set out below.
- c. Applications filed before June 30, 2009 (the date the BLM made maps of Solar Energy Study Areas available) would be processed subject to current BLM guidance, including , including meaningful screening of applications according to Instruction Memorandum Number 2011-061 (and others).⁶ Applications filed on or after June 30, 2009 will be subject to the zone-based solar energy program set out in the PEIS and modified in accordance with these comments.

Our proposed approach to expanding or adding SEZs is set out in more detail in Section 1.I.B.2: Modify the SEZ Alternative to include a process for adding new zones, below.

⁵ Ibid.

⁶ IM 2011-061 should be modified to reflect the consensus recommendations of the California Desert Renewable Energy Working Group to the Secretary of the Interior dated December 22, 2010, and attached as Appendix IX.

Section 1. Department of the Interior Action

While limiting development to SEZs is evaluated in the SEZ Program Alternative, it is also consistent with a modification to the Preferred Alternative. Both action alternatives contemplate prioritizing development in SEZs as well as adding additional zones. Neither, however, includes a process for doing so beyond noting that “[c]hanges to SEZs would have to go through a land use planning process, which would be subject to the appropriate environmental analysis.” DPEIS, pp. 2-11, 2-14. Both alternatives do provide for amendments to affected land use plans: identifying lands in SEZs, identifying lands excluded from development, and for remaining areas available, would also adopt the policies and design features developed in the Solar PEIS. DPEIS, p. C-1. Accordingly, further defining the process by which additional SEZs would be designated or existing SEZs expanded and then incorporated into the affected plans is consistent with the SEZ Alternative’s approach.

3. The Modified SEZ Program Alternative would provide sufficient production of energy from solar development on the public lands.

As discussed in the Draft PEIS, two methods were used to evaluate a Reasonably Foreseeable Development Scenario (RFDS), estimating the amount of power projected to be generated. The RFDS, as applied for the next 20 years, is the same for both BLM action alternatives – the Preferred Alternative and the SEZ Program Alternative. DPEIS, p. 2-23. The RFDS is sufficient to meet BLM’s goals for production of solar energy from the public lands DPEIS, Table 2.4-2, p. 2-22. Further, an independent analysis of the methodology shows that the RFDS is actually aggressive both in terms of amount of renewable energy needed in the study area through 2030 and in terms of the amount of solar energy the public lands will provide to meet that need and, yet, that the alternatives set out in the Draft PEIS will be able to meet those needs and generation goals.

Further, the independent review concluded that the two methods used to arrive at the RFDS were appropriate tools, supporting the conclusion that the RFDS provides a reasonable basis for projecting the *maximum* development that might occur for the purpose of projecting impacts at the programmatic level. We have attached this analysis as Appendix I. We expect that, based on recommendations for modifying SEZs and for adding new SEZs, the **Modified SEZ Program Alternative** would also meet the agency’s goals.

Recommendations: SEZ are necessary to provide for targeted development of solar energy on the public lands in a manner that can use high-quality resources while avoiding lands with high conservation values and limiting damage to other natural resources. The PEIS should ensure that utility-scale development is guided to SEZs and set out a process for designating additional lands as SEZs (including associated criteria) when such capacity is needed through adopting a **Modified SEZ Program Alternative**.

B. Zone-based Solar Energy Program through adoption of the Modified SEZ Program Alternative.

Appendix A to the Draft Solar PEIS sets out “Current and Proposed Bureau of Land Management Solar Energy Development Policies and Design Features.” These policies will be

Section 1. Department of the Interior Action

incorporated into all of the affected RMPs and, therefore, are a key element of any Solar Energy Program. The Solar Energy Development Policies and Design Features should be improved in the following ways and adopted as part of a **Modified SEZ Program Alternative**:

At the outset, the ROD and land use plan amendments must be absolutely clear that application of the policies and design features is *mandatory*, subject to applicability to specific site conditions.

The actual text of IMs 2010-071, 2010-141, 2011-003, 2011-059, 2011-060, and 2011-061 should be included, to avoid confusion with the status of this guidance as time passes.⁷

The text of the guidance issued by the Council on Environmental Quality on January 14, 2011, addressing the "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact," should be incorporated.

BLM should adopt a final, effective **Modified SEZ Program Alternative** that incorporates the following modifications of the Draft PEIS SEZ Alternative:

1. Modify the SEZ Alternative set out in the Draft PEIS to provide for three categories of land designation for solar energy development.

The basis for solar energy development on BLM lands is the underlying Resource Management Plan (RMP). The PEIS seeks to amend 89 RMPs to address solar energy development. The final Solar Energy Program adopted by BLM must have the following three categories of land designation for solar energy development.

- a. Category 1: Lands made available for solar development. RMPs underlying designated Solar Energy Zones will be amended to be made available for solar development.

Within SEZs, RMP amendments should affirmatively make that acreage available for solar energy development pending adequate environmental analysis.

- b. Category 2: Lands not excluded from solar development. RMPs underlying lands outside SEZs designated as "not excluded from solar energy development" (referred to in the Draft PEIS as "available lands") will be available for further study and potential future designation of new or expanded zones.

The lands not excluded from solar energy development, but not designated as zones, in the DPEIS should be designated as such in the **Modified SEZ Program Alternative**. These are the 21.5 million acres identified in the Draft PEIS as "available land." They should be modified to exclude additional sensitive resources as recommended in state specific comments, especially

⁷ IM 2011-061 should be modified to reflect the consensus recommendations of the California Desert Renewable Energy Working Group to the Secretary of the Interior dated December 22, 2010, and attached as Appendix IX.

Section 1. Department of the Interior Action

Citizen Wilderness Proposals and lands set aside for mitigation.⁸ These lands should not be made available for development in the ROD but, rather, should serve as the universe of lands from which new or expanded zones can be designated under the reassessment process described in Section 1.I.B.2: Modify the SEZ Alternative to include a process for adding new zones, below, and subject to specific criteria laid out in Appendix VII. Although pending applications may be located in these lands in some states, new applications shall not be accepted on these lands unless and until they are designated zones. Pending applications should be defined to include only those filed by June 30, 2009, to avoid potential gaming of the system between now and the date of the ROD.

- c. Category 3: Lands excluded from solar energy development. RMPs underlying remaining 180+ million acres will be amended to exclude solar development.

Where lands have been found not suitable and excluded from solar development under both DPEIS action alternatives, RMPs should be amended to exclude solar energy development under the modified SEZ Alternative. Importantly, **pending applications, regardless of filing date, located in whole or in part in lands excluded from solar energy development should be rejected upon issuance of the ROD.**

The exclusions listed in DPEIS Table 2.2-2 (reproduced following) should be reflected in RMP amendments. However, when considering future zones, an exception should be made for Desert Renewable Energy Planning Process (DRECP). In that process, the BLM should continue to examine **all lands** previously identified within the DRECP planning process as lands potentially available for development. While some lands may become “unavailable” for development upon finalization of the PEIS, the BLM could amend the RMPs within the DRECP area to make some of those lands “available” upon finalization of the DRECP. In particular, we believe that there are potentially suitable lands for development with the West Mojave and Imperial Valley that are not currently identified by the BLM in the PEIS as “available lands.” Further, if the BLM issues a scoping notice for potential solar zone(s) within the West Mojave prior to the finalization of the PEIS, the BLM should continue with the examination of those areas for possible RMP amendment after the finalization of the PEIS.

DPEIS TABLE 2.2-2 Areas for Exclusion under the BLM Solar Energy Development Program Alternative

1. Lands with slopes greater than or equal to 5%.
2. Lands with solar insolation levels less than 6.5 kWh/m²/day.

⁸ See: Solar DPEIS – Comments – Arizona Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – Colorado Final (TWS and partners 4-18-11)
Solar DPEIS – Comments – New Mexico Final (TWS and partners 4-18-11)
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Solar DPEIS – Comments – Utah Final (TWS and partners 4-18-11)
Solar DPEIS - Comments – California (NRDC and partners)

Section 1. Department of the Interior Action

3. All Areas of Critical Environmental Concern (ACECs), including Desert Wildlife Management Areas (DWMAs) in the California Desert District.
 4. All critical habitat areas (designated and proposed) for listed species under the Endangered Species Act of 1973 (as amended).
 5. All areas where the applicable land use plan designates no surface occupancy (NSO).
 6. All areas where there is an applicable land use plan decision to protect lands with wilderness characteristics.
 7. All Special Recreation Management Areas (SRMAs), developed recreational facilities, and special-use permit recreation sites (e.g., ski resorts and camps).
 8. All areas where solar energy development proposals are not demonstrated to be consistent with the land use management prescriptions for or where the BLM has made a commitment to take certain actions with respect to sensitive species habitat, including but not limited to sage-grouse core areas, nesting habitat, and winter habitat; Mohave ground squirrel habitat; and flat-tailed horned lizard habitat.
 9. All ROW exclusion areas designated in applicable plans.
 10. All ROW avoidance areas designated in applicable plans.
 11. All areas where the land use plan designates seasonal restrictions.
 12. All Desert Tortoise translocation sites identified in applicable land use plans.
 13. Big Game Migratory Corridors identified in applicable land use plans.
 14. Big Game Winter Ranges identified in applicable land use plans.
 15. Research Natural Areas.
 16. Lands categorized as Visual Resource Management Class I or II (and, in Utah, Class IIIb).
 17. National Recreation Trails and National Back Country Byways.
 18. National Historic and Scenic Trails, including a corridor of 0.25 mi (0.4 km) from the centerline of the trail, except where a corridor of a different width has been established.
 19. National Historic and Natural Landmarks
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2. Modify the SEZ Alternative to include a process for adding new zones.

To have a meaningful **Modified SEZ Program Alternative**, the BLM must commit not only to a zone-based approach, but also to expanding or adding new zones. The acreage ultimately designated through the PEIS as available for solar development in SEZs is a good starting point, but it is not sufficient, nor optimal, to satisfy changing conditions in the market and natural environment. The BLM's own Reasonably Foreseeable Development scenario makes it clear that the SEZ Alternative has adequate acreage to meet near-term and medium-range needs. Development will not be appropriate for all these lands, however, and changing circumstances will likely require that additional acreage in the form of additional or expanded zones will be needed to provide the agency and industry the flexibility to accommodate changing conditions and to deliver megawatt-hours. To address likely future needs for more acreage as SEZs, we propose the following modifications to the Draft PEIS SEZ Alternative's Solar Energy Program:

- a. Modify the Draft PEIS SEZ Alternative to provide for periodic reassessment of the need for new or expanded zones.

Section 1. Department of the Interior Action

BLM should assess the need for additional acreage required to satisfy regional demand for megawatt-hours from large-scale solar development every 5 years on a statewide basis.⁹

Reassessment of the need for additional or expanded SEZs will take place every five years in each of the six states covered by the PEIS. Reassessment can also be triggered at another time by a petition setting out causes, such as changes in policy or reductions in other SEZs. The assessment process should take no longer than six months.

Once a determination of need for additional acreage or megawatts is made, the BLM will commence a public process through an EIS that will be completed within 12-18 months. The BLM will solicit input regarding additional lands to be included from within the approximately 21.5 million acres that the BLM has concluded are potentially suitable for consideration for solar development and which remain eligible after application of exclusion criteria as modified in this PEIS. These future assessments should also take into account adjacent private lands where appropriate. A Draft EIS will analyze potential additions/expansions to address needs, impacts to other resources, and consider a range of alternatives at a level of detail sufficient to permit tiering for NEPA purposes for projects within the new zone(s) as well as consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to the Endangered Species Act. A Final EIS and ROD will then amend the SEZ designations made in the ROD and affected land use plans.

SEZ designation will be subject to specific screening and additional criteria to avoid conflicts and prioritize previously-disturbed lands.

The results of several ongoing processes to identify lands that would be suitable as zones – i.e., the Restoration Energy Design Project in Arizona, the Chocolate Mountains EIS, and the Desert Renewable Energy Conservation Plan in Arizona – should be incorporated as SEZs into the new program in accordance with the criteria set out for new zones below and through the process for adding new zones that we describe herein, without regard to the “triggers” identified for need. In addition, we believe that there are potentially suitable lands for development within the West Mojave and Imperial Valley that BLM should evaluate for new zones.¹⁰ If the BLM issues a scoping notice for potential solar zone(s) within the West Mojave prior to the finalization of the PEIS, the BLM should continue with the examination of those areas for possible RMP amendment after the finalization of the PEIS.

A periodic approach to reevaluation of the need for additional acreage will ensure that SEZs function as they should – as focal areas for appropriate permitting and development, not as ceilings on development. Acreage of public lands is ultimately an input into the commercial production of electricity, and as such an evaluation of additional acreage must be tied to the best available understanding of need, which itself is a function of many factors, including energy use and production patterns across the grid and changes in the availability of specific assets (such as power plants or transmission lines) over time. But acreage of public lands is also a scarce resource managed for multiple uses. The BLM should commit to utility-scale solar development

⁹ Appendix 5 includes a fuller discussion of current approaches to determining “need” for additional generation and transmission infrastructure.

¹⁰ See Solar DPEIS - Comments – California (NRDC and partners)

Section 1. Department of the Interior Action

only the lands needed to accomplish the defined purpose, and modify that commitment as conditions change.

The 5-year reassessment should function similarly to the approach taken to ensure the regular reevaluation of transmission congestion mandated by Congress under the Energy Policy Act of 2005 – i.e., through the National Electric Transmission Congestion Study.¹¹ The commitment to reexamine the circumstances on a rolling basis provides valuable information to decision makers and, importantly, creates an opportunity for the agency to improve its methodology and, as a result, the quality of its output.

The BLM's reasonably foreseeable development scenario provides an important input, but additional information specific to state and regional conditions (including transmission constraints) and changing resource conditions are essential inputs into reassessment. Specifically, the BLM should take into account the criteria provided as Appendix I.

Appendix VII includes criteria for indentifying new zones. These proposed additions should be subject to the list of screening criteria laid out in IM 2011-061, and other screening criteria as appropriate, including those included in Appendix VII to ensure that the additional zones ultimately designated are appropriate for this use. The evaluation process must reflect a priority for identifying lands already degraded by mechanical disturbance as in Arizona's **Restoration Design Energy Project (RDEP)** as well as in the BLM's own screening criteria issued on February 8, 2011. BLM should consider adjacent or intermixed private lands assessing new zones, as is being done in **Arizona's RDEP** and **California's Desert Renewable Energy Conservation Plan (DRECP)**.

b. Modify the Draft PEIS SEZ Alternative to provide for out-of-cycle reassessment triggered by petition.

Acknowledging that significant changes can occur in the interim between required reassessments, the Modified SEZ Program Alternative should also provide for an earlier reassessment triggered by petition. The need for reassessment must be carefully established and linked to significant policy or market changes (e.g., increase in state or national renewable standards or approval of a foundational transmission line), and not, for example, to the desire of an individual developer to construct a particular project on an area of public lands that is not within a zone. An out-of-cycle reassessment should also allow for petition on the basis of seeking changes in already-designated zones, such as elimination or boundary revisions to, for example, take into account identification of special status species or changes in status of species under the Endangered Species Act.

Petitions will be submitted to and decided on by BLM based on national standards for evaluation to be determined in cooperation with the Department of Energy and set out in guidance.

¹¹ The study, repeated on a three-year cycle, uses key metrics to identify areas experiencing transmission congestion. We have already seen in the repetition of the same findings in the 2006 and 2009 study that three years is likely too close an interval for reassessment. We are not recommending BLM produce a technical study, but rather learn from the experience of conducting a regular reassessment.

Section 1. Department of the Interior Action

- c. Modify the Draft PEIS SEZ Alternative to provide for meaningful stakeholder involvement in reassessment.

The BLM's identification of proposed Solar Energy Study Areas laid bare the limitations on in-house data and knowledge at the agency, especially in desert ecoregions. *See, e.g.*, the Scoping Comments of 20 environmental and conservation organizations submitted to the BLM in response to its proposed SESAs on September 14, 2009, and state-specific comments submitted on the Draft PEIS by many of those same organizations. Given the wide range of data needed to ensure a timely and complete decision, the BLM should be responsible for overseeing the reassessment must solicit input regarding need for additional acreage and in identifying and designating additional zones.

BLM should be responsible for making the determination that additional acreage is needed following stakeholder outreach, and notice and comment. Once the decision is made to identify and designate additional acreage for a given state, the BLM in that state will begin the NEPA process. The BLM will solicit input regarding additional lands to be included from within the lands designated as "not excluded from solar development" (currently referred as "available lands") in the PEIS.

Proposed new or expanded zones must be analyzed through an EIS. As noted above, the goal in preparing EISs for new zones should be to produce a document that contains a comprehensive and in-depth look that resources within the proposed zone such that the permitting of projects within the zone can be facilitated by, for example, an environmental assessment. The final EIS and ROD will amend affected RMPs. The reassessment process should also consider changes in conservation status and, as with project-level review proposed under the Draft PEIS Preferred Alternative, remove those lands for which solar energy development is not appropriate from further availability for solar.

For ongoing efforts in California and Arizona, any designation of additional zones should be incorporated, where appropriate, into the **Modified SEZ Program Alternative** outside the reassessment and interim reassessment processes, and RMP amendments processed as part of the ROD developed by those efforts. In the case of California, the DRECP, when completed (and perhaps incrementally prior to completion), will identify lands for conservation and lands for potential solar development. BLM will need to amend the California Desert Conservation Plan as promptly as possible, if not simultaneously, to be consistent with the DRECP's provisions including, for example, its exclusions of all identified conservation lands from solar and other development availability as appropriate, and designating new solar zone(s) based on the potential solar development areas identified in the DRECP.

Again and importantly, SEZ designation should not occur outside the process set out above such as in the regular land use planning process or for individual projects.

Further, additional provisions that should be included in the Modified SEZ Program Alternative are set out and discussed in detail in Section 1.II below.

Section 1. Department of the Interior Action

Recommendations: The Solar PEIS ROD should adopt the Modified SEZ Program Alternative in order to set out a detailed Zone-Based Solar Energy Program, including the text of applicable and revised IMs and other key guidance, as well as additional elements set out above for reassessing zones and criteria for designation, that will be incorporated into all land use plans via RMP amendments as governing solar energy development.

C. Pending Applications for Solar Energy Development.

The Draft PEIS acknowledges that the BLM has continued to receive right-of-way (ROW) applications for solar energy development during the preparation of the PEIS. Further, in the June 30, 2009 Federal Register Notice providing the “Notice of Availability of Solar Energy Study Area maps,” the BLM notified applicants that any ROW authorization for a solar energy application filed before issuance of the BLM’s ROD for the Solar PEIS would be subject to the requirements adopted in the ROD. The Draft PEIS proposes that ROW applications received after June 30, 2009, but only those within SEZ, would be subject to the ROD. DPEIS, p. 2-5. However, the Draft PEIS does not set out a detailed approach to processing the pending applications, which is also required in order to make the Solar Energy Program effective as soon as possible.

Currently, a great many ROW applications for utility scale solar development have been filed with the BLM. Overall, as of December 23, 2010, approximately 166 ROW applications have been filed.¹² As of April 8, 2011, the BLM had classified 103 of these applications in the six-state study area as “active”¹³ and “approved” applications. In all, this “subset” of applications, which included the fast track projects originally identified by BLM as well as lower priority projects, covers 1,038,442 acres and is estimated to have the capacity to produce 60,601 MWs. See Table of “Active and Approved Solar Applications on BLM-Administered Lands,” prepared by L. Resseguie, December 20, 2010. In California, where there are 30 of these applications, roughly 50 % of them are within proposed zones, including the zones that the State and the environmental community think should be dropped.

It would undoubtedly take significant resources to process all of these applications and it is unlikely that there is enough money to process all of them as well as the transmission that would need to be built to support these projects. (Moreover, many are in inappropriate locations). Although the BLM possesses the legal authority to reject these applications, our groups are not recommending that this be done even after the new solar program is adopted. Rather, as described in more detail below, our groups urge the BLM to adopt a process for dealing with these applications that 1) will ensure that its limited resources are focused on the applications that are most likely to succeed and 2) will not undermine the zone-based approach and its myriad benefits.

Processing pending applications should proceed as follows:

¹² See NRDC, *Bureau of Land Management Utility-Scale Solar Applications – A Geospatial Survey of Active ROW Applications*, April 2011. Data used in production of this report were drawn from BLM.

¹³ The meaning of this term is unclear. It may mean that these are “first in line applications.” It unquestionably does not mean that the applications have passed the BLM’s economic and technical criteria as of that date, let alone the criteria established by Instruction Memorandum 2011-061 on February 8, 2011.

Section 1. Department of the Interior Action

1. Applications filed before June 30, 2009 (the date established by BLM in its Notice of Availability of SESA maps), will be considered, screened, and processed as appropriate with the exception of pending applications within lands excluded from solar energy development.
 - a. Pending applications within the acres of public lands excluded from solar energy development under both alternatives presented in the Draft PEIS shall be rejected upon finalization of the ROD.
 - b. Applications considered outside of zones will need concurrent RMP amendments as was the case with 'fast track' projects in CDCA.
 - c. The prevailing IMs in force as of the finalization of the ROD will be written into the RMPs as the required method for processing all applications submitted prior to June 30, 2009, with the following exceptions:
 - i. IM 2011-061 should be amended to reflect the screening criteria agreed to by developers, utilities and other industry representatives, as well as environmental and conservation groups, transmitted to the Secretary on December 22, 2010, and attached as Appendix IX.
 - ii. Proximity to National Park Units should remain a high risk factor.
 - iii. All pending applications that have not advanced to a Notice of Intent to prepare an EIS shall be subject to the pre-application consultation requirements of IM 2011-061.
 - d. BLM shall reserve its right to reject applications at any time and prioritize consideration of pending applications as follows:
 - i. Pending applications located within zones, starting with those found to be "low conflict" per the screens established in IM 2011-061, modified as described above, followed by those found to be "medium conflict"
 - ii. Pending applications located outside zones found to be "low conflict" per the screens established in IM 2011-061, modified as described above, followed by those found to be "medium conflict"
 - iii. Consideration of pending applications is not an assurance that applications will either proceed to environmental review nor be approved
 - iv. BLM reserves the right to defer consideration or review of applications on the basis of environmental screening results, as well as on the basis of other appropriate reasons such as agency resource constraints or other agency priorities
 - e. Applicants holding pending applications should be assessed an annual "holding fee"
 - f. At their discretion, applicants should have the option of withdrawing their applications with a guaranteed refund of application fee.
 - g. Applicants should be able to choose to opt into the program established by the PEIS (and set out in the **Modified SEZ Program Alternative**) as follows:
 - i. Applicants with pending applications located within designated zones will have the option of electing to be considered under the program established by the PEIS.

Section 1. Department of the Interior Action

- ii. Applicants with pending applications located outside of zones that are found to be “low potential for conflict” or “medium potential for conflict” per the screens established in IM 2011-061, modified as described above, will have the option of relocating their project within designated zones on lands not already under application, retaining their filing date seniority, and being considered under the Modified SEZ Program Alternative.
 - iii. Project proponents with applications pending outside of zones that are found to be “high potential for conflict” per the screens established in IM 2011-061, modified as described above, will not be eligible to opt into the Modified SEZ Program Alternative, and are expected to be screened out under the prevailing agency guidance.
 - iv. BLM will be expected to enforce requirements from completion of Plans of Development and needed information as has been done in California to work down the list as expeditiously as possible.
 - v. BLM reserves the right not to process these applications based on available resources and competing priorities.
 - vi. Zones should be designated as right-of-way corridors pursuant to FLPMA and as such become the immediate priority for consideration.
 - vii. The 2011-12 priority lists have been established, and will presumptively be worked through not subject to these provisions. However, once designated, zones will be the operational construct for directing agency resources. Accordingly, any pending applications filed prior to June 30, 2009, and not on the 2011-12 priority list would be expected to be considered further only to the extent they are within zones
2. Applications filed after June 30, 2009, will be subject to the Modified SEZ Program Alternative as proposed in this comment letter.
- a. Pending applications within zones will be subject to screening and review pursuant to the PEIS terms.
 - b. Pending applications outside of zones will be rejected upon issuance of the ROD.¹⁴
 - c. Future applications will only be accepted within designated zones.
 - d. Applications processed under the program established by the PEIS may be subject to competitive offering

Pending Applications must be defined to include only those filed by a certain date in the past. The risk to gaming the system if Pending Applications included applications filed until the ROD, for example, is simply too great. The BLM has already demonstrated it has interest and authority to shield applications in the queue from speculative behavior by mineral developers.¹⁵ And while

¹⁴ At a minimum, pending applications filed post-June 30, 2009, should be deferred until such time as all pre-June 30, 2009, applications are processed and there are no applications pending within zones, provided that the application is subject to a significant holding fee in the meantime.

¹⁵ On April 26, 2011, BLM issued an interim temporary final rule to segregate existing and potential wind and solar lands ROWs, or public lands identified by the BLM for potential wind and solar generation from competing and potentially conflicting mineral interests. 76 Fed. Reg. 23198. The principle behind the issuance of this rule was sound, in that we agree that such a rule as expressed in the original notice would, “...promote the orderly

Section 1. Department of the Interior Action

a prospective mineral interest can lay harm to the judicious processing of a solar or wind ROW application, the same dynamic is true when multiple and prospective solar ROW applications are accepted, particularly when the boundaries of overlap with preceding applications. Furthermore, the acceptance of multiple ROW applications also threatens to diminish the planning process, given that these multiple ROWs applications compete for the same and limited planning resources of the agency. The same latitude afforded the agency in reducing conflicts through segregation should be applied to establishing a clear boundary date in defining pending applications so that the agency can preclude multiple overlapping applications.

Recommendations: The Solar PEIS needs to address existing applications for rights-of-way in detail and should do so in accordance with the approach set out above and described in further detail below.

D. Conservation of wildlife, habitats and ecosystems concurrent with adoption and implementation of the **Modified SEZ Program Alternative**.

1. The agency should adopt a “no net loss” conservation policy for the **Modified SEZ Program Alternative**

The Preferred Alternative, if adopted without revisions, would undermine at-risk and endangered species, in violation of the Federal Land Policy and Management Act (FLPMA) and applicable BLM policies adopted pursuant to that statute, as well as the Endangered Species Act. The Preferred Alternative would impact more than 400 rare, sensitive, candidate, state-listed and federally-protected plants and animals. For each of these species, BLM identified the acres of potentially suitable habitat in a five million acre area around each zone and then evaluated the potential impact of solar infrastructure on these habitats.

BLM policy pertaining to wildlife, habitats and ecosystems should be consistent with the standards established under BLM’s policy on the management of Special Status Species (6840) and Wildlife and Fisheries Management (6500). This standard should require “no net loss” of wildlife as a result of the Solar Energy Program and a “net conservation benefit” to BLM Special Status Species adversely impacted by the program. A net conservation benefit standard would require a project that adversely impacts a listed species to successfully enhance that species’ overall population or recovery status. To be classified as a net conservation benefit, the enhancement must benefit the affected species to a greater degree than if the project were not undertaken.

For example, the Special Status Species policy directs the agency to not only minimize threats to sensitive species, but also “improve the condition of the species habitat” and “initiate proactive conservation measures” to minimize the likelihood of ESA listing.” BLM Manual 6840.2; 6840.02. Given the breadth and potential of widespread impacts from the new Solar Program, BLM should seize this opportunity to proactively improve conditions for sensitive species across all six states within the PEIS study area. Failing to do so would be inconsistent with BLM

administration of the public lands by giving the BLM a tool to minimize potential resource conflicts between ROWs for proposed solar and wind energy generation facilities and other uses of the public lands.” 76 Fed. Reg. 23199.

Section 1. Department of the Interior Action

wildlife and special status species policy and would pose a great risk to wildlife on BLM lands as solar energy development expands across the landscape. Yet, for more than 100 species, BLM estimated wildlife populations could face up to a 10% loss of their populations or habitat. In the 11,000 page PEIS, however, BLM offered no detailed proposals to offset those losses with beneficial activities elsewhere.

Further, under section 7(a)(1) of the ESA, BLM is explicitly obligated to affirmatively conserve ESA listed species. Because the BLM already requires developers to implement mitigation measures for impacted species, there is already a framework in place for incorporating the no net loss and net conservation benefit standards. These goals are achievable without slowing the development of a growing solar industry or other energy production or other development on BLM land. In fact, we believe that implementation of the no net loss and net conservation benefit goals would increase certainty for developers by clarifying the standard for mitigating project impacts before a project could go forward.

We believe that the appropriate goals for the BLM, given its public trust responsibility as part of a Department with a mission of protecting natural resources and the affirmative Special Status Species policy and ESA obligations are the following:

- BLM should commit, in the ROD, to a goal of leaving regional populations of sensitive wildlife and plant species as well or better off after solar development than before it – ‘no net loss.’
- BLM should establish an agency goal for endangered, threatened and candidate plant and animal species that seeks an outcome from each consultation over a proposed SEZ or solar project that will result in a net conservation benefit for all such affected species through mitigation measures including habitat restoration and land acquisition.

These goals can be met by careful planning that allows projects to avoid impacting the most important places for wildlife. With these broad goals in place for sensitive and listed species, remaining impacts on individual species should be offset through compensatory mitigation that creates benefits for wildlife in other appropriate locations. In addition, success in meeting these goals does not have to be achieved solely through developer-funded mitigation and/or as part of the consultation process. Instead, BLM could describe how its own activities to manage and restore species populations would be used in concert with developer efforts and how all those efforts, together, would achieve the no net loss and net conservation benefit standards proposed.¹⁶

Recommendations: BLM should commit, through the final PEIS, to a goal of leaving regional populations of sensitive wildlife and plant species as well or better off after solar development than before it – ‘no net loss.’ With regards to endangered, threatened and candidate species, BLM should establish an agency goal that seeks an outcome from each consultation over a proposed solar project that, through mitigation measures including habitat restoration and land

¹⁶ Such an approach is consistent with BLM-directed mitigation of natural gas development-related impacts on mule deer and pronghorn in the Jonah and Pinedale fields in Wyoming. In that case, developers funded a multimillion dollar mitigation fund and intensive monitoring to document and attempt to fully offset impacts on these species. While the monitoring and follow-up actions have not been carried out as envisioned, the approach could be designed and implemented in a manner that would be successful.

Section 1. Department of the Interior Action

acquisition, will result in a net conservation benefit for affected threatened or endangered plants and animal species.

2. The BLM should use agency wildlife policy to assess and develop the Solar Energy Program through a Modified SEZ Program Alternative.

Substantive BLM wildlife policy is established within the Special Status Species Manual (6840) and the Wildlife and Fisheries Management Manual (6500) on BLM lands.¹⁷ The purpose of these policies is to provide guidance to the agency in the conservation of the species, habitat and ecosystems found on BLM lands. The wildlife policies clearly apply to this PEIS and the program it ultimately implements, which the agency has acknowledged is a land use planning process.

BLM wildlife policy can be translated into meaningful program conservation objectives. For example, agency wildlife policy could be used to analyze and develop a solar program which will:

- Conserve or recover ESA-listed species
- Reduce or eliminate threats to BLM sensitive species and minimize the likelihood of listing these species under the ESA
- Ensure self-sustaining populations and a natural abundance and diversity of wildlife, fish, and plant resources on the public lands

Given the scale and scope of development being contemplated under a solar program and the significant risk posed to wildlife, habitat and ecosystems by that development, it is imperative that BLM fulfill its wildlife policy obligations with the utmost diligence. Agency policy provides the BLM with measurable conservation objectives that should be incorporated into all aspects of solar energy program planning and implementation, for example as a means of evaluating program and project impacts, and as a standard for implementing key program features, such as mitigation and adaptive management plans.

¹⁷ The objectives of the Special Status Species policy are twofold: 1) To conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species; 2) To initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing these species under the ESA. The second objective is of particular use in this case as it provides the agency with the ability to meaningfully characterize the risk posed by solar development to wildlife species.

The Wildlife and Fisheries Management policy provides clear, measurable criteria to the BLM as well: “It is BLM policy to manage habitat with emphasis on ecosystems *to ensure self-sustaining populations and a natural abundance and diversity of wildlife, fish, and plant resources on the public lands.*” 6500.06 (emphasis added). In order to accomplish this policy’s goal to ensure self-sustaining populations and a natural abundance and diversity of wildlife, section 6500 states that the BLM will, among other things, “ensure *full consideration* of the wildlife, fish, and special status species in land use plans and other BLM activities.” 6500.06 (emphasis added).” In addition, it will “ensure that all activity plans (HMPs, AMPs, etc.) include *site specific objectives* for wildlife fish, and special status species and the actions necessary to achieve those objectives.”

As with the 6840 policy, the 6500 policy enables BLM to meaningfully assess impacts to fish and wildlife species, and to develop a solar program that is consistent with the agency’s policy obligations. In particular, the obligation to ensure self-sustaining populations as well as natural abundance and diversity provide the agency with a meaningful conservation framework. We strongly recommend that the agency apply these wildlife conservation objectives to all aspects of solar program planning and decision-making, for example in the development of meaningful avoidance, minimization and mitigation strategies.

Section 1. Department of the Interior Action

Recommendations: Existing BLM wildlife policy, as set out in the objectives and guidance from BLM’s manual for management of Special Status Species (SSS/6840) and Fish and Wildlife (FW/6500) on BLM lands, should be used to identify meaningful conservation objectives as part of the Solar PEIS and the Solar Energy Program. BLM should take this opportunity to set clear goals and commitments to ensure: conservation or recovery of ESA-listed species; reduction or elimination of threats to BLM sensitive species (also minimizing the likelihood of ESA listing for these species under the ESA); and self-sustaining populations and diversity of wildlife, fish, and plant resources on the public lands. In this way, BLM can best comply with its own policies and obligations regarding wildlife management, while also supporting solar energy development.

3. The Solar Energy Program implemented through the Modified SEZ Program Alternative must address groundwater resources.

Water sustainability must be one of the guiding principles for siting solar energy development. Without ensuring water sustainability for power production, the BLM cannot “implement agency-specific programs that would facilitate environmentally responsible utility-scale solar energy development,” 73 Fed. Reg. 30908, 30909 (May 29, 2008). The same basins that contain excellent solar resources often have little water to spare for energy development; many are already fully or over-appropriated and many are in a state of overdraft. One research group has found that water availability highly constrains thermoelectric cooling in many of the same areas proposed for solar energy development.¹⁸

To ensure sustainable water use on BLM lands, the BLM must take all aspects of water resources into account when evaluating solar energy development on our nation’s lands. It is critical that BLM ensures that solar energy development limits resource conflict by minimizing water use and reduces energy production’s vulnerability to water shortage. We cannot plan for future energy production, energy security and energy reliability without considering how water requirements will be met over time. “[I]t is crucial that the United States develop new policies that integrate energy and water solutions so that one resource does not undermine the use of the other.”¹⁹

For all solar development permitted by BLM, developers must ensure that solar energy water use will not contribute to exceeding the sustainable yield of the surface or groundwater source,²⁰ to avoid injury to other water rights holders, to federal trust resources, and to special status species. We support the proposed design features required of all solar energy development approved by BLM that prohibit water use that exceeds sustainable yield or affects special status species and sensitive habitats. (A-54, A-57). That said, we recommend BLM include a prohibition on project water use that affects federal trust resources such as national wildlife refuges, national parks, areas of critical environmental concern and similar public lands.

¹⁸ See EPRI, *A Survey of Water Use and Sustainability in the United States with a Focus on Power Generation* (Nov. 2003) (finding high cooling constraints in Clark County, NV; San Bernardino, Riverside, Imperial and San Diego Counties, CA; Doña Ana County, NM; and Alamosa County, CO).

¹⁹ 111 Cong. Rec. S2830 (daily ed. March 5, 2009) (statement of Sen. Bingaman) (noting that “neither resource is routinely considered in developing management policies for the other”).

²⁰ We also suggest a definition for safe or sustainable yield of surface water sources, as one is currently missing from the glossary. “The level of water extraction from a particular system that, if exceeded, would compromise key environmental assets, or ecosystem functions and the productive base of the resource.”

Section 1. Department of the Interior Action

In fully appropriated, over-appropriated or overdrafted surface or groundwater basins, BLM and the project developer must ensure that solar energy projects result in no net depletions of water resources or that any depletions are offset. In overdrafted basins, they should also reduce the amount of overdraft. Any increase in depletions constitutes a new appropriation on the system that will reduce and draw down aquifers, adversely affecting vegetation, wetlands, riparian areas, seeps, springs and other wildlife habitats.

The technology exists to conserve our water resources. In basins with little or no available water, it appears that only dry cooled or non-cooled technologies may be feasible. Cooling systems such as dry cooling and hybrid cooling can conserve water in the cooling cycle, and concentrating PV and dish systems can conserve even more water because no cooling cycle is needed. Should cooling technologies become more water efficient or other technologies that operate without a cooling cycle develop, there may be additional opportunity for solar development in the areas with limited water resources. Should non-freshwater sources, such as municipal wastewater, be available, there may be opportunities to utilize water-dependent technologies for cooling or other needs.

BLM has also acknowledged that wet cooling is not feasible within nearly every proposed SEZ.²¹ In light of such limited water availability, we expect that the inclusion of design features finding wet cooling infeasible establishes a presumption against BLM approval of projects utilizing wet cooling. Most proposed wet cooled projects will present both significant resource conflicts in their attempts to obtain adequate water rights and also challenges in avoiding unacceptable impacts to water resources and the ecosystems, habitats and species that depend on them.

Recommendations: The ROD should incorporate requirements that limit impacts by basing the selection of solar energy technologies on the available water supply; prohibit unacceptable impacts caused by water use; and mitigate adverse impacts to water and ecological resources.²² BLM may require a project developer to use non-freshwater sources, such as municipal effluent, or acquire minimization rights that offset adverse and mitigate for impacts to streamflow, aquifer levels, recharge, sensitive fish and wildlife and their habitats, or other impacts, potentially achieving a net gain in water available for ecosystem and habitat needs.

II. Make it legally sufficient

In order to implement the Modified SEZ Program Alternative and effectuate the Solar Energy Development Program described above, the PEIS and its application must comply with applicable legal requirements. As currently drafted, the Draft PEIS is not legally sufficient. The PEIS must be improved to define the scope of environmental analysis conducted and confirm the additional environmental and cultural analysis that is legally required to approve projects.

A. NEPA

²¹ This design feature should also apply to any solar energy project outside a given SEZ.

²² This could be accomplished, by, for example, denying an application if the water requirements of the proposed technology would result in unacceptable impacts.

Section 1. Department of the Interior Action

The National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq.*, requires, among other things, agencies to conduct environmental analysis of the direct, indirect, and cumulative impacts of proposed actions, as well as mitigation measures, consider a range of reasonable alternatives (including an alternative that minimizes environmental impacts), and solicit and respond to public comments. The Final PEIS should adopt the **Modified SEZ Alternative** described in these comments, which best meets the goals of the PEIS and BLM's Solar Energy Program, and would set out a structure to ensure that BLM's approval of utility-scale solar energy projects comply with NEPA.

1. Scope and adequacy of NEPA analysis for implementing the Modified SEZ Program Alternative.

The Solar PEIS incorporates exclusion of certain lands from utility-scale solar development, assertions about the prioritization of others, and a general preliminary determination of availability for other lands. As discussed above and throughout these comments, and as acknowledged in the Solar PEIS, the environmental analysis contained in the Solar PEIS is not sufficient to approve individual projects, nor is it sufficient to allowing tiering to approve projects using environmental assessments. Additional analysis is required to effectively implement the Solar Energy Program described in these comments, which we have described as the Modified SEZ Program Alternative.

The below analysis discusses both the limitations on the use of the Solar PEIS for approving projects and a path forward for ensuring sufficient and efficient NEPA compliance, by adopting the Modified SEZ Program Alternative. A Solar Energy Program that can be supported and implemented would necessarily incorporate the modifications, clarifications, and additions described in these comments and separate comments addressing the application of the Solar PEIS in each affected state.

- (a) The scope of analysis set out in the Solar PEIS generally supports the establishment of the Solar Energy Program incorporated into the Modified SEZ Program Alternative, including designation of Solar Energy Zones.

As noted above, the scope of NEPA analysis in the PEIS must be commensurate with the action that the BLM is undertaking. For the Solar PEIS, the analysis set out can support designation of SEZs and incorporation of program elements such as design features and mitigation measures at the RMP level. However, the environmental analysis set out in the PEIS cannot support substantial tiering such that project-level NEPA could be limited to environmental assessments. Rather, the NEPA analysis conducted in the PEIS sets out a program framework and identifies the next decision points where additional NEPA will be needed – i.e., at a landscape or zone level, and then at a project- or site-specific level. The NEPA analysis in the PEIS must be clearly defined and its limitations recognized in order to support adoption and implementation of the Modified SEZ Program Alternative.

In the context of a programmatic NEPA document, the Supreme Court has held that the environmental consequences of a set of proposed actions must all be considered together in a

Section 1. Department of the Interior Action

single, programmatic EIS when their impacts will have a compounded effect on a region. *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976). With respect to solar energy development, BLM is unquestionably establishing a new program, which the Draft PEIS describes as follows:

The anticipated elements of the BLM's proposed Solar Energy Program include:

1. Identification of lands excluded from utility-scale solar energy development in the six-state study area;
2. Identification of priority areas within the lands open to solar energy development that are best suited for utility-scale production of solar energy in accordance with the requirements of Secretarial Order 3285A1 (i.e., proposed SEZs);
3. Establishment of mitigation requirements for solar energy development on public lands to ensure the most environmentally responsible development and delivery of solar energy; and
4. Amendment of BLM land use plans in the six-state study area to adopt those elements of the new Solar Energy Program that pertain to planning.

DPEIS, p. 1-8.

By completing a programmatic EIS, an agency is able to examine “an entire policy initiative rather than performing a piecemeal analysis.” *Northcoast Environmental Center v. Glickman*, 136 F.3d 660, 688 (9th Cir. 1998). However, as set out in the NEPA regulations, the analysis is intended to be **pertinent to the policy at issue** and to **occur at relevant points** in the process – and so is not necessarily going to be comprehensive at the first stage. *See*, 40 C.F.R. § 1502.4 (Major Federal actions requiring the preparation of environmental impact statements) (“Agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision making”; and can evaluate these actions in the context of “general location,” “relevant similarities” of actions, and “stage of technological development.”).

The Draft Solar PEIS provides a broad analysis of environmental consequences that will generally support the elements of a solar development program identified in the PEIS, as well as additional proposed modifications incorporated into the **Modified SEZ Program Alternative**, including:

- excluding some lands in the study area from utility-scale solar energy development;
- identifying lands that might be available for solar applications (which will then be refined based on later analysis);
- imposing a set of mitigation requirements (that will also be refined based on location and proposed technology);
- designating zones where solar energy development will be prioritized (although projects will still require further analysis and may not be approved based on conflicts discovered at that level);
- setting out a process for designating additional zones and incorporating them into the PEIS; and
- setting out policies and other procedures that will apply to evaluating, permitting and monitoring solar projects (such as prioritizing use of previously-disturbed lands).

Section 1. Department of the Interior Action

See, generally, DPEIS, Chapter 5.

- (b) Additional NEPA analysis is required to effectively implement the Modified SEZ Alternative and to permit tiering for likely environmental consequences and to maximize the efficacy of zones.

The Draft PEIS does not incorporate in-depth analysis of likely environmental consequences to specific resources from utility-scale solar energy development. As noted in Chapter 5, the intent of the analyses presented is “to **describe a broad possible range of impacts** for individual solar facilities, associated transmission facilities, and other off-site infrastructure that might be required to support utility-scale solar energy development.” DPEIS, p. 5-1 (emphasis added). Further, the analysis is intended to “**inform the design**” of the BLM’s solar energy program. *Ibid.* Neither of these types of analysis would constitute a “hard look” at the direct, indirect, and cumulative impacts to resources and uses of the public lands which could support permitting of projects. As noted above, the scope of NEPA analysis must be commensurate with the action that is proposed; and, as a corollary, the scope of the federal action being analyzed must be accurately characterized to ensure that an EIS of equivalent scope is prepared. *See Aberdeen & Rockfish R. Co. v. SCRAP*, 422 U.S. 289, 322 (1975). The federal action in the Draft PEIS is clearly defined by BLM as a Solar Energy Development Program and the scope of the analysis is of similar breadth and lack of depth, which, consequently circumscribes the use of the analysis to justify activities beyond those that would establish such a program.

The analysis as it pertains to lands outside the proposed SEZs is particularly lacking. The BLM acknowledges in the Solar PEIS that, when considering impacts to special status species, it has only evaluated data in what are termed the “SEZ regions,” which are defined as lands within 50 miles of SEZ centers. DPEIS, p. J-2. The agency notes that “an expanded species analysis by alternative was identified too late during the preparation of the Draft PEIS to be accommodated in this version of the document,” such that the impacts from the Preferred Alternative to special status species have not been evaluated. *Ibid.* The Draft PEIS further provides that BLM expects “that a discussion of all species with the potential for being impacted under each alternative will be developed between the time of the Draft and Final PEISs.” *Ibid.* However, providing the analysis at this later point in the process will not permit the public to review and comment on either the data or the agency’s analyses, both of which must be disclosed to the public as part of the Draft PEIS in order to permit the “public scrutiny” that is considered “essential to implementing NEPA.” 40 C.F.R. § 1500.1(b). Additionally, the agency has only committed to obtaining additional information regarding special status species and not to other important resources found on the public lands.

Accordingly, use of the Solar PEIS must be limited to supporting a solar energy development program that incorporates the elements described by the BLM and the proposed modifications set out in the Modified SEZ Program Alternative. While the Final PEIS can justify limiting solar energy development to zones, it cannot support project approval without significant additional environmental analysis (as described in further detail below). Similarly, while the PEIS can set out a program governing processing of applications, management of projects, and expanding acreage in zones (also described in further detail elsewhere in these comments), and can incorporate the program into affected RMPs via amendments, the existing analysis cannot

Section 1. Department of the Interior Action

support designation of additional zones in the Final PEIS. To most effectively implement the Modified SEZ Program Alternative and make the most efficient use of designated zones, the PEIS must specifically provide for additional NEPA analysis to be conducted on new zones designated in the future pursuant to the process we recommend in these comments. Such analysis could provide for both the needed landscape- or zone-level analysis and tiering to environmental analysis for individual projects.

i. Tiering

The ability to tier subsequent decisions to the analysis of environmental consequences set out in a programmatic EIS varies based on the definition of the “program” that is analyzed. The NEPA regulations provide:

Agencies are encouraged to **tier their environmental impact statements to eliminate repetitive discussions of the same issues** and to **focus on the actual issues ripe for decision at each level of environmental review** (Sec.1508.28)... Tiering may also be appropriate for **different stages of actions**. (Section 1508.28).

40 C.F.R. § 1502.20 (emphasis added).

Thus, while tiering of environmental analysis is encouraged, it is necessarily limited to the issues analyzed at the programmatic level; and each level or stage of analysis should focus on the actual issues that are “ripe” for decision – meaning that there is sufficient information to conduct a meaningful analysis.

The discussion of these issues in CEQ’s “NEPA’s Forty Most Asked Questions” (<http://ceq.hss.doe.gov/nepa/regs/40/20-29.HTM#24>) is also instructive:

24b. When is an **area-wide or overview EIS** appropriate?

A. The preparation of an area-wide or overview EIS may be particularly useful when similar actions, viewed with other reasonably foreseeable or proposed agency actions, share common timing or geography. For example, when a variety of energy projects may be located in a single watershed, or when a series of new energy technologies may be developed through federal funding, the overview or area-wide **EIS would serve as a valuable and necessary analysis of the affected environment and the potential cumulative impacts of the reasonably foreseeable actions under that program** or within that geographical area.

24c. What is the function of **tiering** in such cases?

A. Tiering is a procedure which allows an agency to avoid duplication of paperwork through the **incorporation by reference of the general discussions and relevant specific discussions** from an environmental impact statement of broader scope into one of lesser scope or vice versa. In the example given in Question 24b, this would mean that an **overview EIS would be prepared for all of the energy activities reasonably foreseeable in a particular geographic area or resulting from a particular development program**. This impact statement would be **followed by site-specific or project-specific EISs**. The tiering process would make each EIS of greater use and

Section 1. Department of the Interior Action

meaning to the public as the plan or program develops, without duplication of the analysis prepared for the previous impact statement.

(emphasis added). Thus, where a programmatic EIS does not contain “specific discussions” of environmental impacts, there is no such environmental analysis to which subsequent NEPA documents can tier, and those discussions will need to be completed at the next level.

Because (and provided that) the Solar PEIS does not seek to approve individual projects or take the place of site-specific analysis, the scope of its NEPA analysis can be focused more on the general types of impacts and the overall effect of this policy initiative, as is most common for a programmatic EIS. *See, Northcoast Env'tl Center v. Glickman*, 136 at 688 (Programmatic EIS is used to examine “an entire policy initiative.”). However, in order for the BLM to commit to a specific course of action, such as authorizing actual projects, a site-specific and use-specific analysis must be completed. *See, State of California v. Block*, 690 F.2d 753, 765 (9th Cir. 1982); *County of Suffolk v. Secretary of Interior*, 562 F.2d 1368, 1378 (2nd Cir. 1977). The NEPA analysis required to effectuate the Solar PEIS is discussed in further detail below.

ii. Subsequent NEPA analysis is required

To follow the path set out by the structure of the Solar PEIS and implement the **Modified SEZ Program Alternative**, BLM should evaluate the impacts of utility-scale solar development at both a regional or landscape level (i.e., SEZs) and at the project level. Landscape level analysis should meaningfully address, among other things, cumulative impacts (currently lacking in the Draft PEIS), to which site-specific, project analysis can be tiered. In this manner, development of utility-scale solar energy projects on the public lands can be informed by knowledge of affected resources and reviews can be conducted efficiently.

1) Analysis of potential impacts at a landscape/zone level.

In the context of the Solar Energy Zones that would be designated in the Solar PEIS, the BLM should next look to the effect on the landscape within the zones. A landscape level analysis of potential utility-scale solar energy development within a watershed, region, zone, portion of zone, or (where zones are smaller) across a number of zones, should take into account the distribution of resources in the landscape, complying with the BLM’s legal obligations to assess potential impacts. Large solar developments can disrupt landscape connectivity and impede ecological processes occurring at the landscape-scale such as water flow and availability, wildlife migration, species composition, disturbance, and ecosystem response to climate change.

In considering the potential impacts of permitting development across an entire zone or large area, the BLM must consider how utility-scale solar will change the landscape and interfere with species’ ability to migrate and survive. The landscape level analysis must further demonstrate that development is compatible with agency wildlife policy (population level impacts, etc). In the context of this analysis, BLM can then make informed decisions regarding how to manage development in a geographic context that is narrower than the entire PEIS study area but broad enough to permit evaluation of cumulative impacts.

Section 1. Department of the Interior Action

This type of landscape approach is supported by NEPA guidance on cumulative impacts, which requires that the entire area potentially affected be included in a cumulative analysis and holds that a failure to include an analysis of actions within a larger region will render NEPA analysis insufficient. *See, e.g., Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1078 (9th Cir. 2002) (analysis of root fungus on cedar timber sales was necessary for entire area). Thus, in order to accurately evaluate the potential environmental consequences of solar energy development in a zone or comparable area, the cumulative impact analysis would necessarily look at the cumulative impacts on all of the directly and indirectly affected landscapes. The Environmental Protection Agency, in providing direction to its reviewers, emphasizes the importance of ensuring that the cumulative impact analysis is based on “geographic and time boundaries large enough to include all potentially significant effects on the resources of concern. The NEPA document should delineate appropriate geographic areas including natural ecological boundaries, whenever possible, and should evaluate the time period of the project's effects.” U.S. Environmental Protection Agency, 1999, *Consideration Of Cumulative Impacts In EPA Review of NEPA Documents*. (emphasis original).

We encourage analysis to be based on watershed boundaries or relevant ecological boundaries, capitalizing on existing regional ecosystem assessments, state fish and wildlife agency analyses, or equivalent analyses by conservation organizations such as The Nature Conservancy. Analysis conducted in this way can be informed by existing databases and should reduce the need for duplicative baseline ecosystem analyses. Analysis at the watershed or ecosystem level should also facilitate required cumulative impacts assessments and the development of mitigation plans for project-specific impacts.

The Council for Environmental Quality's (CEQ) guidelines on cumulative effects analysis provide the following steps for determining the appropriate geographic boundary of cumulative impact analysis:

1. Determine the geographic area that will potentially be directly affected by an action – known as the “project impact zone”;
2. Identify resources in the project impact zone that could be affected by the action;
3. Determine the geographic areas occupied by the resources outside the project impact zone.
4. Identify the appropriate area for analysis of cumulative effects based on the largest of the areas determined in step 3.

Council on Environmental Quality, 1997, *Considering Cumulative Effects Under the National Environmental Policy Act*.

When conducting environmental analysis of a zone, the geographic area of impact will include the resources, such as wildlife, within areas of proposed development and their habitat extending outside such areas. The agency can then complete a baseline assessment of affected resources (40 C.F.R. § 1502.15) and effectively take into account the overall impacts of development in a zone on the broader affected areas and resources when considering their potential environmental consequences. *See, e.g., Newmont Mining Corp.*, 151 IBLA 190 (1999) (Where the BLM could take into account the overall degradation from existing and connected proposed operations, a cumulative analysis of all impacts was required); *Kern v. United States Bureau of Land*

Section 1. Department of the Interior Action

Management, supra. (Cumulative impact analysis of reasonably foreseeable future timber sales on spread of root fungus required before approving single proposed sale).

While the PEIS generally supports creation and implementation of a solar energy development program consistent with the **Modified Solar Energy Zone Program Alternative**, a next step of environmental impact analysis is needed to look at cumulative impacts at a reasonable scale. Analyzing an individual project will not provide the needed context for evaluating development in a designated SEZ. As discussed above, there are numerous resources that will be affected by designation of SEZs and these impacts must be evaluated in a sufficient context. Further, NEPA requires that the BLM “integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.” 40 C.F.R. § 1501.2. Moreover, this analysis will address previous deficiencies present in cumulative impact analyses in project specific-EISs.

In order to effectively use the SEZ designations, BLM must conduct further analysis at the landscape level. NEPA does not permit the BLM to defer such analysis to a specific project. In addition, the environmental analysis generated at this level will not only provide a basis for developing a needed baseline and for additional analysis of direct, indirect and cumulative impacts, but will also provide a usable set of analyses to which evaluation of the environmental consequences of subsequent projects can be meaningfully tiered and for which appropriate, effective mitigation measures can be developed.

As acknowledged in the Draft Solar PEIS, the agency has not thoroughly evaluated resources within the SEZs and has performed an even lesser evaluation on the 22 million acres of lands outside the SEZs identified as available for solar development. Analysis at a landscape level should take into account the distribution of resources across the area and the effects on resources outside the area. Ongoing efforts such as the BLM’s Rapid Ecoregional Assessments and the California Desert Renewable Energy Conservation Plan, are compiling vital baseline information that should be incorporated into ongoing analysis under the Solar PEIS.

A more in-depth discussion with a recommended approach for conducting landscape-level analysis to special status species is attached as Appendix V and incorporated herein by reference.

The analysis described in this section is a major federal action and should be completed through an EIS. *See*, 40 C.F.R. § 1501.4. We would also note that in the example from CEQ’s recommendations quoted above, a series of EISs is specifically contemplated – which is required in this instance to conduct sufficient analysis of affected resources.

2) Analysis of environmental impacts of specific projects.

BLM’s resource management plans and project-level EISs often state that site-specific analysis is not possible until a particular activity, such as a pipeline, is proposed. Preparation of a landscape level EIS on zones, during the designation process, would also be consistent with the NEPA regulation governing tiering environmental analysis for a site-specific action to a broader programmatic EIS or series of EISs. The regulation envisions that agencies can tier to a “broad environmental impact statement” so that the subsequent environmental document “shall

Section 1. Department of the Interior Action

concentrate on the issues specific to the subsequent action.” 40 C.F.R. § 1502.20. In the context of the zone or landscape-level EIS, the broader document would analyze the effects of likely utility-scale solar development. While the analysis of a zone can evaluate the impacts on resources present in that area based on a baseline inventory, refined RFD, and expected technologies, further evaluation will be required for each project based on the actual location, technology, and plan of development. These analyses can tier to the PEIS and the subsequent landscape-level EIS, but will still need to address substantial issues and should provide for public comment and engagement throughout the process as well. (A recommended NEPA process for proposed projects is discussed in more detail later in these comments.) The goal of this final stage of environmental analysis should be that it can be completed through an environmental assessment, based on adequate comprehensive analyses conducted previously. By conducting sufficient analyses at the scale of the SEZ, BLM will ensure that adequate baseline data exist to streamline environmental review at the project level, reducing the need for intensive analysis at a level and unlocking the potential of zones and guided development.

In addition, analysis of specific projects could be conducted as part of the landscape-level EIS described in the preceding section. As an example, the Programmatic EIS for Geothermal Leasing and Development evaluated a number of pending lease applications for approval while incorporating by reference the programmatic NEPA analysis conducted to evaluate the broader landscape effects. A similar approach could be taken here, where the site-specific analysis for individual projects could be presented and also take into account the landscape-level analysis conducted for specific zones or areas, so that the EIS would provide both approval for an individual project or set of projects and NEPA analysis to support future projects.

Recommendations: The NEPA analysis set out in the Draft Solar PEIS cannot support approval of projects using environmental assessments and does not provide sufficient landscape-level analysis of specific resources and impacts from utility-scale solar energy development. While this may be acceptable in a PEIS, it is only acceptable if the Solar PEIS ROD acknowledges the limitations of the NEPA analysis contained in the PEIS for purposes of tiering and approving projects, and commits to conduct the necessary landscape-level and project-specific analysis, as discussed above. By preparing detailed EISs as part of designating future SEZs, the BLM can provide sufficient environmental analysis to support substantial tiering for analysis of projects proposed within those zones.

2. The PEIS must consider a reasonable range of alternatives, including the Modified SEZ Program Alternative.

The range of alternatives is “the heart of the environmental impact statement.” 40 C.F.R. § 1502.14. NEPA requires BLM to “rigorously explore and objectively evaluate” a range of alternatives to proposed federal actions. *See* 40 C.F.R. §§ 1502.14(a), 1508.25(c). “An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action.” *Nw. Env’tl Defense Center v. Bonneville Power Admin.*, 117 F.3d 1520, 1538 (9th Cir. 1997). An agency violates NEPA by failing to “rigorously explore and objectively evaluate all reasonable alternatives” to the proposed action. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14).

Section 1. Department of the Interior Action

NEPA requires that an actual “range” of alternatives is considered, such that the Act will “preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant’s proposed project).” *Col. Env’tl. Coal. v. Dombek*, 185 F.3d 1162, 1174 (10th Cir. 1999), citing *Simmons v. U.S. Corps of Engineers*, 120 F.3d 664, 669 (7th Cir. 1997). This requirement prevents the environmental impact statement (EIS) from becoming “a foreordained formality.” *City of New York v. Dep’t of Transp.*, 715 F.2d 732, 743 (2nd Cir. 1983). See also *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002).

The Draft PEIS only evaluates two action alternatives and dismisses all other alternatives without thorough consideration. A reasonable range of alternatives should evaluate specific approaches to limiting development to SEZs, prioritizing development in SEZs, prioritizing use of previously disturbed lands, and expanding or designating new SEZs. Defining the action alternatives as only SEZs comprising less than 700,000 acres *or* a program encompassing close to 22 million acres available for development is not reasonable. Given the range of acreage available for utility-scale solar energy development in the alternatives evaluated in the Draft PEIS, the BLM can feasibly evaluate more detailed alternatives for available acreage and guiding development, including the Modified SEZ Program Alternative set out in these comments.

The PEIS’s deficient treatment of alternatives does not appear to stem from the purpose and need statement that it includes. While the BLM has had difficulty articulating a sufficiently broad purpose and need statement in its EISs on specific projects, the purpose and need statement included here – which NEPA requires – seems quite adequate. In this case, however, the PEIS does not support BLM’s selection of its Preferred Alternative.

In the Draft PEIS, BLM states that the purpose and need of its program is to guide solar energy developers to areas with the fewest resource conflicts and potential controversy, and to “identify and prioritize development in locations best-suited for such development, called solar energy zones.” DPEIS, pp. ES 2- ES 3. The stated purpose of the proposed action is to enable BLM to “prioritize solar energy and associated transmission infrastructure development” in the Solar Energy Zones. The Preferred Alternative, however, merely encourages development in the identified SEZs, and, accordingly, on its face does not achieve these stated purposes and goals as well as the SEZ Alternative, let alone better. Moreover, the PEIS contains no explanation as to why the BLM believes that the Preferred Alternative would achieve these purposes better than the SEZ Alternative.

As we demonstrate throughout these comments, the SEZ Program Alternative, which would require development to be located in the designated zones, would meet the solar development goals in the RFDS, even after dropping some zones and reducing others in size as we have proposed. BLM’s primary justification for selecting the Preferred Alternative, that it would likely result in the highest pace of development at the lowest cost, is unsupported by any analysis. Our organizations are certain, based on our cumulative experience with various BLM programs, including BLM’s oil and gas program under the Bush Administration which the BLM’s Preferred Alternative closely resembles, that the result of selecting the preferred alternative will be controversy, delay and increased costs.

Section 1. Department of the Interior Action

Recommendations: Given the breadth of acreage at issue and the elements of a Solar Energy Program that require further assessment and description, the Solar PEIS should examine additional alternatives in detail, including the Modified SEZ Program Alternative described in these comments. The Modified SEZ Program Alternative best meets the goals of the PEIS and BLM's Solar Energy Program and should be adopted in the Final PEIS and ROD.

3. BLM must consider impacts to environmental resources.

NEPA dictates that BLM take a "hard look" at the environmental consequences of a proposed action. The requisite environmental analysis performed by an agency "must be appropriate to the action in question." *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9th Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). In order to take the "hard look" required by NEPA, BLM is required to assess impacts and effects that include: "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, *whether direct, indirect, or cumulative.*" 40 C.F.R. § 1508.8. (emphasis added). The Draft PEIS does not sufficiently evaluate impacts from the alternatives, impacts from the implementation actions it contemplates, or the effects on certain resources, as discussed below.

As a starting point, any analysis of environmental effects must build off of the climate change-affected baseline described in the affected environment. Climate change may influence (e.g., exacerbate or ameliorate) a proposed action's impact on the environment and may pose risks to the proposed action or planning area. As such, among the effects BLM must now consider are effects of the proposed action on the vulnerability of the affected environmental resources to climate change and the ability of these resources to adapt to climate change. *See* 40 C.F.R. § 1508.8 (defining 'effects' to include ecological effects, "such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems"). Without climate change trends and projections built into the affected environment, the environmental effects analysis lacks consideration of climate change.

a. Use of previously-disturbed lands.

Both action alternatives in the Draft PEIS incorporate the design features contained in Appendix A. In order to avoid impacts to ecological resources, the first design feature set forth in Draft PEIS Section A.2.2.11.1 states that "[t]o the extent practicable, projects shall be sited on previously disturbed lands in close proximity to energy load centers to avoid and minimize impacts on remote, undisturbed lands." Additionally, Section 5.10.1.1 of the PEIS recognizes that the "fragmentation of large, undisturbed habitats of high quality by facility or ROW construction would be considered a greater impact than construction through previously disturbed or fragmented habitat." DPEIS, p.5-66. The BLM cites the potential of the Preferred Alternative to locate projects on previously disturbed lands as an important factor justifying its selection. DPEIS, p. 6-35

BLM does not evaluate the availability, quantity, and location of previously disturbed lands to support its conclusion that the Solar Energy Development Program Alternative "potentially would allow a greater degree of development on previously disturbed lands" than the Solar Energy Zone Program Alternative. PEIS at 6-49. BLM's conclusion that the preferred alternative will facilitate development on such lands is purely speculative. *See Sierra Club v.*

Section 1. Department of the Interior Action

United States Forest Serv., 843 F.2d 1190, 1195 (9th Cir. 1988) (observing that “[t]he purpose of an EIS is to obviate the need for . . . speculation by insuring that available data are gathered and analyzed prior to the implementation of the proposed action.”) This failure precludes a meaningful comparison between the action alternatives; the agency simply does not know if previously disturbed lands are available for solar development, how many acres are available, or where such lands are located.

The final PEIS should further evaluate the quantity, availability, and location of previously disturbed lands: (1) as a unique reasonable alternative that the agency should consider, and/or (2) as SEZ selection criteria. The evaluation of information on previously-disturbed lands will allow for a more meaningful choice between alternatives and bolster confidence that the primary design feature for the protection of wildlife and ecological resources set forth in Appendix A – that “projects shall be sited on previously disturbed lands . . . to avoid and minimize impacts on remote, undisturbed lands” – will have a significant practical application.

b. Criteria for designation of SEZs.

As part of analyzing consequences to the environment, BLM’s “hard look” must be based on adequate data and analysis. NEPA’s hard look at environmental consequences must be based on “accurate scientific information” of “high quality.” 40 C.F.R. § 1500.1(b). Essentially, NEPA “ensures that the agency, in reaching its decision, will have available and will carefully consider detailed information concerning significant environmental impacts.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. at 349.

BLM does not evaluate its SEZ selection criteria in the PEIS. The principal programmatic feature of the PEIS’s two action alternative is identical: BLM will identify lands where potential conflicts are minimal and establish SEZs. NEPA implementing regulations require that BLM “insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.” 40 C.F.R. § 1502.24. BLM selected the twenty-four SEZs presented in the PEIS based on (i) proximity to existing or designated transmission corridors, (ii) proximity to existing roads, (iii) slopes of 1-2% or less, (iv) a minimum size of 2500 acres, and (v) “additional filters based on local conditions, institutional knowledge, and coordination efforts.” PEIS at ES-7. However, the Draft PEIS does not contain a discussion of whether these selection criteria actually result in the selection of lands most suitable for solar development. BLM did not evaluate additional or alternative selection criteria, nor did it offer more than a vague description of what the selection criteria actually were. For example, the PEIS does not contain information on how close to transmission and roads public lands must be to be included in a SEZ or the scope of the “additional filters.”

The state chapters do not provide any additional certainty about the programmatic selection criteria. For example, the Arizona appendix states that for the Brenda SEZ: “The criteria used to identify the SEZ as an appropriate location for solar energy development included proximity to existing transmission or designated corridors, proximity to existing roads, and a slope of generally less than 2%. In addition, the area was identified as being *relatively free* of other types of conflicts, such as FWS-designated critical habitat for threatened and endangered species, Areas of Critical Environmental Concern (ACECs), Special Recreation Management, Area (SRMAs), and National Landscape Conservation System (NLCS) lands (see Section 2.2.2.2 for

Section 1. Department of the Interior Action

the complete list of exclusions). PEIS at 8.1-1 – 8.1-2, BLM does not offer information in the PEIS as to what “relatively free” means in terms that can be applied to new SEZs.

As a result, the PEIS fails to establish a robust, clearly defined programmatic selection program for SEZs, and the methodology for establishing the SEZs, the critical feature under both of the alternatives presented in the Draft PEIS, escapes review. In order to provide a scientific basis for the SEZs, BLM should incorporate spatially explicit wildlife data and previously-disturbed lands data into the PEIS. BLM should also provide an analysis of its zone selection criteria, including an analysis of alternatives to the model presented in the PEIS, that provides the agency and the public a meaningful opportunity to understand the critical feature of BLM’s proposed solar development program. To further address this deficiency, expansion, modification or designation of new SEZs should be subject to the criteria set out below.

c. Lands with Wilderness Characteristics.

The scoping notice for the Solar PEIS, highlighted lands with wilderness characteristics, stating:

The BLM has the authority to develop protective management prescriptions for lands with wilderness characteristics within RMPs. As part of the public involvement process for land use planning, the BLM will consider public input regarding lands to be managed to maintain wilderness characteristics.

73 Fed.Reg. 30911 (May 29, 2008).

The lands encompassed by both the SEZs and the additional lands identified as available for solar energy development contain extensive lands with wilderness characteristics, including those identified in citizen inventories, which were previously submitted to the BLM during the scoping process for this PEIS.

Wilderness character is a resource for which BLM must keep a current inventory. As the U.S. Court of Appeals for the Ninth Circuit held:

wilderness characteristics are among the ‘resource and other values’ of the public lands to be inventoried under § 1711. BLM’s land use plans, which provide for the management of these resources and values, are, again, to “rely, to the extent it is available, on the inventory of the public lands, their resources, and other values.” 43 U.S.C. § 1712(c)(4).

Oregon Natural Desert Ass’n v. Bureau of Land Management, 531 F.3d 1114, 1119 (9th Cir. 2008). Accordingly, in preparing the Solar PEIS, BLM must not only identify the wilderness resource, but also evaluate the potential impacts of solar energy development in the various alternatives on wilderness characteristics.

Before permitting any type of surface-disturbing activity on lands with wilderness characteristics, the BLM must evaluate the degree to which wilderness characteristics may be affected by the proposed activity. Specifically, prior to permitting these activities, in the appropriate implementation-level NEPA documents, the BLM should:

Section 1. Department of the Interior Action

- analyze the direct, indirect and cumulative impacts of the proposed activity on potentially affected lands with wilderness characteristics;
- analyze the potential benefits of protecting lands with wilderness characteristics from the proposed surface-disturbing activity; and
- where the BLM has determined not to manage an area to protect its wilderness characteristics, and where BLM has determined that the proposed surface-disturbing activity should move forward, it should evaluate methods that can be incorporated into project approvals to mitigate the projects' impacts to the lands' wilderness characteristics; and adopt appropriate mitigation where warranted.

Secretarial Order 3310, issued by Secretary of the Interior Salazar on December 23, 2010, affirms that protection of wilderness characteristics is a “high priority” for the public lands and that the BLM should protect the “open and natural productive state” of these lands. The Order requires the agency to identify wilderness characteristics and to formally protect those characteristics where they are found. The Order further directs the agency to not only inventory for wilderness characteristics, but also to formally designate lands where those values are identified as “Lands with Wilderness Characteristics.” The BLM must identify Lands with Wilderness Characteristics in the Solar PEIS ROD.

Further, in this PEIS, the BLM should also designate Wild Lands. Secretarial Order 3310 directs the BLM to “ensure that any new project-level decision or land use planning effort takes wilderness characteristics into consideration.” The BLM is also required to protect its ability to designate Wild Lands by identifying and protecting Lands with Wilderness Characteristics as other projects and interim management decisions arise, which would also encompass the Solar PEIS and individual projects that might seek approval. Accordingly, identifying Lands with Wilderness Characteristics and designating Wild Lands would provide the most comprehensive guidance for further development. The Solar PEIS ROD should provide that solar energy development is excluded on both Lands with Wilderness Characteristics and designated Wild Lands, including in designation of new SEZs.

d. Visual Resources.

The Federal Land Policy and Management Act of 1976 (FLPMA) identifies “scenic values” as one of the resources for which public land should be inventoried and managed, and directs that “the public lands be managed in a manner that will protect the quality of ...scenic...values. 43 U.S.C. §§ 1702(c), 1701(a)(8). Utility-scale solar energy development can impact these resources.

The Draft PEIS acknowledges the potential impact to visual resources by incorporating special management of areas adjacent to certain National Parks. In discussing areas to be excluded from development, the Draft PEIS states: “In Utah, Visual Resource Management (VRM) Class III lands have also been removed due to the high sensitivity and location proximity to Zion, Bryce, Capital Reef, Arches, and Canyonlands National Parks, and to significant cultural resource special management areas (in southeast Utah).” DPEIS, p. ES-9.

Guidance issued by the BLM since the PEIS went to press further underscores the BLM’s obligation to take scenic values and potential impacts to those values into account. Instruction

Section 1. Department of the Interior Action

Memorandum (IM) 2011-061, issued on February 8, 2011, affirms the BLM's goal of "direct[ing] development away from lands with high conflict or sensitive resource values," acknowledges the "[h]igh potential for [c]onflict" with development on "*lands near or adjacent to*" such "sensitive viewsheds, resources and values" as units of the National Park System, refuges, national forests and lands in the NLCS as well as lands adjacent to designated and eligible wild, scenic and recreational rivers and lands currently designated as VRM Class I or II by BLM. IM 2011-061, (Solar and Wind Energy Applications – Pre-Application and Screening), pp. 4, 5

In the West-wide Energy Corridor PEIS prepared by BLM, Appendix S identifies and evaluates both direct conflicts with potentially sensitive visual resource areas such as national conservation areas, monuments, scenic/historic trails, and also "proximity events" where a corridor passes within 5 miles of the boundary of a potentially sensitive visual resource area.²³ As shown in Appendix S to the West-wide Energy Corridor PEIS, changes to proposed corridor designations were made based on some of these visual resource impacts.

Similarly, in the Solar PEIS and subsequent analyses of SEZs and individual projects, impacts to visual resources should be evaluated and should be considered in defining locations and boundaries for both SEZs and projects. In addition, as the BLM is continuing to conduct visual resource inventories as part of plan amendments, the updated data on visual resources on the public lands should be incorporated into the PEIS and ongoing analysis for SEZs and projects.

e. Water resources.

A programmatic EIS "must provide sufficient detail to foster informed decision-making." *Citizens for Better Forestry v. U.S. Dep't of Agric.*, 481 F.Supp.2d 1059, 1086 (N.D. Cal. 2007) (internal quotations omitted). Although programmatic and reliant on future site-specific analyses, the EIS must still provide a "reasonably thorough discussion of the significant aspects of the probable environmental consequences." *Northern Alaska Env't'l Ctr. v. Lujan*, 961 F.2d 886, 890 (9th Cir. 1992) (internal quotations omitted).

BLM has not provided a reasonably thorough discussion on the context or intensity of the impacts to water resources. *See generally* 40 C.F.R. § 1508.27 (listing considerations that inform significant effect). For example, the DPEIS cannot assess whether water use or other effects on water resources would comply with state or local laws or policies. DPEIS, p. 5-38 (myriad of applicable laws is complex and requires case-by-case analysis).

Water use requirements – an important consideration for impacts to soils, vegetation, aquatic fish and wildlife and air quality – could be obtained from surface water, groundwater or recycled water, DPEIS 5-37, or water could be trucked in from off-site, DPEIS 5-39. The DPEIS, however, does not quantify the water use requirements for the preferred alternative regardless of the source or, therefore, the resultant direct, indirect or cumulative impacts of water use on such a grand scale. The DPEIS is also unclear as to the likely source of groundwater for construction or operations. *Compare* DPEIS 5-100 ("the use of groundwater for construction activities is

²³ Available at: http://corridoreis.anl.gov/documents/fpeis/vol2/WWEC_FPEIS_App_S.pdf.

Section 1. Department of the Interior Action

unlikely”), DPEIS 5-39 (“In most areas, groundwater would likely be withdrawn from local aquifers to meet the project’s water needs.”).

The Draft PEIS also declines to estimate the water use demands – and subsequent effects – of the SEZ alternative. Not only does the DPEIS fail to identify these impacts for the SEZ alternative as a whole, but also for individual SEZs. *See, e.g.*, DPEIS 11.2-185 (“[i]mpacts of groundwater depletion from solar energy development in the Delamar Valley SEZ cannot be quantified without identification of the cumulative amount of groundwater withdrawals needed to support development on the SEZ”); DPEIS 11.1-194 (same, Amargosa SEZ). In each case, BLM has this information, having estimated low and high water demands for construction and operation within the SEZ and being capable of estimating water demands of nearby projects – BLM simply needed to incorporate this information into a regional groundwater model that could project the impacts of groundwater pumping on species habitats but failed to do so. BLM cannot postpone this analysis to the project-specific level.²⁴

The Draft PEIS similarly makes no attempt to quantify the acreage that would be affected by the solar energy development program, and thus the amount or length of streams and washes potentially destroyed and degraded by solar development. It follows that there is no analysis of the extent of water quality impacts from channelization, erosion, sedimentation due to alterations in surface drainage patterns. The DPEIS acknowledges the potential for water quality impacts due to soil erosion, sedimentation, spills, wastewater treatment and storage, pesticide and herbicide application and dust suppressants, but provides no indication as to the severity of the impacts, for example, by discussing potential impacts to public health, to water quality standards, or to special status species. The DPEIS also provides little information regarding the environmental impacts of water and wastewater treatment.

The central considerations regarding groundwater resources to developing a responsible solar energy program are discussed above. We offer the following comments regarding water use assumptions as described in Chapter 3 and Appendix F.

Fire Protection. Parabolic trough plants use highly flammable heat transfer fluids in their heat-collecting elements. Use of these fluids in heat-collecting elements and/or for heat storage is a fire hazard. Arnold Leitner, *Fuel from the Sky, Solar Power’s Potential for Western Energy Supply* 85 (National Renewable Energy Laboratory, 2002), available at <http://www.nrel.gov/csp/pdfs/32160.pdf>. Solar energy projects utilizing other technologies for heat collecting that have been reviewed by BLM have included fire protection among their water needs. Examples of these include the Imperial Valley Solar Project, the Amargosa Farm Road Project and the Solar Millennium Blythe Project.²⁵ Given the above, BLM’s review of water use should assess the need for and availability of water for fire suppression as well as the likelihood and effects of fire in an arid, desert ecosystem.

²⁴ Failure to model these impacts renders BLM’s conclusion that “[t]he implementation of programmatic design features and complete avoidance or limitations of groundwater withdrawals from the regional groundwater system would reduce impacts on the groundwater-dependent species to small or negligible levels” unsupportable. DPEIS 11.2-185.

²⁵ These projects also used water for soil compaction needs, another potential water requirement not discussed in these overview sections.

Section 1. Department of the Interior Action

Water Treatment. Water used in steam cycles requires treatment to control total dissolved solids (TDS) and prevent scale formation. Water used in the cooling cycle also requires treatment to prevent algae formation and scaling, while water used for mirror washing may also require treatment to reduce TDS concentrations, and water for potable uses may also require treatment. Additional water treatment needs occur at the back end, for treatment of sanitary wastewater and blowdown wastewater (if applicable).

The DPEIS provides little information that details the methods for water treatment, the criteria that dictate the choice of treatment method, the chemicals that may be stored or used on-site, and how any waste stream would be disposed of. Considerations regarding the need for and level of water treatment can inform the tradeoffs between using higher quality water that can increase the cycles of concentration and reduce the quantity of makeup water or utilizing less water treatment.

The DPEIS also provides little information regarding wastewater treatment except to say that three methods – evaporation ponds, septic tanks, off-site treatment – may be employed at any time. The PEIS should disclose this information, including the contaminants in the waste streams, treatment and disposal methods, chemicals that may be stored/used, the water and wildlife impacts of evaporation ponds and the impacts of increased vehicle traffic if treated off-site.

f. State-specific resources.

In the separate comments addressing each of the six states and each SEZ, we have identified additional resources and impacts of concern that should be specifically evaluated and also addressed in the policies, mitigation measures, and design features that will be finalized in the ROD. These include, but are not limited to, water resources, water quality, impacts to groundwater-dependent species and their habitats, soil erosion and associated vegetation impacts; soil diseases and toxins; habitat connectivity, wildlife movement corridors and fencing; playa wetlands; desert tortoise relocation; and transmission, roads and other associated infrastructure.

g. Aquatic Biota

The DPEIS should provide greater context to highlight the scarcity of and stress to water resources in the planning area. Both the main volume and state-specific volumes contain extremely little information about the existing flow systems, their status and the importance. In the six-state area, intermittent and ephemeral streams make up “over 81% [of all streams] in the arid and semi-arid Southwest (Arizona, New Mexico, Nevada, Utah, Colorado and California).” Levick, L. et al., *The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest* iii (EPA 2008) (noting also that desert washes are not consistently mapped). They occupy only a small part of the landscape but support a great deal of biodiversity.

Section 1. Department of the Interior Action

The DPEIS underestimates the importance of aquatic and riparian habitats. “Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams,” *id.* at iii, including wildlife habitat, support for riparian vegetation, groundwater recharge, water quality services and nesting and migratory corridors for wildlife. *See generally id.* In the Great Basin, for example, these ecosystems are small, isolated and rare, but support most of the biodiversity in the region. Don Sada, *Great Basin Riparian and Aquatic Ecosystems, in Collaborative management and research in the Great Basin – examining the issues and developing a framework for action* 49, 49 (Jeanne C. Chambers et al. eds., 2008). However, “The Great Basin is the driest region in the United States.” *Id.* Riparian and aquatic ecosystems have already been dramatically altered and degraded by unsustainable uses.

There is also a lack of baseline information regarding surface and groundwater features of BLM lands targeted for the proposed SEZs. Many of the areas proposed for solar energy development fall in rural, desert areas not covered by the U.S. Geological Survey (USGS) streamflow gaging network. *Compare* Mark T. Anderson & Lloyd H. Woosley, Jr., *Water Availability for the Western United States – Key scientific challenges* Fig. 10 (U.S. Geological Survey Circular 1261, 2005) (with little to no coverage in NV/CA border region, southwestern California, southern New Mexico). Moreover, there is no national program to monitor groundwater conditions and there is little information on groundwater availability or trends in availability. *Id.* at 17. Groundwater is an important resource in the West; it may be the primary or exclusive water supply for many communities. “In the United States, ground water is the source of drinking water for 50 percent of the population and as much as 90 percent of the population in rural areas, especially in the West.” *Id.*

In such arid settings, additional water demand from concentrating solar power systems employing wet-cooling could tax scarce water resources. Put in context, under “normal” conditions, 36 out of 47 state water managers anticipate water shortages in localities, regions or statewide within 10 years; under drought conditions, that number rises to 46 managers. Government Accounting Office, *Freshwater Supply, State’s Views of How Federal Agencies Can Help Them Meet the Challenges of Expected Shortages* 64-65(GAO-03-514, 2003).

Many of the potentially affected ephemeral and intermittent streams are not accurately mapped, and desert washes are not consistently mapped. Levick et al., *supra* at 5. While acknowledging this lack of information, BLM improperly defers its acquisition and impacts analysis to the project-specific stage. DPEIS 4-49. Without information regarding water availability or surface water flow systems, it is difficult to choose among alternatives and even more difficult to assess claims of effective mitigation of potential impacts to water availability or to ephemeral and intermittent streams and washes. If the incomplete information is essential to choosing among alternatives and getting the information is not exorbitantly expensive, the agency shall acquire and include the information. *Id.* § 1502.22(a). If it is exorbitantly expensive or not possible to acquire the information, the agency shall inform the reader that the information is incomplete or unavailable, why the information is relevant, what relevant information is available, and what impacts the available information predicts. *Id.* § 1502.22(b).

Recommendation: The BLM should commit to thorough analysis prior to approving projects.

Section 1. Department of the Interior Action

h. Greenhouse gas emissions

BLM must examine the potential greenhouse gas (GHG) emissions of a proposed action and its impact on climate change. *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 508 F.3d 508, 549-50 (9th Cir. 2007); *Border Power Plant Working Group v. Dep't of Energy*, 260 F.Supp.2d 997 (S.D.Cal. 2003); *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520 (8th Cir. 2003). See also 40 C.F.R. § 1502.16(e) (requiring discussion of the “[e]nergy requirements and conservation potential of various alternatives and mitigation measures” in the environmental consequences section); CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act* at 24 (Jan. 1997) (identifying “[r]egional and global atmospheric alterations from cumulative additions of pollutants that contribute to global warming” as prone to cumulative effects), available at <http://ceq.hss.doe.gov/nepa/ccenepa/ccenepa.htm/>.

While we are pleased that BLM attempted to quantify the beneficial and adverse effects on GHG emissions, including the loss of carbon stored in desert plants and soils, BLM has overlooked several indirect sources of GHGs from each alternative over its life cycle, including vehicle use and construction impacts. BLM should also make clear whether its emission estimates for a hypothetical solar plant include emissions from supplemental power sources (natural gas or electricity) or water usage.

i. Climate change

The environmental effects analysis must build off of the climate change-affected baseline described in the affected environment. Climate change may influence (e.g., exacerbate or ameliorate) a proposed action’s impact on the environment and may pose risks to the proposed action or planning area. As such, among the effects BLM must now consider are effects of the proposed action on the vulnerability of the affected environmental resources to climate change and the ability of these resources to adapt to climate change. See 40 C.F.R. § 1508.8 (defining ‘effects’ to include ecological effects, “such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems”).

Taking a hard look requires federal agencies to consider climate change in NEPA documents. The latest scientific assessment from the U.S. Global Change Research Program, the body responsible for integrating and coordinating federal research on climate change, reports that “global warming observed over the past 50 years is due primarily to human-induced emissions of heat-trapping gases” and that climate-related changes have been observed and will continue. U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* 9 (Thomas R. Karl et al. eds., 2009) (citing effects on the environment, human health, agriculture and other resources). The EPA has also found that the “climate change associated with elevated atmospheric concentrations of carbon dioxide and the other well-mixed greenhouse gases have the potential to affect essentially every aspect of human health, society and the natural environment.” 74 Fed. Reg. 66496, 66523 (Dec. 15, 2009). Climate change is a reasonably foreseeable impact of greenhouse gas (“GHG”) emissions. *Id.* at 66518 (“The scientific evidence is compelling that elevated concentrations of heat-trapping greenhouse gases are the root cause of recently observed climate change.”).

Section 1. Department of the Interior Action

BLM must consider the effect of the proposed action on climate change as well as the effect of climate change on the proposed alternatives and the effect of climate change on the affected environment. *See* Federal Leadership in Environmental, Energy, and Economic Performance, Exec. Order 13,514, 75 Fed. Reg. 52,117 (Oct. 8, 2009) (directing agencies to “develop approaches through which the policies and practices of the agencies can be made compatible with and reinforce that strategy” for U.S. adaptation to climate change, being developed by the Climate Change Adaptation Task Force); Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources, Secretarial Order 3289 (Feb. 22, 2010) (directing DOI agencies to consider and analyze climate change impacts when making major decisions affecting DOI resources), available at http://elips.doi.gov/app_so/act_getfiles.cfm?order_number=3289A1.

Based on those considerations, BLM must then assess the impact of its alternatives – including mitigation measures – on that climate-changed environment. Climate change considerations are relevant throughout the NEPA process, from the scope of the environmental document and the description of the affected environment to the design of the proposed action, its alternatives and their environmental impacts. Integration of climate change concerns into NEPA will help “mainstream” climate change mitigation and adaptation across federal programs and decision-making.

Analysis of the potential impacts of climate change on the environment is necessary to produce accurate predictions of the environmental effects of the alternatives, to assess the ability to carry out the alternatives and the effectiveness of mitigation, and to integrate climate change adaptation into the alternatives. It will also aid BLM in adequately preparing the proposed action and planning area for the inevitability of climate change.

j. Fugitive dust on snow pack

The construction phase of solar development, regardless of the alternative, will generate large quantities of fugitive dust emissions. Many parts of the study area are in non-attainment for particulate matter standards, DPEIS Fig. 4.11-4, likely due to fugitive dust sources such as unpaved roads and wind-blown dust. Site grading and vehicle travel in the arid and desert environments of the planning area will mobilize lots of dust. DPEIS, p. 4-35. BLM should assess the potential for dust-on-snow events in addition to its estimates of potential impacts on air quality. For example, snow cover duration in the San Juan Mountains was shortened by 18-25 days as a result of desert dust from the Colorado Plateau. Thomas H. Painter et al., *Impact of disturbed desert soils on duration of mountain snow cover*, 34 Geophys. Res. Lett. L12502 (2007). Changes in snowmelt timing will have biological effects as well. Heidi Steltzer et al., *Biological consequences of earlier snowmelt from desert dust deposition in alpine landscapes*, 106 Proceedings of the National Academy of Sciences 11629 (July 14, 2009). BLM must supplement its discussion of soil erosion and deposition by wind to examine the effects of land use changes on increased dust deposition onto mountain snow and reduced snow cover duration. *See* DPEIS, pp. 5-22, 5-23.

k. Significance of effects on ecological resources

Section 1. Department of the Interior Action

BLM has not provided a reasonably thorough discussion of effects to ecological resources on the scale of the PEIS, because it does not have enough information about the context or intensity of the impacts to determine their significance. *See generally* 40 C.F.R. § 1508.27 (listing considerations that inform significant effect). For example, there is no analysis of the significance of the impacts of the likely solar development in the context of the six-state study area, seeking instead to defer to the project-specific review. *See, e.g.*, DPEIS, p. 5-63 (plant communities affected and the nature and magnitude of impacts would depend on the site-specific locations of the projects, as well as on the specific project design and the mitigation measures).

Wildlife Impacts Outside the SEZs

A meaningful comparison of the impacts of the PEIS's two action alternatives is not possible because BLM does not analyze the wildlife impacts of solar development outside of the SEZs. The principal difference between the two action alternatives is the flexibility of the Solar Energy Development Program Alternative to permit solar development on approximately 22 million acres of public lands while under the Solar Energy Zone Program Alternative development is restricted to the SEZs. In the Draft PEIS, BLM only analyzes wildlife impacts for a subset of the 22 million acres, the 677,400 acres within the proposed SEZs, and acknowledges in Appendix J that it did not attempt to compare the wildlife impacts of the Draft PEIS's two action alternatives:

Only those species that are known to occur in the SEZ regions (i.e., within 50 mi [80km] of the SEZ centers) are discussed here in Appendix J because an expanded species analysis by alternative was identified too late during the preparation of the Draft PEIS to be accommodated in this version of the document. It is anticipated that a discussion of all species with the potential for being impacted under each alternative will be developed between the time of the Draft and Final PEISs.

DPEIS, p. J-2. However, without an analysis of wildlife impacts outside of the SEZs, the Draft PEIS does not allow agency or the public to understand the impacts of, and meaningfully distinguish between, the two action alternatives. BLM appears to recognize this critical gap in its analysis in Chapter 6 where it states:

However, this same flexibility [of the preferred alternative] also would increase the uncertainty regarding the siting of such projects, and limit the assurance that a reduction in negative impacts would, in fact, occur. That is, this flexibility might actually increase the possibility for fragmentation of habitat, or result in greater impacts to other resource values and uses.

DPEIS, p. 6-35. We are cognizant of the practical challenge that analyzing wildlife impacts for 22 million acres of public lands presents, but, even though an agency may defer full-evaluation of site specific impacts at the programmatic EIS stage, a "programmatic EIS must provide sufficient detail to foster informed decision-making." *'Ilio'Ulaokalani Coalition v. Rumsfeld*,

Section 1. Department of the Interior Action

464 F.3d 1083, 1095 (9th Cir. 2006) (internal quotations and citations omitted). Additionally, BLM has an obligation under 40 C.F.R. 1502.22(b) to use theoretical approaches or research methods generally accepted in the scientific community when faced with incomplete or unavailable information. Without at least a theoretical analysis of the impacts to wildlife and other ecological resources outside of the SEZs, neither BLM nor the public can meaningfully distinguish between the impacts of the action alternatives.

Special Status Species

The BLM acknowledges in the Solar PEIS that, when considering impacts to special status species, it has only evaluated data in what are termed the “SEZ regions” that are defined as within 50 miles of SEZ centers. Draft PEIS, p. J-2. The agency notes that “an expanded species analysis by alternative was identified too late during the preparation of the Draft PEIS to be accommodated in this version of the document,” such that the impacts from the Preferred Alternative to special status species have not been evaluated. *Ibid.* The Draft PEIS further provides that BLM expects “that a discussion of all species with the potential for being impacted under each alternative will be developed between the time of the Draft and Final PEISs.” *Ibid.* However, providing the analysis at this later point in the process will not permit the public to review and comment on either the data or the agency’s analyses, both of which must be disclosed to the public as part of the Draft PEIS in order to permit the “public scrutiny” that is considered “essential to implementing NEPA.” 40 C.F.R. § 1500.1(b).

Vegetation

The destruction of native vegetation communities is a significant impact, yet BLM makes no attempt to inform the reader as to the context or intensity of this impact by characterizing the “rare communities, remnant vegetation associations, endemic species, riparian areas,” to be impacted. DPEIS, p. 5-65. This is important because these communities in arid environments are extremely sensitive, and can take decades to recover, if at all, because re-establishment may be unsuccessful in some areas.

Aquatic Habitats and Wildlife

The Draft PEIS also fails to characterize the water depletion impacts on aquatic habitats and wildlife, stating simply that impacts depend on the water source, the amount of water withdrawn and the organisms present. DPEIS 5-102. The Draft PEIS also inappropriately minimizes the impacts to aquatic habitats from groundwater withdrawal claiming that the use of groundwater during construction activities is unlikely, DPEIS 5-100, yet this claim contradicts its water resources analysis. DPEIS 5-39 (“In most areas, groundwater would likely be withdrawn from local aquifers to meet the project’s water needs.”). Further, it has become clear through projects that have already gone through the NEPA process that many plan to use groundwater during construction.

Upon further reading, SEZ-specific analysis does not support either claim, where, for example, the assumed perennial yield of Delamar Valley (NV) will not support the peak construction year water needs for any technology except for parabolic trough. Even here, the DPEIS does not acknowledge the shortfall. *See* DPEIS 11.2-63 (“The availability of groundwater and the potential impacts of groundwater withdrawal would need to be assessed during the site characterization phase.”) Given this failure, the DPEIS does not take a hard look at whether

Section 1. Department of the Interior Action

there is enough water to support construction or construction combined with operations or at the ecosystem impacts of that water use. Evaluation of impacts from water depletion must be conducted prior to project approval and at a sufficient regional scale to be meaningful.

Fish and Wildlife Adaptation

The PEIS fails to include any discussion of the impacts of the solar development program on the adaptation of wildlife and other ecological resources to climate change. Chapter 9 of the Draft PEIS recognizes that desert ecosystems in the American West are expected to experience rising mean temperatures and prolonged droughts during the PEIS's 20 year planning horizon. DPEIS, p. 9.1-280-81. Additionally, the proposed authorization policies in Section A.2.1.2.2 of the PEIS require that the BLM evaluate the extent to which proposed projects will impact areas that are important for adaptation to climate change. Climate change adaptation is a critical mechanism for the protection of sensitive wildlife species. Despite broad reach of the PEIS to 677,400 acres of SEZs and, in BLM's Preferred Alternative, 22 million acres of BLM lands, BLM has not included a discussion and analysis of the program's impact on the climate change adaptation capability of wildlife, including, endangered or threatened species or other special status species.

1. Environmental Benefits.

The effects to be evaluated under NEPA include both costs (or damages) and benefits. 40 C.F.R. § 1508.8. In addition, when evaluating a range of alternatives, the BLM is required to consider more environmentally protective alternatives and mitigation measures. *See, e.g., Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122–23 (9th Cir. 2002) (and cases cited therein). The consideration of more environmentally protective alternatives is also consistent with FLPMA's requirement that BLM "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. §1732(d)(2)(a).

Therefore, when evaluating the impacts of various alternatives in the Solar PEIS, the BLM should explicitly discuss the benefits of protecting land (such as scenic values, clean air and water), as part of limiting development to designated SEZs.

Recommendations: The resources identified above require additional analysis of environmental consequences from utility-scale solar energy development. The Solar PEIS should highlight these resources and provide further analysis, as well as setting out clear requirements for evaluation of environmental consequences in NEPA analysis that will occur prior to project approval, including necessary updates of baseline conditions needed to conduct a meaningful analysis.

4. Cumulative impacts analysis in the Draft PEIS is not sufficient.

NEPA regulations define "cumulative impact" as:

the impact on the environment which results from the *incremental impact of the action when added to other past, present, and reasonably foreseeable future*

Section 1. Department of the Interior Action

actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7 (emphasis added).

Further, in determining the significance of a proposed action, BLM must consider “[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts.” *Id.* § 1508.27(b)(7).

To satisfy NEPA’s hard look requirement, the cumulative impacts assessment must do two things. First, BLM must catalogue the past, present, and reasonably foreseeable projects in the area that might impact the environment. *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809–10 (9th Cir. 1999). Second, BLM must analyze these impacts in light of the proposed action. *Id.* If BLM determines that certain actions are not relevant to the cumulative impacts analysis, it must “demonstrat[e] the scientific basis for this assertion.” *Sierra Club v. Bosworth*, 199 F.Supp.2d 971, 983 (N.D. Ca. 2002). A failure to include a cumulative impact analysis of actions within a larger region will render NEPA analysis insufficient. *See, e.g., Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1078 (9th Cir. 2002) (analysis of root fungus on cedar timber sales was necessary for an entire area).

The PEIS does not provide a sufficient cumulative impact analysis for either the study area as a whole or for sub-regions within it.

The cumulative impact discussion in the Draft PEIS is conclusory and prevents a meaningful examination of the impacts of: (1) of solar energy development at the landscape and regional level and (2) solar energy development in light of the other uses of the public lands. The BLM specifically recognized that one of the benefits of a comprehensive solar energy development program is that it “would allow the BLM to better assess potential cumulative impacts of solar energy development across the six-state study area” (DPEIS, p. 6-35), yet the agency fails to undertake this analysis in a meaningful manner.

The BLM perfunctorily dismisses cumulative impacts without an attempt to distinguish the impacts of the proposed broad, six-state program from the site-specific impacts which the Draft PEIS pledges to analyze in more detail later.²⁶ Additionally, the Draft PEIS merely catalogues other uses of the public lands – oil and gas, coal production, nuclear energy, renewable energy development for solar, wind, geothermal, hydroelectric, and biomass, transmission and distribution systems – without analyzing how development of solar energy might increase or exacerbate existing environmental impacts for those uses.

²⁶ “The PEIS does not assess site-specific issues associated with any future individual solar energy development projects. A variety of location-specific factors (e.g., soil type, watershed, groundwater availability and presence of threatened and endangered species, and the presence of cultural resources) would vary considerably from site to site, especially over a six-state region. In addition, the variations in technology and project size and design would greatly determine the magnitude of the impacts from given projects (i.e. mitigation requirements) applicable to utility-scale solar energy development in general. BLM’s proposed Solar Energy Program would require that site-specific and species-specific issues be addressed during individual project reviews, where resolution of these issues is more readily achievable.” DPEIS, p. ES-5.

Section 1. Department of the Interior Action

For example, Section 6.5.2.9.2 describes the significant potential for solar development to adversely affect wildlife:

Potentially affected wildlife in solar development areas includes numerous species of amphibians and reptiles, birds, mammals, and aquatic biota. Species would be affected by loss of habitat, disturbance, loss of food and prey species, loss of breeding areas, effects on movement and migration, introduction of new species, noise, and habitat fragmentation.

Section 6.5.2.9.2 then concludes that:

Cumulative impacts on wildlife and aquatic biota from foreseeable development in the six-state region would be small provided mitigation measure to preserve important habitat and migration corridors are implemented (or sufficient alternative lands are set aside as compensation).

Absent from this discussion is any attempt to identify and then examine (1) the landscape and regional wildlife impacts of solar energy development or (2) the impacts of solar development that could increase or exacerbate wildlife impacts from other uses of the public lands.

Section 6.5.2.9.3 concerning special status species offers a more troubling conclusion for special status species:

Cumulative impacts from foreseeable development in the six-state region could be small to moderate for some species, with solar development being a major contributor to cumulative impacts.

Again, this section is devoid of analysis and offers nothing more than perfunctory statements. Neither Section 6.5.2.9.2 nor Section 6.5.2.9.3 allow for meaningful consideration of the cumulative impacts of the proposed solar development program by the BLM or the public. As a result, the Draft PEIS lacks meaningful information on whether or not establishing 677,400 acres of SEZs and opening 22 million acres of public lands to utility-scale solar energy development under the preferred alternative will have adverse cumulative impacts to wildlife apart from the project-scale impacts that the Draft PEIS promises to assess later.

Water resources also exemplify the need for a meaningful cumulative impacts analysis beyond that set out in the Draft PEIS. Regarding cumulative impacts on water resources, a key example for development in this arid region, the DPEIS states that “impacts on water supplies from dry-cooled solar thermal facilities and dish engine facilities would likely be minor, since such facilities would not be permitted unless studies had shown that there would be no significant impacts on the hydrologic system.” DPEIS 6-93. Nevertheless, these studies will not occur until the project-specific phase. “More detailed analyses of cumulative impacts would be performed in the environmental reviews for specific projects in relation to all other existing and proposed projects in the relevant geographic area.” PEIS 6-89. As such, cumulative impact analysis

Section 1. Department of the Interior Action

deferred until such time will be unable to capture the cumulative impacts to water resources that should be within the scope of the Draft PEIS.

There are several other water resources for which there is no cumulative impacts analysis: impacts to surface water flow systems; impacts to water quality; effects of increased competition for water supplies; and effects of changing the current place of use, purpose of use, or point of diversion. In addition to the development of thousands of megawatts of solar energy, there are many other projects that will adversely affect on ephemeral and intermittent streams, increase competition for water and stress water availability, and move water from current uses in current locations to elsewhere. These projects include energy development, water development and housing development throughout the study area. The cumulative impacts to water resources in southern Nevada alone could result in declines to the groundwater table, spring discharge, wetlands and streamflow, adversely affecting twenty federally listed species and 137 other water-dependent endemic species. *See generally* James E. Deacon et al., *Fueling Population Growth in Las Vegas: How Large-scale Groundwater Withdrawal Could Burn Regional Biodiversity*, 57 *BioScience* 688 (2007). BLM must evaluate the effects of climate change on the potential loss of wash networks, the loss of wildlife habitat, surface water hydrology and streamflow and flood modeling.

The utility-scale solar energy development contemplated by the PEIS would have substantial effects on the other resources of the public land, as well, such as wildlife and ecosystem functionality and resilience. The size of these projects and the technologies they employ will eliminate permanently all or nearly all habitat value and other parts of functioning ecosystems - recovery time for desert ecosystems is hundreds if not thousands of years. These effects will be wide-ranging whether multiple projects are concentrated in a given area (particularly if there are sensitive resources or species) or if they are “scattered across the landscape” as proposed in the Preferred Alternative (which will degrade habitat and habitat connectivity through edge effects). The approach taken in the Ivanpah Valley highlights the risks from cumulative impacts: In a narrow movement corridor for desert tortoise, three huge projects adjacent or nearly adjacent to one another threaten to completely block a movement corridor in an area with very good tortoise habitat, and thus harmfully impact the genetic diversity of the Northeastern Mojave recovery unit.

The PEIS also fails to include an appropriate cumulative analysis for proposed zones – an approach that, had it been taken, would have allowed the agency to significantly facilitate the permitting of projects in those zones once designated and an approach that, as these comments make clear, we sincerely hope the BLM will adopt in the future. Equally importantly, however, because the PEIS did not include such an analysis, it does not reveal whether the level of development that has been projected for the proposed zones – i.e., 80% – can be sustained. While such an analysis may not be as critical in some areas – e.g., in zones in which there are currently no applications pending it is certainly critical in others. The best example of such a needed analysis is the Riverside East zone proposed for the California Desert Conservation Area. As of March 7, 2011, there are a total of 25 ROW applications pending for that proposed zone, 11 of which are “first in line.” Two projects were approved in this zone last year and the permitting process is close to completion for at least two more projects. BLM and others are questioning whether this zone has already reached its capacity. Without a more in-depth analysis of

Section 1. Department of the Interior Action

cumulative impacts and the effects on projected development in the SEZs, which this PEIS does not even purport to provide, vital questions cannot be answered.

Recommendations: In order to evaluate and approve utility-scale solar energy development, BLM must conduct a meaningful analysis of the cumulative impacts of this development at a landscape scale. The Final PEIS should include additional cumulative impacts analysis, especially for water resources, and should also set out specific parameters for cumulative impact analysis to be conducted for other resources.

5. The Draft PEIS presents limited baseline information, which restricts the analysis of potential impacts.

NEPA requires agencies to “describe the environment of the areas to be affected or created by the alternatives under consideration”; so agencies must establish baseline conditions. 40 C.F.R. § 1502.15. In *Half Moon Bay Fisherman’s Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that “without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.” The court further held that “[t]he concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process.”

As noted above, the Solar PEIS concedes that collection of baseline data has been deferred, such as the data for special status species outside the SEZs. Until an adequate baseline is established, the BLM cannot evaluate impacts, determine the mitigation measures needed to address those impacts, or conclude that specific actions will not have a significant impact and approve them. This is the major reason why – as stated above – BLM cannot choose its Preferred Alternative (the Solar Development Alternative) on the basis of the draft PEIS as written.

a. Water availability

The Draft PEIS does not take into account the various legal structures that determine water availability. These need to be taken into account. For example, New Mexico law allows the State Engineer to provide legal protection to flows for fish, wildlife or other ecological uses. See Opinion of Tom Udall, Attorney General, Opinion No. 98-01 (March 27, 1998); compare DPEIS 4-60 (“New Mexico has no state laws governing flows, and they are not recognized as a beneficial use in the state.”). BLM also needs to update its discussion of New Mexico water management and other analyses as a result of successful legal challenges to the state’s Active Water Resource Management program. DPEIS 4-63, 4-75, 12.1-73-74, 12.1-80, 12.2-61-62, 12.2-68, 12.3-54-65.

BLM’s discussion of water resources and their management in Nevada suffers many of the same flaws. In the volume on Nevada’s proposed energy zones, the DPEIS portrayal of the available water supply in two zones is greatly overstated due to failure to understand the full meaning of recent court decisions. BLM should revise its discussions and assumptions regarding water use and water rights management in Delamar and Dry Lake Valley North, see, e.g., DPEIS at 11.2-

Section 1. Department of the Interior Action

60—61, 11.2-65, 11.2-67, 11.2-336, 11.4-63, 11.4-67, to clarify that State Engineer Ruling 5875 has been vacated and that the perennial yield newly established in Ruling 5875 and water rights granted to SNWA have also been vacated. As a result, the DPEIS baseline analysis should reflect that the basins are fully appropriated. *Carter-Griffin v. Taylor*, CV 0830908 (Oct. 15, 2009), slip op. at 5 (citing Ruling 5875) (“all water rights previously available in [Delamar and Dry Lake Valley basins] had already been fully appropriated”). Note also that the Colorado River Compact does not entitle Nevada to 300,000 acre-feet/year, DPEIS 4-73; Nevada’s Colorado River apportionment derives from the Boulder Canyon Project Act and the Consolidated Decree in *Arizona v. California*. The same holds true for California’s Colorado River apportionment. See DPEIS 4-68 (stating California’s apportionment comes from the Colorado River Compact).

Although there are a number of state laws and policies for managing water resources, the DPEIS fails to mention several directly applicable to water use for energy generation. BLM should discuss these requirements, because an action that may violate federal or state law or other requirements for environmental protection, *see id.* § 1508.27(b)(10), may have a significant impact. *See also id.* § 1502.16(c) (environmental effects section shall include discussions of possible conflicts between the proposed action and federal, state, local or tribal plans, policies or controls for the area); *id.* § 1506.2(d) (requiring discussion of any inconsistency with state or local plans or laws and of the extent to which the proposed action will be reconciled with the plan or laws).

For example, the Nevada State Engineer has expressed a clear preference for air-cooled power plants in its water permitting decisions. In Nevada, water rights applications for water to support utility-scale power plants were granted because the plants were to use “water efficient, air-cooled technology” – “realistic power generation projects” – and water use in this context was reasonable. State Engineer Ruling No. 5008, dated March 20, 2001, at p.24-25, 40, available at <http://images.water.nv.gov/images/rulings/5008r.pdf?CFID=170013&CFTOKEN=49614454>. A year later, as the Nevada State Engineer considered water rights applications for which a potential use was a water-cooled power plant, he recognized that “Technology is available, which can produce significant amounts of electricity using air-cooled systems. This technology uses significantly less quantities of water. ... The State Engineer ... does not believe it is prudent to use substantial quantities of newly appropriated ground water for water-cooled power plants in one of the driest places in the nation, particularly with the uncertainty as to what quantity of water is available from the resource, if any.” State Engineer Ruling No. 5115, dated April 18, 2002, at p.25, available at <http://images.water.nv.gov/images/rulings/5115r.pdf>.

The California Energy Commission and California State Water Resources Control Board also discourage fresh water use for power plant cooling. *See California Energy Comm’n, 2003 Integrated Energy Policy Report* 39-41 (2003), available at <http://www.energy.ca.gov/reports/100-03-019F.PDF>; State Water Resources Control Board Resolution 75-58, *Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling*, June 19, 1975, p. 1. http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1975/rs75_058.pdf. As a result, all solar thermal projects permitted on public lands in California in 2010 were dry-cooled.

Section 1. Department of the Interior Action

b. Aquatic Biota

The final PEIS should provide greater context to highlight the scarcity of and stress to water resources in the planning area. Both the main volume and state-specific volumes contain extremely little information about the existing flow systems, their status and the importance. In the six-state area, intermittent and ephemeral streams make up “over 81% [of all streams] in the arid and semi-arid Southwest (Arizona, New Mexico, Nevada, Utah, Colorado and California).” Levick, L. et al., *The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-arid American Southwest* iii (EPA 2008) (noting also that desert washes are not consistently mapped). They occupy only a small part of the landscape but support a great deal of biodiversity.

The DPEIS underestimates the importance of aquatic and riparian habitats. “Ephemeral and intermittent streams provide the same ecological and hydrological functions as perennial streams,” *id.* at iii, including wildlife habitat, support for riparian vegetation, groundwater recharge, water quality services and nesting and migratory corridors for wildlife. *See generally id.* In the Great Basin, for example, these ecosystems are small, isolated and rare, but support most of the biodiversity in the region. Don Sada, *Great Basin Riparian and Aquatic Ecosystems, in Collaborative management and research in the Great Basin – examining the issues and developing a framework for action* 49, 49 (Jeanne C. Chambers et al. eds., 2008). However, “The Great Basin is the driest region in the United States.” *Id.* Riparian and aquatic ecosystems have already been dramatically altered and degraded by unsustainable uses.

There is also a lack of baseline information regarding surface and groundwater features of BLM lands targeted for SEZs. Many of the areas proposed for solar energy development fall in rural, desert areas not covered by the USGS streamflow gauging network. *Compare* Mark T. Anderson & Lloyd H. Woosley, Jr., *Water Availability for the Western United States – Key scientific challenges* Fig. 10 (U.S. Geological Survey Circular 1261, 2005) (with little to no coverage in NV/CA border region, southwestern California, southern New Mexico). Moreover, there is no national program to monitor groundwater conditions and there is little information on groundwater availability or trends in availability. *Id.* at 17. Groundwater is an important resource in the West; it may be the primary or exclusive water supply for many communities. “In the United States, ground water is the source of drinking water for 50 percent of the population and as much as 90 percent of the population in rural areas, especially in the West.” *Id.*

In such arid settings, additional water demand from concentrating solar power systems employing wet-cooling could tax scarce water resources. Put in context, under “normal” conditions, 36 out of 47 state water managers anticipate water shortages in localities, regions or statewide within 10 years; under drought conditions, that number rises to 46 of 47 managers. Government Accounting Office, *Freshwater Supply, State’s Views of How Federal Agencies Can Help Them Meet the Challenges of Expected Shortages* 64-65(GAO-03-514, 2003).

Many of the potentially affected ephemeral and intermittent streams are not accurately mapped, and desert washes are not consistently mapped. Levick et al., *supra* at 5. While acknowledging

Section 1. Department of the Interior Action

this lack of information, BLM improperly defers its acquisition and impacts analysis to the project-specific stage. DPEIS 4-49. Without information regarding water availability or surface water flow systems, it is difficult to choose among alternatives and even more difficult to assess claims of effective mitigation of potential impacts to water availability or to ephemeral and intermittent streams and washes. If the incomplete information is essential to choosing among alternatives and getting the information is not exorbitantly expensive, the agency shall acquire and include the information. 40 C.F.R. § 1502.22(a). If it is exorbitantly expensive or not possible to acquire the information, the agency shall inform the reader that the information is incomplete or unavailable, why the information is relevant, what relevant information is available, and what impacts the available information predicts. *Id.* § 1502.22(b).

c. Climate change

BLM has failed to include climate change projections in its description of the affected environment so that it may adequately identify direct, indirect and cumulative effects. The long-term duration of the program and individual projects – 20 years – speak to the need to consider how the effects of climate change may intensify over time. Moreover, review at a programmatic level lends itself to climate change projections that can be made at a regional scale. Although the DPEIS acknowledges that such an analysis may be necessary in this section, *see* DPEIS at 4-1 (noting that “[f]actors such as climate change that may have an influence on the current conditions and potential trends of individual resources and resource uses have been incorporated as appropriate ...”), it devotes a mere four sentences to climate change impacts on resources throughout the chapter. *See* DPEIS at 4-59 (observing that there may be variations in water supply and use); DPEIS at 4-132 (summarizing adverse effects on the range of resources). BLM repeats much of this information in the cumulative impacts assessment. DPEIS 6-87. The summary provided offers no information on impacts or trends; information on trends and how they manifest on water resources and ecosystems are below. “The past century is no longer a reasonable guide to the future for water management.” U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* 49 (Thomas R. Karl et al. eds., 2009)[hereinafter USGCRP].

The PEIS should include observed and projected impacts of climate change in the region – considering whether climate change has affected, is affecting, or will in the future affect each resource and incorporating that information into the discussion of each resource. Federal and state agencies have published reports, studies and plans that identify the observed and projected impacts of climate change on specific geographic areas or environmental resources and that are readily available to BLM. BLM must consider the following impacts of climate change on the affected environment.

(i) Soils

BLM must supplement its discussion of soil erosion due to water and surface runoff (*see, e.g.*, DPEIS 5-23) to consider increased runoff from more extreme storms in a climate-changed environment. Climate change will lead to an intensified hydrologic cycle, including more extreme rainfall events. *See* Zbigniew W. Kundzewicz et al., *Freshwater resources and their*

Section 1. Department of the Interior Action

management, in *Climate Change 2007: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* 173, 175 (M.L. Parry et al., eds. 2007). Increasing trends in extreme precipitation events have already been observed in the Southwest and climate change may be the cause. See Kenneth E. Kunkel et al., *Long-term trends in Extreme Precipitation Events over the Conterminous United States and Canada*, 12 *J. of Climate* 2515 (1999); Kenneth E. Kunkel, *North American Trends in Extreme Precipitation*, 29 *Natural Hazards* 291 (2004). Increased intensity of rainfall events will lead to increased erosion from increased rainfall and in combination with other climate-related factors such as changes in soil moisture, plant cover and shifts from snow to rain. One study indicated that a 1% change in total precipitation (due to climate change alone, and not considering land use or other changes) could affect a 1.7% change in soil erosion. F.F. Pruski & M.A. Nearing, *Runoff and soil loss responses to changes in precipitation: a computer simulation study*, 57 *J. of Soil and Water Conservation* 7 (2002).

BLM must assess the impacts of proposed land use changes – construction on thousands of acres of desert soils – on the hydrology of the affected environment in an environmental setting that contemplates the impacts of climate change. The potential removal of desert wash networks over thousands of acres would eliminate their hydrological and biological functions and impede wildlife movement through the washes. An increase in the frequency or duration of extreme rainfall events may change upstream and downstream surface water features, soil moisture and the frequency and characteristics of flow and flood events.

The Bureau must also assess impacts of the proposed construction on desert crusts, especially on cryptobiotic soils essential to desert ecosystem functions, as discussed in further detail in the state-specific comment submitted separately.

(ii) Water resources

Numerous federal publications expand on the DPEIS's observation that climate change may modify water supply and use by actually explaining how the surface and groundwater resources in the planning area may be affected over the next decades by changes in precipitation patterns. For example, the IPCC has projected likely reductions in snowpack, seasonal shifts in runoff patterns, declines in groundwater recharge, and an increased frequency of intense precipitation events, such as flash floods, in the western and southwestern U.S. IPCC, 2007, *supra*. See also USGCRP, *supra* at 42 (“the arid Southwest is projected to experience longer and more severe droughts from the combination of increased evaporation and reductions in precipitation”); *id.* at 44 (16% increase in average number of days with very heavy precipitation); *id.* at 44 (extended dry periods have become more frequent in the Southwest and “[l]onger periods between rainfalls, combined with higher air temperatures, dry out soils and vegetation ...”); *id.* at 45 (projecting substantial declines in the interior West, especially the Southwest, in runoff); *id.* at 46 (projecting advances in spring runoff by up to 60 days; earlier spring runoff leads to reduced summer flows); *id.* at 47 (changes in water cycle will affect groundwater recharge).

These same publications discuss the potential changes in water quality as a result of climate change. The IPCC predicts that increased water temperatures will put additional stress on aquatic species. IPCC, 2007, *supra*. See also USGCRP, *supra* at 46 (higher water

Section 1. Department of the Interior Action

temperatures); *id.* at 46 (increases in storm intensity and reductions in summer streamflow contribute to higher concentrations of pollutants); *id.* at 46 (heavier storms increase runoff, sedimentation and flushing of pollutants into waters).

Additional federal sources explain how the transformations driven by climate change will redistribute stream flow and wetlands in the Great Basin, one of the basins within the planning area:

Ongoing climate change will have significant effects on the timing and amount of available water in this arid to semi-arid region (Wagner 2003, CIRMOUNT Committee 2006). Under warming trends, a larger fraction of precipitation will come as rain, and the region's snow packs will melt earlier, yielding higher winter and spring runoff rates and less summer runoff. Spring snowmelt is already occurring weeks earlier than in past decades and more precipitation falls as rain in much of the region. Continuation of these trends will result in increased winter floods in some basins, smaller warm-season reserves and rates of runoff, and warmer water temperatures in many of the region's rivers and lakes. In summer, lower flows coupled with higher variability may negatively affect various water uses including hydropower, irrigation, fish, and recreation. ... Areas with increasing dryness will exhibit a decrease in groundwater recharge, decreasing the longevity of groundwater resources.

Jeanne C. Chambers, *Water resources in the Great Basin*, in Collaborative management and research in the Great Basin – examining the issues and developing a framework for action 20, 30 (Jeanne C. Chambers et al. eds., 2008).

A reasonable scenario for western stream flows is change in the current seasonal proportionality of flows: increased winter flow, reduced and earlier spring peaks, and reduced summer and fall flows. The change in absolute flows will depend on the actual increase in precipitation relative to the degree of warming and its effects on evapotranspiration. Most watersheds in the Great Basin exhibit high natural variability in unregulated streamflow (Hurd and others 1999) and this variability may increase. In summer, lower flows coupled with higher variability may negatively affect various water uses (hydropower, irrigation, fish, recreation, and so forth).

Jeanne C. Chambers, *Climate Change and the Great Basin*, in Collaborative management and research in the Great Basin – examining the issues and developing a framework for action 29, 30 (Jeanne C. Chambers et al. eds., 2008).

(iii) Ecosystems

The IPCC has stated broadly that, “Responses of terrestrial species to warming across the Northern Hemisphere are well documented by changes in the timing of growth stages (i.e., phenological changes), especially the earlier onset of spring events, migration, and lengthening of the growing season.” IPCC, 2007: Climate Change 2007: Impacts, Adaptation, and

Section 1. Department of the Interior Action

Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change [Parry, Martin L., Canziani, Osvaldo F., Palutikof, Jean P., van der Linden, Paul J., and Hanson, Clair E. (eds.)]. Cambridge University Press, Cambridge, United Kingdom, 1000 pp.

Arid environments like those studied here are likely to become even hotter and drier; in fact, this is already being observed. USGCRP, *supra* at 83. The ranges of many species in the United States have shifted northward and upward in elevation. *Id.* at 80. Communities of species will shift as a whole, breaking up existing ecosystems, and some migratory corridors may be blocked. *Id.* at 81.

(iv) Vegetation

Earlier average bloom dates for plants have already been observed. Jeanne C. Chambers, *Climate Change and the Great Basin, in Collaborative management and research in the Great Basin – examining the issues and developing a framework for action* 29, 29 (Jeanne C. Chambers et al. eds., 2008).

(v) Invasive species

Rising air temperatures can increase pest outbreaks. USGCRP, *supra* at 82. Many invasive plant species can tolerate higher temperatures of climate change and may grow faster than natives. *Id.* at 83. In the Great Basin, researchers predict that higher levels of CO₂ may increase the invasibility of cheatgrass and other annual grasses. Other invaders, including perennial forbs and woody species, may be similarly advantaged. Jeanne C. Chambers, *Climate Change and the Great Basin, in Collaborative management and research in the Great Basin – examining the issues and developing a framework for action* 29, 30 (Jeanne C. Chambers et al. eds., 2008).

d. Water Quality

BLM should provide more information in the Final PEIS that includes a robust inventory of surface and groundwater quality in the planning area. There is nothing but a brief, general statement about water quality in each of the nine aquifers, *see, e.g.*, DPEIS Table 4.9-4 (groundwater generally good in the Pacific Northwest, not known in the Texas-Gulf), with similarly terse statements regarding surface water quality. *See* DPEIS Table 4.9-1. Additional information will inform a comparison of alternatives, to discern the water treatment needs for solar energy facilities (e.g., for potable supply, for mirror washing), the resultant wastewater treatment needs, the environmental impacts of any water treatment, or the effectiveness of proposed mitigation.

Recommendations: BLM has conceded that the Solar PEIS does not set out a sufficient baseline of conditions on the public lands that are made available for solar energy development. In order to comply with NEPA's requirement to evaluate impacts starting from an accurate description of the affected environment, the PEIS must set out specific requirements for describing an accurate

Section 1. Department of the Interior Action

baseline of resources and conditions so that impacts can be evaluated at a landscape level prior to project approval.

5. Mitigation measures must be described with specificity and must include commitments for action.

NEPA requires that BLM discuss mitigation measures in an EIS. 40 C.F.R. §§ 1502.14, 1502.16. Simply identifying mitigation measures, without analyzing the effectiveness of the measures, violates NEPA. Agencies must “analyze the mitigation measures in detail [and] explain how effective the measures would be . . . A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.” *Nw. Indian Cemetery Protective Ass’n v. Peterson*, 764 F.2d 581, 588 (9th Cir. 1985), *rev’d on other grounds*, 485 U.S. 439 (1988). NEPA also directs that the “possibility of mitigation” should not be relied upon as a means to avoid further environmental analysis. Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations*, available at <http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm>; *Davis v. Mineta*, 302 F.3d at 1125.

Further, general statements that BLM will conduct monitoring are also not an appropriate form of mitigation. Simply monitoring for expected damage does not actually reduce or alleviate any impacts. Only the taking of appropriate actions based on monitoring results can reduce impacts. The Draft PEIS fails to set out mitigation goals or requirements for special status species, for example, simply stating that an Ecological Resources Mitigation and Monitoring Plan should include: “Measures to mitigate and monitor impacts on special status species developed in coordination with the appropriate federal and state agencies (e.g., BLM, USFWS, and state resource management agencies).” DPEIS, p. 5-134.

As discussed in recent guidance issued by the Council on Environmental Quality (CEQ) addressing the “Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact,”²⁷ specific commitments are needed for meaningful use of mitigation measures.

As CEQ describes it:

Specifically, the guidance affirms that agencies should:

- commit to mitigation in decision documents when they have based environmental analysis upon such mitigation (by including appropriate conditions on grants, permits, or other agency approvals, and making funding or approvals for implementing the proposed action contingent on implementation of the mitigation commitments);
- monitor the implementation and effectiveness of mitigation commitments;
- make information on mitigation monitoring available to the public, preferably through agency web sites; and
- remedy ineffective mitigation when the Federal action is not yet complete.

Thus, in the context of the Solar PEIS, the guidance requires commitment to actual mitigation measures that the BLM has reason to believe will be effective, monitoring of actual

²⁷ Available at: <http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa>

Section 1. Department of the Interior Action

effectiveness, publication of monitoring data, and action to address ineffective mitigation. If monitoring shows that mitigation measures are not effectively avoiding or reducing or compensating for environmental impacts, then new actions must be taken to mitigate harms or the damaging activities associated with solar energy development must be stopped until new measures can be evaluated and developed.

Further, the guidance states:

CEQ encourages agencies to commit to mitigation to achieve environmentally preferred outcomes, particularly when addressing unavoidable adverse environmental impacts. Agencies should not commit to mitigation, however, unless they have sufficient legal authorities and expect there will be necessary resources available to perform or ensure the performance of the mitigation.

Guidance, p. 5. Consequently, the BLM must also take into account the likelihood that it will have the funding and resources necessary to implement mitigation measures, as one aspect of ensuring that these measures are likely to be successful. In California, the BLM is trying to establish a comprehensive monitoring program that includes “before” monitoring at project and reference sites; and careful consideration should be given to expanding their efforts across all public lands that will be affected by solar development.

To support the BLM’s assertion that its “comprehensive set of mitigation requirements would ensure that impacts from solar energy development on BLM-administered lands would be mitigated to the fullest extent possible,” DPEIS, p. 6-104, the final PEIS must provide data and analysis that demonstrate why the proposed mitigation measures/design features will “constitute an adequate buffer against the negative impacts that may result from the [proposed alternatives].” *Nat’l Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 734 (9th Cir. 2001). Critical to the assessment of environmental effects is an analysis of the effectiveness of proposed mitigation measures – this assessment is lacking in this DPEIS. This gap would be partly addressed by setting goals and adding further discussion of potential compensatory mitigation as described below, but we also add the following comments:

- a. Analysis is required to support effectiveness of mitigation.

Frequently, the Draft PEIS states that mitigation will minimize impacts, but offers no supporting analysis. *See, e.g.*, DPEIS, p. ES-18 (Impacts to groundwater and surface water flow systems, water contamination, water quality degradation by runoff or excessive withdrawals “can be effectively mitigated”; DPEIS, pp. 5-24, 5-25, 5-26 (mitigation measures would reduce the level of impacts to soils from site characterization, construction, operations and decommissioning); DPEIS 5-41 (mitigation measures relating to site design, stormwater, and avoidance of critical landscapes would reduce impacts relating to altered hydrology); DPEIS, pp. 11.1-61, 11.2-62, 11.4-64 (land disturbance impacts to water resources “will be minimized”); DPEIS, Tables 5.10-1, 5.10-2, 5.10-3, 5.10-4 (claiming an ability to mitigate impacts to ecological resources). Each section of design features is “at best a ‘mere listing’ of mitigation measures, without supporting analytical data.” *League of Wilderness Defenders v. Forsgren*, 309 F.3d 1181, 1192 (9th Cir. 2002) (quoting *Okanogon Highlands Alliance v. Williams*, 236 F.3d 468, 473 (9th Cir. 2000)).

Section 1. Department of the Interior Action

In fact, a closer reading of the DPEIS reveals that BLM cannot be sure which mitigation measures will be implemented or that they will be effective; and if ineffective, that other mitigation measures will be put in place. The final PEIS must contain analyses that estimate how or to what extent mitigation will reduce impacts – BLM must “show its work” as well as acknowledge the need for site-specific analysis showing that a specific BMP will in fact produce the intended result if a proposed project is approved.

In the final EIS, to show whether and how mitigation will work, BLM must provide a more accurate assessment of environmental effects and must temper its conclusions that impacts will be mitigated when it does not have supporting data. Before selecting and implementing an action alternative, BLM must have a better understanding of its ability to mitigate significant impacts. NEPA “requires the Federal agencies to assess the environmental consequences of their actions *before* those actions are undertaken.” *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993 (9th Cir. 2004) (emphasis added).

In many cases, the type of mitigation and the actual ability to mitigate significant impacts to environmental resources will not be known until BLM reviews specific projects. “Actual ability to mitigate impacts will depend on site-specific conditions and the communities present in the project area.” DPEIS, Table 5.10-1 (vegetation); DPEIS, Table 5.10-2 (wildlife); DPEIS, Table 5.10-3 (aquatic resources). *See also* DPEIS, p. 5-2 (“Their [mitigation measures] applicability and effectiveness cannot be fully assessed except at the project-specific level when the project location and design are known.”); DPEIS, p. 6-104 (“Any potential adverse impacts that could not be addressed at the programmatic level would be addressed at the project level, where resolution of site-specific and species-specific concerns is more readily achievable.”). In other cases, assertions that impacts can or will be effectively mitigated are contradicted by statements elsewhere in the DPEIS. *See, e.g.*, DPEIS Tables 5.10-1, 5.10-2, 5.10-3, 5.10-4 (noting that overall it is relatively difficult to mitigate impacts to ecological resources).

Built off of BLM’s Special Status Species Policy and BLM’s ESA Section 4(a)(1) affirmative obligations to conserve and recover listed species, the final PEIS should be used to promulgate goals that will provide clarity to project developers and the public on how mitigation requirements will be developed and analyzed. In particular, mitigation measures should be specific to the wildlife species and other resource impacts that will occur. BLM offices need a clear standard for review of mitigation projects that require a clear description and quantification of wildlife impacts and offsets.

b. Monitoring is critical to mitigation effectiveness.

DOI agencies have too often failed to establish clear and measurable biological goals in their own work and in requirements of third parties seeking agency approval. The absence of goals feeds into problems with inadequate monitoring. The result is that too many projects fail to adequately compensate for impacts, and DOI agencies have a poor record of being able to track such performance.

The Draft PEIS lacks assurances that mitigation measures will be implemented and monitored. CEQ recommends that any agency NEPA analyses and/or decision documents should:

Section 1. Department of the Interior Action

- describe the expertise applied in determining appropriate mitigation commitments;
- consider when and how mitigation commitments will be implemented;
- specify measurable performance standards or expected results of mitigation commitments as well as the timeframe for the agency action and mitigation commitments;
- disclose if it is reasonably foreseeable that funding for mitigation measures may not be available and, if so, the resultant environmental effects;
- identify alternative mitigation measures if the initial commitments are not implemented or effective; and
- describe monitoring plans and programs, the agency and/or applicant responsible for developing and implementing the monitoring program and the monitoring area and appropriate monitoring system.

See Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact, 76 Fed. Reg. 3843 (Jan. 21, 2011). BLM should apply these recommendations to the DPEIS.

BLM must use the final PEIS to define the types of outcomes (population size, viability, reproductive performance, age class distribution, etc.) that it will require. Additional final PEIS analysis should describe the expected results of mitigation and how it will serve to guide any monitoring program that BLM and applicants implement. “Monitoring is fundamental for ensuring the implementation and effectiveness of mitigation commitments, meeting legal and permitting requirements, and identifying trends and possible means for improvement.” 76 Fed. Reg. at 3849. BLM must establish clear requirements for monitoring and reporting – to the public and the agency – on the success in achieving those goals. Public reporting should document whether the monitoring program should track whether mitigation commitments are being performed as described in NEPA analyses and whether the mitigation is producing the expected outcomes and environmental effects. The monitoring program should also provide for public involvement. 76 Fed. Reg. at 3851.

Moreover, many of the design features rely on monitoring alone as mitigation plans. See, e.g., DPEIS, pp. A-48—A-50 (requiring a variety of hydrologic studies and monitoring plans). However, none of these monitoring plans call for changes in water use should the monitoring reveal adverse effects to water resources, sensitive habitats or special status species; the agency and the public must be able to determine, *in advance*, the appropriateness and effectiveness of mitigation commitments. “Monitoring may serve to confirm the appropriateness of a mitigation measure, but that does not make it an adequate mitigation measure in itself.” *Nat’l Parks & Conservation Ass’n*, 241 F.3d at 734. To truly ensure that these impacts are avoided, the mitigation plans must include conservation measures informed by the monitoring results.

- c. Mitigation measures must be sufficiently robust to address the extensive impacts of utility-scale solar energy development.

It is critical to note that the kinds of impacts these massive projects will cause in desert environments are essentially permanent and will persist far beyond the site’s use for energy

Section 1. Department of the Interior Action

production, despite “remediation” commitments. Thus, mitigation measures must be planned and funded to last in perpetuity, not subject to change via land use plan amendments, budget cuts and other impacts.

- d. Adaptive management, as part of mitigation, must be conducted using a detailed framework.

The Draft PEIS also states that the BLM will rely on adaptive management so that new data and lessons learned can be addressed on an ongoing basis. DPEIS, pp. 2-5 and 2-6. In order for BLM to rely on actions to be taken through adaptive management to mitigate impacts from solar energy development, there must be a concrete and detailed adaptive management plan. The key elements of a meaningful adaptive management plan, as well as appropriate monitoring, are discussed in further detail below in Section 1.III.D of these comments.

In addition to the specific changes to the mitigation measures recommended in Section 1.I above, the PEIS must also evaluate the likelihood of effectiveness based on the criteria set out above and must incorporate a detailed adaptive management plan framework.

- e. Monitoring results and actions must be made public.

Lastly, the ROD must include an unambiguous commitment to making monitoring data available to the public at the same time it is received by the agency. Information about the ongoing impacts of these projects on publicly-owned resources is not confidential or proprietary and making it public is key to the BLM’s goal of having an environmentally responsible solar program.

Recommendations: BLM cannot rely on mitigation measures without a reasoned evaluation and conclusion that they will be successful. Monitoring and adaptive management cannot substitute for mitigation, but must be part of BLM’s detailed, science-based commitments to action. The Solar PEIS, the ROD and Solar Energy Program should require evaluation of mitigation measures and commitments to monitoring and adaptive management to ensure that they are successful or, if they are not, that new measures are implemented or development activities are changed. In addition, BLM should commit to making all monitoring information, as well as adaptive management actions taken in response to monitoring results, public.

B. BLM Wildlife Policy

1. The Draft PEIS analysis of impacts on special status species is not adequate to reveal whether implementation of the proposed program will be consistent with agency policy to conserve those species

BLM’s Special Status Species policy states that the agency “shall manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the conditions of the species habitat...”Manual 6840.2C. The policy then enumerates the specific means to achieve these objectives, including through “evaluating the significance of BLM-administered lands and actions undertaken by the BLM in conserving those species”(

Section 1. Department of the Interior Action

6840.2C1) and ensuring that “BLM activities affecting Bureau sensitive species are carried out in a way that is consistent with its objectives for managing those species and their habitats at the appropriate spatial scale.” 6840.2C2. The policy even goes beyond species that currently have special status species protection and instructs the BLM to “[c]onsider ecosystem management and the conservation of native biodiversity to reduce the likelihood that any native species will require Bureau sensitive species status.” 6840.2C7.

While the Draft PEIS acknowledges the severe risk posed to special status species by large scale solar development, especially under the Preferred Alternative, the analysis it contains is inadequate to reveal whether implementation of the program will be consistent with Special Status Species policy.²⁸

First, as stated above, the analysis of impacts to special status species outside of zones is insufficient. The BLM acknowledges in the Solar PEIS that, when considering impacts to special status species, it has only evaluated data in limited “SEZ regions” and hopes to have additional data and analyses prepared before the final PEIS is released.²⁹ DPEIS, p. J-2. As noted above, providing the analysis at this later point in the process will not permit the public to review and comment on either the data or the agency’s analyses, both of which must be disclosed to the public as part of the Draft PEIS in order to permit the “public scrutiny” that is considered “essential to implementing NEPA.” 40 C.F.R. § 1500.1(b).

Second, the analysis that was conducted for impacts to special status species within the zones is not conducted at the appropriate biological scale. BLM special status species policy focuses conservation actions at the population scale of analysis, and notes other key parameters such as species distribution and abundance for covered species that should be considered and employed when assessing the impacts of the solar program. For example, BLM is required to inventory the public lands to determine the “condition of the *populations* and their habitats, and how discretionary BLM actions affect those species and their habitats” 6849.04D.3. The policy also calls for population monitoring of special status species to “determine whether management objectives are being met” 6840,04E.7. Furthermore, the policy states that the agency will “manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species by...determining, to the extent practicable, the distribution, abundance, population condition, current threats, and habitat needs for sensitive species, and evaluating the significance of BLM-administered lands and actions by the BLM in conserving those species” 6840.2C.1.

The Draft PEIS’s analysis does not reveal population level impacts; it acknowledges that these impacts will occur. For example, it states that “because of their small population sizes and often specialized habitat needs or dependence on rare habitats, special status species may be more vulnerable to impacts than common and widespread species. *Small population size* makes them more vulnerable to the effects of habitat fragmentation, habitat alteration, habitat degradation, human disturbance and harassment, mortality of individuals, and the loss of genetic diversity.

²⁸ Federally listed as threatened or endangered under the Endangered Species Act (ESA); candidate or proposed for listing under the ESA; BLM-designated sensitive; state-listed as either endangered, threatened, or a species of special concern; or a rare species as defined by a state rank of S1 or S2.

²⁹ As noted above, these “regions” are comprised of the lands within 50 miles of the centers of the proposed SEZs.

Section 1. Department of the Interior Action

DPEIS, p. 5-114 (emphasis added). Despite this overarching statement and clear acknowledgement of risk to wildlife populations, however, the draft PEIS fails to conduct a meaningful vulnerability analysis of the effects of habitat fragmentation, alteration and degradation on populations of special status species. Furthermore, the proposed program does not clearly define how these risks will be defined, avoided, minimized and mitigated during program implementation. More specifically, it does not clarify whether population level effects will be meaningfully assessed at the project scale.

Instead, and despite the fact that the population condition of wildlife species is a key attribute of agency policy, the draft PEIS provides an extremely broad analysis of potential impacts to ecological resources and wildlife. The draft PEIS acknowledges that construction and operation is likely to result in habitat disturbance “that could result in major impacts to wildlife”, including the loss and fragmentation of habitat, resulting in “loss of genetic interchange among populations” and impacts to “local wildlife composition and abundance” as well as loss of “local wildlife composition and abundance” DPEIS, p. 5-74. Although the PEIS concludes that impacts will be “large,” assuming no mitigation, assessment of actual impact magnitudes on wildlife is deferred until the project scale of analysis.³⁰ DPEIS, Table 5.10-4. It is unclear, however, whether or how the population level impacts will be assessed at a project scale.

Rather than providing mere agency assurances that actual impacts will be effectively evaluated at a later planning stage, the analysis in the draft PEIS could have been conducted in a more meaningful manner. While the analysis of relative impact magnitudes relies on numerous assumptions, two are of particular concern. First, in determining whether impacts are categorized as none, small, moderate, or large, the draft PEIS uses a “landscape-level analysis” based on the percentage of a sensitive species’ *population or suitable habitat* that would be lost in an SEZ region. If this analysis were to be based on population-level impacts, or otherwise constructed so as to allow meaningful inference to risks posed to individual species persistence, we believe that reasonable conclusions could be drawn about the risks the program presents to a species’ chances of being listed under the ESA, in accordance with BLM wildlife policy. For many sensitive species, however, the draft PEIS relies on broad habitat-level impacts. The PEIS fails to demonstrate a connection between the estimated habitat-level impacts and actual risks to a species conservation status, and is therefore not adequate to demonstrate compliance with BLM wildlife policy. In other words, for many sensitive species, the Draft PEIS provides no useful information about how much closer the solar program places these species toward an ESA listing.

The second notable flaw with the special status species analysis is the use of a 50-mile radius to determine the relative impact magnitude for all special status species. Depending on the type of species, a 50-mile radius could represent a small portion of the species’ range, the species’ entire range, or anything in between. For example, rare endemic plants have far more restricted ranges

³⁰ A “large” impact is defined as “effects are clearly noticeable and are sufficient to destabilize important attributes of the resource (e.g. > 10% of the population or its habitat would be lost in the region.)” (5-96). Despite the reference to population level effects, we found no evidence that the draft PEIS actually attempted to estimate them. Furthermore, the reference to “population” in this criterion is misplaced; there is no evidence that population level effects were assessed.

Section 1. Department of the Interior Action

than birds; impacts to the former would be of greater concern than impacts to the latter. The draft PEIS, however, does not specifically distinguish among these species and thus may both underestimate and overestimate the significance of impacts at the species level. A more reasonable and meaningful approach, and one more likely to be consistent with agency wildlife policy, would have been to estimate habitat loss for individual species based on the species' known range and distribution.

In order to conduct proper and sufficient analysis of the impacts to wildlife, to remedy the deficiencies of the draft PEIS, and to provide for improved conditions for sensitive species, additional future analyses must consider:

- Program and project level impacts to “the occurrence, distribution, population, and habitat condition of all ESA-listed species” on lands potentially impacted by solar development as well as assess the significance of lands potentially impacted by solar development in the conservation of ESA-listed species. 840.1E4.
- Whether solar development actions (including mitigation actions) will improve the status of special status species so that their Bureau sensitive recognition is no longer warranted.
- Whether solar development actions will contribute to “a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range.” Following this standard would ensure that the program does not increase the risk of adding a species to the sensitive species list.
- The potential for harm to “species (which depend) on ecological refugia or specialized or unique habitats on BLM-administered lands” and whether potential solar development could lead to “alteration such that the continued viability of the species in that area would be at risk.” 6840.2A1. Following this standard would ensure that the program does not increase the risk of adding a species to the sensitive species list.
- Potential impacts to “the distribution, abundance, population condition...and habitat needs for sensitive species” and sufficiently evaluate the potential impacts of solar development actions on lands in conserving those species. 6840.2C1.
Whether species management objectives are being met as part of mitigation and adaptive management plans the “monitoring (of) populations and habitats of Bureau sensitive species.” 6840.2C3.

Recommendations: BLM should conduct a meaningful vulnerability analysis of the effects of habitat fragmentation, alteration and degradation on populations of special status species that includes all potentially affected species, is based on meaningful biological and spatial scales, and focuses at the population level. Such analysis is required in order for BLM to be in compliance with its own policy.

2. The Solar Energy Program must define and employ measurable wildlife standards that are consistent with agency wildlife policy.

The PEIS relies on mitigation measures to alleviate harm to wildlife and special status species, however, it does not adequately describe how the Solar Energy Program will “minimize or eliminate threats” to sensitive species, nor how it will evaluate “the significance of ...actions undertaken by the BLM in conserving those species” to an extent that satisfies the SSS policy.

Section 1. Department of the Interior Action

The underlying problem is that the PEIS fails to establish an explicit standard that can be used to determine what level of impacts to sensitive species is deemed acceptable and how much mitigation is required. Without this standard, the analysis in the PEIS of avoidance, minimization, and mitigation occurs in a vacuum.

One manifestation of this problem occurs in Appendix M, page 34, which states that if a project cannot be sited to avoid occupied habitats, then translocation and compensatory mitigation will be “recommended for consideration,” with the final mitigation plan being determined at the project level. This language provides no information on exactly when translocation and compensatory mitigation should be implemented, largely because it is unclear when these measures are actually needed. If the PEIS were to establish a quantitative, risk-based standard that defines the maximum extent that a sensitive species could be endangered as a result of the Solar Program, then it would be clearer when mitigation is and is not required. This would not only provide the environmental community with greater certainty, but also enable solar developers to more effectively site and plan development projects.

In addition, it is not clear whether the proposed mitigation measures introduced under 5.10.5 will achieve wildlife policy objectives. For example, “projects shall be sited and designed to avoid direct and indirect impacts on important, sensitive, or unique habitats in the project vicinity, including, but not limited to...habitats supporting special status species *populations*...For cases in which impacts cannot be avoided they shall be minimized and mitigated appropriately.” DPEIS, p. 5-127. The language fails to define habitats which support special status species populations, nor to articulate what standard shall apply to appropriate minimization and mitigation using a population level effect. The section goes on to say that projects “should not be sited in...other specially designated areas that are considered necessary for special status species and habitat conservation.” Again, determinations of what is “necessary” for species conservation are not clearly articulated in biologically meaningful terms.

The PEIS repeats this failure to properly account for populations of special status species in the program design features, including:

- The final PEIS fails to clearly define the relationship between the protection of “potentially sensitive resources” including “unique biological communities” and “crucial wildlife habitats” and actual populations of wildlife and special status species as directed by agency policy.
- The Draft PEIS states: “Buffer zones shall be established around sensitive habitats, and project facilities and activities shall be excluded or modified within those areas.” The final PEIS must describe how buffer zones will be established around “sensitive habitats” (and explain why “unique” and “important” habitats are excluded from this requirement) and describe how determinations will be made whether to exclude or modify activities. It is unclear in the Draft PEIS whether the buffer zones themselves will be “substantiated by best available information or science” or whether this applies to the modifications.
- The final PEIS or subsequent analyses must clarify the degree to which “habitat loss, habitat fragmentation, and resulting edge habitat due to project development shall be minimized.” Similarly, the Final PEIS must clarify and define how projects will be

Section 1. Department of the Interior Action

designed “to minimize the disruption of animal movement patterns and connectivity of habitats.”

Recommendation: The BLM must establish an explicit standard that can be used to determine what level of impacts to sensitive species is deemed acceptable and how much mitigation is required to achieve species conservation.

D. National Historic Preservation Act

Several 2010 fast track projects in California are currently in litigation in alleged violation of cultural and historic resources law over issues such as failure to avoid culturally important locations, failure to adequately consult with tribes, and inadequate analysis of cultural and historic resources. Anecdotally, critics have charged that the BLM’s cultural resource evaluations appear to be an afterthought rather than fully integrated into project design and evaluation.

Ideally, cultural and historic evaluation, and government-to-government outreach to tribes, would be started well in advance of specific project design in order to avoid important resources. The following comments are offered in recognition that cultural and historic resources must be addressed as carefully as environmental resources, engaging all key stakeholders, and ensuring that laws governing them are fully followed. If they are not, these mistakes can doom an otherwise well-sited renewable energy project.

Section 106 of the National Historic Preservation Act (NHPA) includes a process for early identification of cultural resources and Traditional Cultural Properties or sacred areas in and adjacent to the SEZs as defined in the Draft PEIS.³¹ Currently, a lack of inventory, site information, and quality consultation of interested Native American Tribes prevents a reliable idea of quality, number and location of significant cultural resources and sacred areas that may significantly hamper completion of proposed renewable energy projects.

The PEIS should clearly state that the ROD on the Final PEIS does not preclude or substitute for the continuing process of consultation with parties in order to comply with Section 106 of the National Historic Preservation Act during subsequent project specific EIS determinations, and that requirements to meet applicable parts of Section 106 have not yet been fulfilled.

These Section 106 requirements include but are not limited to cultural resources that meet the eligibility criteria for listing on the National Register of Historic Places (NRHP), are considered “significant” resources, and must be taken into consideration during the planning of federal projects. Federal agencies are also required to consider the effects of their actions on sites, areas, and other resources (e.g., plants) that are of religious significance to Native Americans as

³¹ Information for this section was drawn primarily from PATRICIA L. PARKER *and* THOMAS F. KING (1990; Revised), Guidelines for Evaluating and Documenting Traditional Cultural Properties, *Cultural Anthropologist and Archeologist, American Indian Liaison Office, National Park Service Senior Archeologist and Director of the Office of Program Review, Advisory Council on Historic Preservation (formerly) Consultant, Archeology and Historic Preservation (currently)*. U.S. Department Of The Interior, National Park Service, National Register, History And Education, National Register Of Historic Places

Section 1. Department of the Interior Action

established under the American Indian Religious Freedom Act (P.L. 95-341). Native American graves and burial grounds are protected by the Native American Graves Protection and Repatriation Act (P.L. 101-601). Many of these resources are found in the six-state area covered by the PEIS.

1. Legal framework for managing cultural resources

The NHPA is the overarching law concerning the management of cultural resources. Numerous other regulatory requirements, however, pertain to cultural properties and are presented below. These laws are applicable to any project undertaken on federal land or requiring federal permitting or funding.

The NHPA created the framework within which cultural resources are managed in the United States. Section 106 of the NHPA defines the process for the identification of a cultural resource and the process for determining if a project will adversely affect the resource. The NHPA establishes the processes for consultation among interested parties, the agency conducting the undertaking, and the relevant State Historic Preservation Office (SHPO) or Tribal Historic Preservation Office (THPO); and for government-to-government consultation between U.S. government agencies and Native American Tribal governments. The NHPA, in Section 106, also addresses the appropriate process for mitigating adverse effects. The NHPA applies to federal undertakings and undertakings that are federally permitted or funded. The Solar PEIS is an undertaking subject to the NHPA.

Cultural resources on BLM-administered land are managed primarily through the application of the above identified laws. Guidance on the application of the laws is provided through Programmatic Agreements (PAs) developed among the BLM, the National Council of SHPOs, and the Advisory Council on Historic Preservation; and through state-specific PAs concerning cultural resources. Further guidance is provided through the 8100 Series manuals and handbooks for BLM employees, which outline cultural resource management on BLM-administered land.

“Significant Cultural Resources” which are protected by NHPA are generally 50 years of age or older and meet National Register of Historic Places (NRHP) criteria for evaluation (36 Code of Federal Regulations 60.4) which state, in part:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, materials, workmanship, feeling, and association, and

Criterion A. that are associated with events that have made a significant contribution to the broad patterns of our history; or

Criterion B. that are associated with the lives of persons significant in our past; or

Criterion C. that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high

Section 1. Department of the Interior Action

artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D. that have yielded, or may be likely to yield, information important in prehistory or history.

While historic period sites may be determined NRHP eligible under virtually any of these criteria, prehistoric archaeological sites are almost always evaluated with respect to Criterion D. In other words, to be considered NRHP eligible, a prehistoric site must have yielded, or have the potential to yield

important information about some aspect of prehistory or history, including events, processes, institutions, design, construction, settlement, migration, ideals, beliefs, lifeways, and other facets of the development or maintenance of cultural systems. . . . Any consideration of a property's eligibility under Criterion D must address (1) whether the property has information to contribute to our understanding of history or prehistory and (2) whether that information is important.

An eligible property must also be at least 50 years old (with a few special exceptions) and retain a certain amount of physical integrity.

2. Recommendations for managing cultural resources

Cultural resources information on public lands in and near the proposed Solar Energy Zones is incomplete. Coupled with the lack of inventories in and surrounding most of the SEZs, this means that early identification of areas appropriate for development cannot be completed with any assurance of reliability. In fact, Table 1 below illustrates the percentage of inventory within each SEZ. Sixteen of the SEZs have less than 5 percent surveyed and seven of these have less than 1 percent completed. No totals were given for seven of the SEZ. However, descriptions suggest that five have low percentages inventoried. In only one SEZ, Dry Lake near Las Vegas, NV, have surveys been completed to any appreciable amount.

We are recommending a two-phased approach to increase the quality and amount of data in a relatively cost effective and timely manner. The first is to develop a predictive model using existing data from surrounding areas within the same physiographic and cultural areas. The model should allow the agency to better extrapolate what kinds, location, and quality of sites will likely occur in the SEZs in areas that are to be inventoried. The second part includes completing a sample survey to bring the percentage of the inventory up. This will help the agency with selection and boundary adjustments before the PEIS is completed. As part of this sample survey, the agency should conduct viewshed analyses for proposed SEZs to identify which historic properties located outside SEZs—such as national scenic and historic trails and TCPs—whose significances are at least partly tied to their settings, could be adversely affected by development within the SEZs. Using these approaches, the agency will be more likely to predict issues that may arise during the required Section 106 compliance. This will also assist developers to avoid areas that are likely to contain significant cultural resources and the subsequent costs of data recovery or project adjustment.

Section 1. Department of the Interior Action

Table 1. Acreage and percentage of inventory by SEZ.

SEZ	State	SEZ Acreage	Approx. % Surveyed	Comments
Brenda	AZ	3,878	0	
Bullard Wash	AZ	7,239	0	
Gillespie	AZ	2,618	?	4 linear, 1 block
Imperial East	CA	5,722	?	1 block partially in NW
Iron Mountain	CA	106,522	?	at least 3 linear surveys
Pisgah	CA	23,950	?	at least 19 surveys
Riverside East	CA	202,896	?	at least 109 surveys
De Tilla Gulch	CO	1,522	3.8	
Fourmile East	CO	3,882	0	
Los Mogotes East	CO	5,918	0.2	
Antonito SE	CO	9,729	0	
Afton	NM	77,623	8	
Mason Draw	NM	12,909	2	
Red Sands	NM	22,520	7	
Amargosa Valley	NV	31,625	3	
Delamar Valley	NV	16,552	3.4	
Dry Lake	NV	15,649	60.2	
Dry Lake Valley North	NV	76,874	2.8	
East Mormon Mountain	NV	8,968	0.9	
Gold Point	NV	4,810	0	
Millers	NV	16,787	4	
Escalante Valley	UT	6,614	?	8 linear; 2 block partially in S & W
Milford Flats South	UT	6,480	?	9 mostly linear
Wah Wah Valley	UT	6,097	0.04	

a. Native American Consultation

One kind of cultural significance a property may possess, and that may make it eligible for inclusion in the Register, is *traditional cultural significance*. National Register Bulletin 2009. "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community's historically rooted beliefs, customs, and practices. Examples of properties possessing such significance include:

Section 1. Department of the Interior Action

- a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
- a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- an urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;
- a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
- a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity. A traditional cultural property, then, can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community.

b. Recommendations to Address Native American Concerns

Native American consultation under Section 106 of the National Historic Preservation Act must be conducted on all federal undertakings that may have an effect on sites or areas that may be of concern. Not only is there a legal mandate to complete consultation, but it is the right thing to do and is part of good management planning. This consultation should be:

- Meaningful -- the agency must make a reasonable and good faith effort to identify consulting parties;
- The consultation must fully address tribes' concerns;
- Government to government consultation must be conducted in person and should be ongoing until parties resolve adverse affects;
- Government to government is in addition to the regular public process dictated by NEPA;
- Consultation should consider cumulative effect of this project and others on traditional properties, cultural resources and tribal concerns; and
- Consultation should consider not only direct effects, but indirect effects on traditional properties.

To be most successful, consultation should be undertaken in the earliest stages of project development—meaning before scoping for NEPA—to avoid costly expenditures on locations that are inappropriate for development because of cultural or historic resources.

Recommendations: As written, the Draft PEIS does not fulfill BLM's obligations under the NHPA. In order to comply with both the requirements and intent of the NHPA and other obligations for consultation, the Modified SEZ Program Alternative must set out more specific requirements and commitments for inventory and consultation, as described above.

E. Federal Land Policy and Management Act

1. Multiple use management requires consideration of other resources when defining a solar energy program.

The Federal Land Policy and Management Act, (“FLPMA”), 43 U.S.C. § 1701 et seq., provides the BLM with both the obligations and the discretion to design a solar energy development program that also achieves meaningful conservation objectives, pursuant to its mandate of managing the public lands for “multiple use” and “sustained yield.”³² See *Theodore Roosevelt Conservation P’ship v. Salazar*, 616 F.3d 497, 518 (D.C. Cir. 2010) (observing that FLPMA affords the agency broad “discretion to decide how to achieve the multiple use and sustained yield objectives.”). “Multiple use management’ is a deceptively simple term that describes the enormously complicated task of striking a balance among the many competing uses to which land can be put, “including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and [uses serving] natural scenic, scientific and historical values.” *Norton v. S. Utah Wilderness Alliance*, 542 U.S. 55, 58 (2004)(citing 43 U.S.C. § 1702(c)).

The definition of multiple use specifically provides for the agency to manage some areas for certain uses and certain resources:

The term “multiple use” means the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; **making the most judicious use of the land for some or all of these resources or related services** over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; **the use of some land for less than all of the resources;** a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.

42 U.S. C. § 1702(c) (emphasis added).

FLPMA provides equal standing to the many uses and values of the public lands, such as fish and wildlife and wilderness characteristics. One of the Act’s enumerated purposes is that:

³² “Multiple use” is defined as managing the lands so that the various resources, “recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values,” are utilized in the combination that will best meet the present and future needs,” of the public. 43 U.S.C. § 1702(c). “Sustained yield” is defined as managing to maintain regular renewable resource outputs in perpetuity. 43 U.S.C. § 1702(h).

Section 1. Department of the Interior Action

the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use. . .

43 U.S.C. § 1701(a)(8). BLM's discretionary multiple use mandate provides the agency with the flexibility to design a solar development program that both achieves solar energy production goals and conserves ecological resources.

2. BLM must ensure that management decisions are based on a current inventory of the resources of the public lands.

FLPMA imposes a duty on BLM to identify and protect the many natural resources found on public lands. FLPMA requires BLM to inventory its lands and their resources and values, "including outdoor recreation and scenic values." 43 U.S.C. § 1711(a). FLPMA also obligates BLM to take this inventory into account when preparing land use plans, using and observing the principles of multiple use and sustained yield. *See* 43 U.S.C. § 1712(c)(4), (1). Through management plans, BLM can and should protect wildlife, scenic values, recreation opportunities, and wilderness character in the public lands through various management decisions, including by excluding or limiting certain uses of the public lands. *See* 43 U.S.C. § 1712(e). However, these decisions must be based on current knowledge of resources. FLPMA's inventory requirements buttress NEPA's requirements for an accurate depiction of the affected environment, directing the BLM to make management decisions, such as designating lands for utility-scale solar energy development, based on a sufficient knowledge of the other resources likely to be affected.

3. FLPMA requires the BLM to avoid environmental damage and degradation.

In issuing rights-of-way, FLPMA requires BLM to impose terms that will "minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment" 43 U.S.C. § 1765(a)(ii). "[U]nderscoring the BLM's duty to protect the environment is the statutory requirement that 'in managing the public lands the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands.'" *Utah Shared Access Alliance v. Carpenter*, 463 F.3d 1125, 1129 (10th Cir. 2006). The D.C. district court in *Mineral Policy Center v. Norton* held that this standard, "by its plain terms, vests the Secretary of the Interior with the authority – and indeed the obligation – to disapprove of an otherwise permissible mining operation because the operation, though necessary for mining, would unduly harm or degrade the public land." *Mineral Policy Center v. Norton*, 292 F. Supp. 2d 30, 35 (D.D.C. 2003). Under *Mineral Policy Center*, BLM has the obligation to prevent degradation that is "undue or excessive." *Id.* at 38. Further, BLM's duty to prevent unnecessary or undue degradation under FLPMA is mandatory, and BLM must, at a minimum, demonstrate compliance with this standard. *See Sierra Club v. Hodel*, 848 F.2d 1068, 1075 (10th Cir. 1988) (the "unnecessary or undue degradation" standard provides the "law to apply" and "imposes a definite standard on the BLM").

Section 1. Department of the Interior Action

Through the Solar PEIS, BLM is going to make lands available for development on a colossal scale: the establishment of SEZs on 677,400 acres assumed to experience an 80% build-out with another 21 million acres of public lands available for solar development.³³ Solar development will have serious consequences for wildlife and other resources. For example, the Draft PEIS observes that “[n]umerous wildlife species would be adversely impacted by loss of habitat, disturbance, loss of food and prey species, loss of breeding areas, effects on movement and migration, introduction of new species, habitat fragmentation, and changes in water availability.” DPEIS, p. 6-9. The scale of proposed utility-scale solar development and its impacts may, without further commitments of analysis and mitigation prior to authorizing projects (and in light of the deficiencies noted in this comment letter), result in undue degradation to the public lands, including special status species and their habitat. FLPMA’s direction also supports NEPA’s requirement to consider more environmentally protective management alternatives.

Recommendations: FLPMA requires the BLM to ensure that due consideration is given to management actions that will protect the many resources of our public lands (including fish and wildlife habitat and wilderness characteristics), and provides additional obligations and authority to determine the conditions of these resources. By designing a solar energy development program that aspires to and achieves both development and conservation objectives, the BLM will truly fulfill its multiple use mandate under FLPMA for these public lands.

F. Endangered Species Act

1. BLM Should Take Advantage of Several Opportunities to Streamline Section 7 Consultations Within the Solar Energy Zones

To encourage solar energy development within SEZs, BLM should take advantage of several opportunities to streamline section 7 consultations within the zones. The first opportunity is gathering enough data to begin formal consultations as early as possible within the zones. The Service’s Section 7 Handbook clarifies that “formal consultation, if required, should be initiated prior to or at the time of release of the [Draft EIS]” and that “at the time the Final EIS is issued, section 7 consultation should be completed.”³⁴ To date, BLM has not begun formal consultation on its new Solar Energy Program.

The second is for BLM and USFWS to consider conducting an appended programmatic consultation for each SEZ. This would allow USFWS to issue a programmatic biological opinion and incidental take statement for one or more zones, based on design features and other requirements of the Solar Energy Program. When BLM reviews projects under the program, it can append the project-specific documents to the programmatic biological opinion, thus completing the consultation process for projects with sufficiently low impacts to listed species.

³³We want to emphasize that, while assuming an 80% buildout may be reasonable for purposes of assessing the maximum environmental impacts of the proposed program, it is just that – an assumption. Whether an individual SEZ and its resources can accommodate that level of development must depend on analyses of the sort that BLM has yet to prepare, either in this PEIS or the individual project-specific EISs it has prepared to date. In fact, BLM staff as well as others are already concerned about the level of development that has been permitted in California’s Riverside East proposed SEZ, which is far less than 80% of that zone’s total acreage.

³⁴ U.S. Fish & Wildlife Service and National Marine Fisheries Service, *Endangered Species Consultation Handbook*, March 1998, pg. 4-11.

Section 1. Department of the Interior Action

This appended approach would streamline consultations even more than a tiered programmatic consultation would, as the latter requires a biological opinion for each project.³⁵

Third is to prioritize development in zones that have the lowest potential for conflicts with the conservation of threatened and endangered species. The Draft PEIS has already identified which listed species occur within each zone, and we have tallied this information in the table below. Incentivizing solar development in zones with low potential conflict would result in greater net conservation benefits and greater regulatory certainty for developers.

Table 2. Number of Sensitive Species by Proposed Solar Energy Zone

	ESA Endange red	ESA Threaten ed	ESA Under Review	ESA Candid ate	ESA Proposed Threatene d
Arizona					
Brenda (Lake Havasu/La Paz)	0	1	1	0	0
Bullard Wash (Hassayampa/Yavapai)	4	1	1	0	0
Gillespie (Lower Sonoran/Maricopa)	2	1	1	2	0
California					
Imperial East (El Centro/Imperial)	1	0	0	0	1
Iron Mountain (Needles/San Bernardino)	0	1	0	0	0
Pisgah (Barstow/ San Bernardino)	1	1	0	0	0
Riverside East (Palm Springs– South Coast/Riverside)	0	1	0	0	0
Colorado					
Antonito Southeast (La Jara/Conejos)	1	0	1	1	0
De Tilla Gulch (Saguache/Saguache)	1	0	1	1	0
Fourmile East (La Jara/Alamosa)	1	0	0	1	0
Los Mogotes East (La Jara/Conejos)	1	0	1	1	0
Nevada					
Amargosa Valley (Southern Nevada/Nye)	5	7	16	0	0
Delamar Valley (Ely/Lincoln)	4	1	5	1	0
Dry Lake (Southern Nevada/Clark)	3	1	6	1	0

³⁵ Appended consultations have been used in other situations involving programmatic agency actions.

Section 1. Department of the Interior Action

Dry Lake Valley North (Ely/Lincoln)	0	1	0	0	0
East Mormon Mountain (Ely/Lincoln)	0	1	0	1	0
Gold Point (Battle Mountain/Esmeralda)	0	0	0	1	0
Millers (Battle Mountain/Esmeralda)	0	0	2	1	0
New Mexico					
Afton (Las Cruces/Dona Ana)	2	0	0	1	0
Mason Draw (Las Cruces/Dona Ana)	2	0	0	0	0
Red Sands (Las Cruces/Otero)	4	0	0	0	0
Utah					
Escalante Valley (Cedar City/Iron)	0	1	0	1	0
Milford Flats South (Cedar City/Beaver)	0	1	0	1	0
Wah Wah Valley (Cedar City/Beaver)	0	1	3	1	0

Recommendation: The BLM should: 1) gather enough data to begin formal consultations as early as possible within the zones; 2) consider jointly with USFWS whether to conduct an appended programmatic consultation for each SEZ; and 3) prioritize development in zones that have the lowest potential for conflicts with the conservation of threatened and endangered species.

2. BLM Should Implement its Section 7(a)(1) Obligations by Setting a “Net Conservation Benefit” Standard for ESA Listed Species

Under the ESA, BLM is required not only to consult under section 7(a)(2) on the impacts to listed species, but also affirmatively conserve these species under section 7(a)(1).³⁶ BLM can implement its section 7(a)(1) obligations by establishing a “net conservation benefit” standard for ESA listed species through the Solar Energy Program. As discussed in other parts of our comments, this standard would require a project that adversely impacts a listed species to successfully enhance that species’ overall population or recovery status. To be classified as a net conservation benefit, the enhancement must benefit the affected species to a greater degree than if the project were not undertaken. Because BLM policy already requires developers to implement mitigation measures for impacted species, the framework for achieving a net benefit standard already exists.

³⁶ Federal agencies shall “seek to conserve [listed] species and shall utilize their authorities in furtherance of the purposes of [the] Act.” 16 U.S.C. § 1536(a)(1).

Section 1. Department of the Interior Action

Section 7(a)(1) is designed to ensure that federal agencies “conserve” listed species, which means to recover a species to the point where it no longer requires the ESA’s protection – in other words, result in a “net benefit.” If the Solar Energy Program explicitly implements the section 7(a)(1) net benefit standard, then BLM and solar developers could showcase the program as an example of “green” development that is both climate friendly and wildlife friendly, and the BLM would be in compliance with its ESA obligation to conserve listed species. Adopting a net benefit standard would also directly benefit developers by minimizing the risk of negative publicity and legal challenges over projects that may otherwise have questionable impacts to listed species. This would result in additional economic and regulatory certainty to the hundreds of projects expected to be approved under the Solar Energy Program.

Recommendation: The BLM should work with the USFWS to implement the Bureaus Section 7(a)(1) obligations by setting a net conservation benefit standard for all ESA listed species adversely impacted by the Solar Energy Program.

E. Bald and Golden Eagle Protection Act

Based on U.S. Fish and Wildlife Service’s analysis of golden eagle populations across the nation, there is no safely allowable take level for golden eagles.³⁷ In other words, the status of the golden eagle is so dire that the U.S. Fish and Wildlife Service completely prohibits the taking of a golden eagle. The Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668 *et seq.*, is intended to be the “primary vehicle” for the conservation and protection of golden eagles, *see* 71 Fed. Reg. 8265, 8266 (Feb. 16, 2006), and as such, makes it unlawful to “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or in any manner, any bald eagle [] alive or dead, or any part, nest, or egg thereof . . .” 16 U.S.C. § 668(a). Principal among the Act’s protections, the prohibition against “take,” by definition, makes it illegal to: “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or *disturb*” an eagle. 50 C.F.R. § 22.3 (2010) (emphasis added). Further, “disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” *Id.*

In California, for example, golden eagles are known to nest within a few miles of the Pisgah Valley. Development in the proposed Pisgah SEZ would constitute a “take” of golden eagles because it would disturb, and indeed destroy, the foraging habitat of nearby golden eagles. In addition, solar development within the Pisgah Valley would create the potential for golden eagles colliding with mirrors or PV panels while foraging.

Recommendation: In order to comply with the FWS regulations, BLM must ensure additional analysis is conducted within the Modified SEZ Program Alternative.

III. Make it smart

³⁷ Pagel, Joel, et. al, *Interim Golden Eagle Technical Guidance*, U.S. Fish and Wildlife Service, February, 2010.

Section 1. Department of the Interior Action

The DPEIS proposes important elements of a comprehensive, enduring solar energy program that can responsibly protect sensitive wild lands and wildlife habitat. However, both of the “action alternatives” which are intended to “establish a comprehensive program to facilitate utility-scale solar energy development on BLM lands” (PEIS, 2-1) omit key elements necessary to meet the goals of the program. Section 1.I of this letter lays out our recommendations for a **Modified SEZ Program Alternative**. This section provides additional detail for how a Modified SEZ Program Alternative should be structured and function in practice.

A. BLM should expand and adopt Best Management Practices for solar energy development on public land.

The draft solar PEIS devoted significant attention to best management practices. In addition to those BMPs already identified in the PEIS, we urge BLM to expand the BMPs as described below. Compliance with all applicable BMPs should be required for solar energy development on all public lands.

While the first, and best, strategy for conserving natural resources is to avoid sensitive areas, there will be significant surface disturbance and other adverse impacts wherever solar energy development occurs. Minimizing these impacts where possible is a critical element of a responsible development approach.

Experience with solar energy development is in its infancy in the U.S. As such, the literature on best management practices is quite sparse with regard to most utility-scale solar energy development technologies. However, there are many common features with other forms of commercial energy development. Best management practices identified from other forms of energy develop should be integrated into the **Modified SEZ Program Alternative** so that a Zone-Based Solar Energy Program can learn from past experience with, for example, road construction and decommissioning.

A compilation of best management practices for renewable energy siting and development drawn from scientific, peer-reviewed research, was recently prepared by Utah Clean Energy and several other conservation groups in the West, attached as Appendix VIII. We urge the BLM to carefully examine this document, and to take from it any and all practices not already included in the administrative policies and guidance. Moreover, we urge the BLM to commit to producing and updating a compendium of such practices.

B. Approach to mitigation.

As is true with any project that could affect sensitive resources, agencies should seek first to find ways to avoid impacts entirely and then to minimize them through changes to the project design and configuration. In addition to avoidance and minimization efforts, compensatory mitigation must be required when there are impacts that cannot be avoided or sufficiently minimized –these impacts include the direct, indirect and cumulative effects described for wildlife, water and other resources in the draft PEIS.

Section 1. Department of the Interior Action

In its treatment of compensatory mitigation measures, as discussed throughout our comments, the Draft PEIS fails 1) to provide necessary description of possible mitigation measures; 2) to establish mitigation goals; and 3) to analyze the sufficiency of mitigation requirements it does propose.

The draft PEIS fails to include a focused discussion about how compensatory mitigation will be carried out in such a way as to offset impacts on endangered, threatened, candidate and sensitive species. For example, while Chapter 5 (Impacts of Solar Energy Development and Potential Mitigation Measures) provides extensive discussion of avoidance and minimization measures, it neglects to mention compensatory mitigation. Each subsection of the chapter describes impacts which cannot be avoided, but proposes no compensatory mitigation measures. This is unacceptable when there are 400 rare, sensitive species, state- or federally-listed and/or candidate species identified as potentially facing effects in SEZs and 562 species potentially affected by BLM's preferred alternative.

BLM should describe its approach to compensatory mitigation in far more detail to give greater certainty to developers and to potential providers of mitigation services. We offer the following comments:

1. *Loss of federal lands and resources that provide habitat for threatened and endangered species and sensitive species should be successfully mitigated by the acquisition and permanent protection of currently non-federal lands and resources that provide better than equivalent benefits to wildlife.* BLM should place the highest priority on acquisition, restoration, and long-term management of private lands to mitigate remaining wildlife impacts that cannot be minimized. If newly protected lands are to be held in non-federal ownership, conservation values must be given similar permanent protection through deed restrictions and easements, and funding must be secured for long-term management of these lands. We believe the final PEIS should establish a *preference* for acquisition, restoration and management of private lands versus allocation of mitigation dollars to federal lands, while recognizing that in many cases it will be necessary to pursue mitigation measures on federal lands as well. In some locations such as Nevada, there is inadequate private land available for acquisition so the only possible mitigation is restoration, enhancement and permanent protective management of public lands.
2. *On federal mitigation lands, permanently protect conservation values.* If lands acquired for mitigation purposes are to be transferred to federal ownership, they must be protected from future development. One option by which to do so is to withdraw these lands from use under federal mining and other land use laws and cover them by a plan amendment that ensures long-term protection of their conservation values. This option, however, cannot guarantee protection in perpetuity, upon which the mitigation is based, since new plan amendments can alter the land management. Our preferred option is to require that third parties secure easements or enforcement rights through deed restrictions before property is transferred to federal ownership. In either case, this additional protection is necessary because federal lands face extraordinary energy development and other pressures, and mitigation efforts will fail if an acre protected

Section 1. Department of the Interior Action

today, in compensation for a loss elsewhere, is developed and made unsuitable to wildlife through some future project or authorized activity. Future mining, energy development, grazing and other non-compatible uses need to be prohibited using legally effective means (e.g. deed restrictions with enforcement rights held by third parties).

To the extent that mitigation occurs on public lands, BLM must take measures to ensure it is not offering mitigation at below-market costs compared to mitigation options on private lands and that it is not simply using private funding to pay for activities which it (or other agencies) already has an obligation and duty to carry out. In particular for endangered species, federal agencies have special duties under the Endangered Species Act to affirmatively use their authorities to promote endangered species conservation (see http://www.edf.org/documents/1667_michael%20bean%20testimony.pdf). To prevent the public from essentially subsidizing the costs of mitigation, BLM needs to ensure that private funding does not simply substitute for public funding for land management activities on a parcel now being used to mitigate solar impacts.

3. *On federal and non-federal mitigation lands, require endowments to ensure the perpetual management of mitigation lands.* The protection of land hosting affected wildlife populations or the restoration of such lands to better support wildlife will mitigate impacts only for as long as the wildlife populations endure. The final PEIS should be used to establish guidance on the establishment and transparent operation of regional or other large-scale endowments to maintain mitigation values over time. An established mitigation lands endowment program between the California Department of Fish and Game and the National Fish and Wildlife Foundation is a good model for what is needed under this PEIS. These funds should be set up to serve one or multiple solar development zones. This premise of establishing a perpetual management endowment is well established in federal conservation banking policy and in some state law and policies. It would be inappropriate for BLM to hold private land projects needing Section 10 permits to a higher mitigation standard than for those projects occurring on public lands. We do not believe that such mitigation funds, whether maintained for the management of public or non-public lands, should be held by a federal entity.
4. *Land acquisition is inadequate to meet a 'no net loss' or 'net conservation benefit' goal and must be supplemented with species restoration and management activities and funding.* Land acquisition, by itself may not satisfy a net conservation benefit standard for particular species because it may simply result in the protection of a wildlife resource that is already present or may fail to address current critical stressors affecting the wildlife resource. We believe most mitigation projects should include a significant commitment to restoration and long-term management, allocating mitigation dollars to actions that significantly enhance sensitive, threatened and endangered wildlife and plant populations. Such projects create a positive change in populations that can help offset direct and incidental losses of individuals and local populations on solar development sites. Establishing a priority on management and

Section 1. Department of the Interior Action

restoration through this PEIS will also create a clear signal which would incentivize the creation of private banks to secure and begin implementing such restoration in advance of actual mitigation plans being established for future projects. Permanent retirement of grazing permits should be included among activities that could result in restoration of habitat for affected wildlife.

5. *Improve certainty for developers and improve wildlife benefits by creating expansive service areas for mitigation, pooling mitigation funds and using a transparent and competitive process to allocate resources to affected species conservation efforts*
Project-by-project development of mitigation formulas and identification of mitigation projects is a wasteful system whose flaws have already been documented in case studies of wetland mitigation and endangered species banking. This process also creates higher costs and lower certainty for companies. The final PEIS should include explicit discussion of how mitigation efforts will be coordinated within a large 'service areas' for all designated Solar Energy Zones and should discuss available and preferred options for mitigation within these service areas. Large zones will create more opportunity for mitigation efforts to be directed to the highest value lands and habitats where activities will most benefit affected species. California and the U.S. Fish and Wildlife Service's habitat conservation plan policy, regional conservation strategies developed by state fish and wildlife departments, and the best habitat banking practices all serve as models to establish effective service areas for mitigation that will maximize benefit for affected species. Ideally, the final PEIS would include maps that identify potential priority areas that have the wildlife resources to serve as mitigation lands.

A coordinated and transparent approach that prioritizes the allocation of funds to species and types of projects and then seeks the highest benefit/least cost solution to secure benefits will provide greater recovery benefits to sensitive, endangered and threatened species. The final PEIS should also identify species priorities for land and water acquisition for wildlife and plants that BLM already knows are likely to be affected by planned solar projects. Such an approach will create the certainty to allow more parties to develop mitigation options in advance before mitigation is needed. For reasons described above, we support a transparent and competitive process for selecting mitigation projects to ensure that private land restoration and protection is prioritized over work on federal lands, which agencies already have an ESA obligation to proactively manage. Investments should be in priority conservation areas as determined by state wildlife action plans, regional conservation strategies, recovery plans, Nature Conservancy ecoregional assessments, or other credible analysis or plans that identify the areas of greatest ecological significance, and at a meaningful scale.

Recommendations: BLM should enhance its approach to mitigation as well as its treatment of this key issue in the PEIS. First, the agency should describe its approach to compensatory mitigation in far more detail. Additionally, within its mitigation regime for solar energy development, BLM should establish a preference for land acquisition and restoration so as to better manage federal and private resources. Lands reserved for mitigation purposes, whether

Section 1. Department of the Interior Action

private or federal, must be perpetually managed for conservation, and BLM should establish guidance as to how this can occur. Certainty for developers can be enhanced by establishing large “service areas” for mitigation.

C. Approach to monitoring.

DOI agencies have too often failed to establish clear and measurable biological goals in their own work and in requirements of third parties seeking agency approval. The absence of goals feeds into problems with inadequate monitoring. The result is that too many projects fail to adequately compensate for impacts and DOI agencies have a poor record of being able to track such performance.

The DPEIS lacks assurances that implementation and effectiveness of mitigation measures will be monitored. CEQ recommends that all agency NEPA analyses and/or decision documents should:

- describe the expertise applied in determining appropriate mitigation commitments;
- consider when and how mitigation commitments will be implemented;
- specify measurable performance standards or expected results of mitigation commitments as well as the timeframe for the agency action and mitigation commitments;
- disclose if it is reasonably foreseeable that funding for mitigation measures may not be available and, if so, the resultant environmental effects;
- identify alternative mitigation measures if the initial commitments are not implemented or effective; and
- describe monitoring plans and programs, the agency and/or applicant responsible for developing and implementing the monitoring program and the monitoring area and appropriate monitoring system.

See Final Guidance for Federal Departments and Agencies on the Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact, 76 Fed. Reg. 3843 (Jan. 21, 2011). BLM should use these recommendations as the basis for monitoring requirements established as part of the Modified SEZ Program Alternative established by the ROD.

To do this, BLM must use the final PEIS to define the types of outcomes (population size, viability, reproductive performance, age class distribution, etc.) that it will require. Additional final PEIS analysis should describe the expected results of mitigation and how it will serve to guide any monitoring program that BLM and applicants implement. “Monitoring is fundamental for ensuring the implementation and effectiveness of mitigation commitments, meeting legal and permitting requirements, and identifying trends and possible means for improvement.” 76 Fed. Reg. at 3849. BLM must establish clear requirements for monitoring and reporting – to the public and the agency – on the success in achieving those goals. The monitoring program should also provide for public involvement. 76 Fed. Reg. at 3851.

Additionally, to evaluate the cumulative impacts on species and other resources, and to compare impacts of different solar projects, locations and technologies, the BLM should require

Section 1. Department of the Interior Action

standardized monitoring protocols for all projects, including transmission and related substations. All monitoring data should be made publicly available in data sets with a common format (recommended by leading scientists who want to conduct studies) that may be easily downloaded and manipulated by researchers and the public at large. This transparency will enable timely and robust evaluation of program impacts, efficacy of mitigation measures, and full engagement of the scientific community.

Recommendations: BLM should establish clear requirements for monitoring and reporting to both the agency and the public at-large. Such requirements must enable third-party tracking of the effectiveness of mitigation measures and, as such, should involve the public in development.

D. Adaptive management.

The solar draft PEIS contains a number of references to using adaptive management. As an overall implementation strategy, the draft states that:

The BLM, recognizing that data regarding the actual impacts of solar energy development on various resources are still limited, will require the development and implementation of an adaptive management plan to ensure that new data and lessons learned about the impacts of solar energy projects will be reviewed and, as appropriate, incorporated into the Solar Energy Program.

DPEIS, p. A-25. The DPEIS specifies at page C-12 that this requirement would apply to all lands available for solar development under either alternative. The Preferred Alternative specifically relies on adaptive management at the programmatic level:

As an element of the proposed program, the BLM would implement an adaptive management plan for solar energy development, developed in coordination with potentially affected natural resource management agencies, to ensure that new data and lessons learned about the impacts of solar energy projects would be reviewed and, as appropriate, incorporated into the program through revised policies and design features.

DPEIS, p. ES-11. Additional detail is provided in Chapter 6 regarding the BLM's understanding of how an adaptive management plan would function:

As described in Section 2.2.2.1, as an element of the proposed program, the BLM would implement an adaptive management plan for solar energy development developed in coordination with potentially affected natural resource management agencies, to ensure that new data and lessons learned about the impacts of solar energy projects would be reviewed and, as appropriate, incorporated into the program through revised policies and design features. Changes to the BLM's Solar Energy Program will be subject to appropriate environmental analysis and land use planning.

DPEIS, p. 6-31. The Preferred Alternative rests on incorporation of future data and knowledge into an adaptive management framework:

Section 1. Department of the Interior Action

Proposed adaptive management strategies would ensure that new data and lessons learned about the impacts of solar energy development are incorporated into future programmatic and project-specific requirements.

DPEIS, p. 6-35. In addition, the DPEIS states that:

Monitoring program requirements, including adaptive strategies, shall be established at the project level *to ensure that potential adverse impacts are mitigated*. Monitoring programs shall consider the monitoring requirements for each ecological resource present at the project site, *establish metrics* against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures.

DPEIS, p. 5-136. For all the reliance on an adaptive management approach to administering a solar energy development program, however, **there is no specific discussion of how an adaptive management approach would be implemented at the project or program level.**

We support the overall approach to adaptive management and, in general, the overall approach to adaptive management as described in the Draft PEIS. However, a fuller description of how adaptive management of the program would be carried out, such as specific indicators and acceptable levels of change, the commitment of resources for monitoring, and the use of a fallback prescription, and additional details regarding project-level actions that will be taken if levels of change are unacceptable need to be included and must be provided. This specificity is necessary in order for adaptive management to meet NEPA's standards for mitigation measures that are likely to be effective and enforced. Further, while adaptive management is described with regard to Integrated Vegetation Management (DPEIS, p. 5-131), Visual Resource Management (DPEIS, p. 5-201), and Decommissioning and Site Reclamation (DPEIS, p. 5-141), monitoring commitments and criteria should also be included for other key resources, such as BLM special status species, lands with wilderness characteristics, wild and scenic river segments and ACECs. Indicators can include the status of wilderness characteristics, outstanding river values, and the relevant and important values for which ACECs have been designated.

An example of sufficiently detailed adaptive management approach is contained in the Record of Decision for the Jack Morrow Hills Coordinated Activity Plan, prepared by the Rock Springs (WY) BLM Field Office. Appendix 2 (Implementation, Monitoring, and Evaluation Process) provides the specificity needed to evaluate the planned adaptive management program (and is available on line at

<http://www.blm.gov/style/medialib/blm/wy/jmhcap/rod.Par.37876.File.dat/02appendices.pdf>).

We particularly note the following, as examples of the sort of detail that should be contained in any and all adaptive management plans created pursuant to the Solar PEIS:

- Table A2-1 Resource Management Indicators - p. A2-7 – contains a broad set of indicators
- Table A2-2 Indicator Detail - pp. A2-8 – A2-10 – contains multiple sources for data
- Table A2-3 Measurement Detail - pp. A2-11 – A2-13 – contains measures of change and triggers for management actions

Section 1. Department of the Interior Action

- Figure A2-2 CAP Management Process - p. A2-15 – provides a useful illustration of the adaptive management process

Recommendations: In addition to setting out a comprehensive set of measurements, triggers for action, and a range of actions that will be taken to meet the standards set out below, the PEIS must specify that:

- A sufficient inventory of current conditions of affected resources is required. Where the agency does not have a sufficient inventory of baseline conditions, the agency must complete such an inventory prior to using adaptive management.
- The adaptive management approach must incorporate a detailed monitoring plan, describe the resources and specific indicators that will be measured, include defined limits of acceptable change in resource conditions and specify actions to be taken if change reaches or exceeds those limits.
- The adaptive management process should be designed and managed so that the public can actively and effectively participate. This study area is very broad, involving hundreds of millions of acres across six states and citizens interested in the resources administered by the agency reside across those states as well as others; and, involvement of citizens in adaptive management processes can be challenging to interested parties. BLM should continue to seek meaningful citizen participation in compliance with its mandate under FLPMA. *See* 43 U.S.C. § 1739(e). BLM should also begin planning now as to how citizen involvement in adaptive management will meet the requirements of the Federal Advisory Committee Act, and such planning should not be left only to those citizens or community groups wishing to participate.
- To encourage robust science in adaptive management, we recommend that the Bureau actively seek involvement of the U.S. Fish and Wildlife Service and other federal and state wildlife experts as well as independent scientific community in both designing and implementing adaptive management programs.
- The adaptive management approach must include a “fallback” plan should monitoring or other aspects of the adaptive management process not be fully carried out, including adequate funding. Adaptive management must include requirements for when and how the proposed outcome will be reevaluated if it is not being met. The agency’s ability to reevaluate or amend desired outcomes should not be the sole fallback if either the adaptive management process is not working or outcomes are not being met. The agency should be required to incorporate provisions to address situations based on new information, circumstances, regulatory requirements, or discontinued agency funding for monitoring that would trigger new NEPA.

E. The BLM should incorporate the elements of the Modified SEZ Program Alternative, including existing and proposed additional administrative policies and required Design Features in RMP amendments for all lands not excluded from solar energy development.

Section 1. Department of the Interior Action

The BLM, through the final PEIS and its ROD on the new program, must ensure all existing guidance (e.g., IMs) *and* proposed elements that comprise the new Solar Energy Program are included in RMP amendments for lands not excluded from solar energy development. This will ensure consistency, establish baseline expectations for project proponents and other stakeholders, and minimize confusion about which guidance is in effect at any point in time.

Recommendation: The BLM should amend all RMPs where solar development is not excluded with a Modified SEZ Program Alternative, incorporating all existing IMs relating to solar energy development and included in the Draft Solar PEIS, Appendix A, in addition to the full range of proposed policy elements.

F. A Modified SEZ Program Alternative should pilot competitive offering of solar development rights to determine the most effective approach.

It is clear from historical experience with other energy resources on public lands that offering solar development rights competitively through a leasing process—versus offering parcels on a first-come-first-served basis—will provide the most fair return to the taxpayer.

This is because competitive leasing allows companies to determine the value of federal lands and resources for commercial electricity generation by way of the free market. This shifts the risk burden, at least to some degree, from the public to companies that will profit. In addition, all other energy programs, besides hydropower, have provisions to offer leases competitively if competitive interest exists. Coal, onshore and offshore oil and gas, offshore renewables, and geothermal energy parcels are may be offered competitively depending on the situation.

It is clear that competitive interest exists for solar energy development on public lands by the number of pending applications that overlap. In California, for example, more than half of the 35 applications within zones (i.e., 20) overlapped in whole or part the first-in-line applications as of March 7, 2011, based on the data currently available to us.³⁸ However, despite the precedents provided by other BLM energy programs, many questions remain about how a competitive system for solar resources might function. Therefore, in order to design the best competitive leasing program possible, BLM should commit to testing different mechanisms for competitive offerings in a Modified SEZ Program Alternative.

BLM can rely on existing authority to develop a pilot program for competitive leasing. IM 2007-097 provided that areas specifically identified in land use plans for “competitive leasing” in land use plans may be offered competitively. Guidance also states that the BLM can consider other factors like public interest and technology in deciding whether to offer lands for competitive leasing. However, BLM must clarify and enhance these provisions by offering a pilot competitive leasing program for solar development rights.

Recommendation: Through the Modified SEZ Program Alternative, BLM should establish pilot approaches to competitively offering solar energy development rights and select the system that best protects taxpayers interests and does not unduly or unnecessarily burden project proponents.

³⁸ The total first in line applications included three that were filed after June 30, 2009.

G. The Modified SEZ Program Alternative should revise the legal instrument used to administer solar energy development

BLM currently administers solar energy development utilizing a right-of-way use authorization as the instrument to convey development rights. The BLM asserts its intent to proceed via the ROW process in administering the new Solar Energy Program. Specifically, the PEIS references solar energy development as by definition a ROW authorized activity: “The BLM program would be applicable to all utility-scale solar energy technologies implemented under BLM jurisdiction in the six-state study area (i.e., projects implemented under a BLM-issued ROW authorization).” DPEIS, p. 2-2. That the BLM will proceed to administering solar energy development utilizing ROW authorization is never questioned in this document despite valid concerns that a lease is more appropriate to the nature and scale of this form of commercial energy development. In the final PEIS, BLM must demonstrate how a ROW grant is legally and programmatically preferable to a lease.

Moreover, the application form used for a solar energy right-of-way grant is a standard form (SF-299) is identical to that used for communication towers, irrigation ditches, temporary roads, and other more traditional ROW-governed development.

See Appendix II for a more thorough discussion of the relative advantages of leasing versus developing using a right-of-way.

Recommendation: The BLM should lease solar energy development rights.

H. A Modified SEZ Program Alternative should require that BLM wildlife policy be incorporated in Plans of Development.

The PEIS states that: “Applicants for solar energy development on BLM-administered lands shall develop a BLM-approved plan of development (POD) that incorporates...the requirements of other existing and relevant BLM mitigation guidance, approved land use plans, and current policies.” DPEIS, p. A-30. The final PEIS should clarify how these requirements, including the requirements of agency wildlife policy (found at BLM Manual 6840 and 6500), will be incorporated into PODs and subsequent environmental review. See *Id.*

We commend the BLM for requiring that “management goals and objectives for special status species that the BLM has identified in land use plans” be incorporated into PODs. DPEIS, p. A-30. We recognize that management goals and objectives may vary in their effectiveness across RMPs, however, and therefore would recommend that PODs also be consistent with BLM wildlife policy.

Recommendation: The Modified SEZ Program Alternative should clarify the required content of PODs in order for them to effectively accomplish the goals the BLM claims they are designed to accomplish, including by incorporating key elements of the agency’s wildlife policy. For example, the final EIS should clarify what is meant by species objectives that are sustained by the best available information or science.

I. A Modified SEZ Program Alternative must clarify the design features that require project facilities and activities to “not be located in or near occupied habitats of special status animal species.”

This design feature is one of the most important features for protecting sensitive species, but should be clarified in two respects. First, there is no explanation of how the BLM will determine which habitats are “occupied.” This must be done early in the process and in a way that is effective and consistent from project to project. Second, there is no explanation of why plants are excluded from this requirement.

Recommendation: The Modified SEZ Program Alternative should require that potentially occupied habitats be surveyed to confirm the presence or absence of sensitive species. The BLM should also ensure consistency in design features and explicitly include plants in this requirement.

J. The Modified SEZ Program Alternative should apply land exclusions to supporting infrastructure.

We support the PEIS’s commitment to ensuring that the program will be implemented in accordance with approved land use plans, including ROW exclusion areas, but question why “the exclusions would only apply to siting of utility scale solar energy generation facilities and not to any required infrastructure” (including roads and transmission lines). DPEIS, p. 2-7. It would seem generally appropriate to apply exclusions to these elements as well, rather than relying on project specific environmental reviews to avoid conflicts and potential controversy.

The PEIS points out that many of the exclusions “refer back to decisions made in the approved land use plans” and that the BLM “will continue to amend or revise land use plans over time to adapt to changing circumstances (and) new information.” *Id.* We are concerned that relying on older, out of date RMPs to guide solar development may pose risks to wildlife and natural resources due to the fact that no consideration was given to either this type or this scale of development when those RMPs were created. For this reason, we are also recommending that projects must comply with BLM wildlife policy (as mentioned above in relation to PODs).

We support the BLM’s exclusion of critical habitat for threatened or endangered species, Areas of Critical Environmental Concern, Desert Wildlife Management Areas as well as habitat for select species from project development. However, we are concerned over the implementation of criterion #8 in Table 2.2-2. The criterion states that: “All areas where solar development proposals are not demonstrated to be consistent with land use management prescriptions for or where the BLM has made a commitment to take certain actions with respect to sensitive species habitat” will be excluded. In these critical cases it is unclear how the program will be implemented to ensure that a proposal will be deemed “consistent” with either agency prescriptions or commitments to certain actions for sensitive species.

Recommendations: The ROD should apply exclusions to not only solar energy development but also, generally, to associated infrastructure. The ROD should also revise criterion #8 in Table

Section 1. Department of the Interior Action

2.2-2 to state that "...where the BLM has made a commitment to take any action with respect to sensitive species habitat" shall be excluded.

K. The Modified SEZ Program Alternative should clarify ROW application denial criteria.

In order to be effective, a screening program must contain meaningful denial criteria which ensure that applications for projects in areas deemed unsuitable for development do not move forward. We commend the BLM for articulating the agency's discretion to deny applications "that it finds to be inappropriate for solar ROW uses" and that "(p)rojects that will cause unacceptable impacts to important resources and values will be denied." DPEIS, p. A-28. To be effective, the denial criteria should be well understood and designed to minimize ambiguity.

Recommendations: The following clarifications to ROW denial criteria should be incorporated into the Modified SEZ Program Alternative:

- In order to effectively review and apply the "best available landscape-scale information" (including information from forthcoming Rapid Ecoregional Assessments and other efforts like California's DRECP), to establish project consistency, the agency should clearly define "other high-priority conservation, restoration, and/or adaptation objectives." DPEIS, p. A-28. These objectives should be clearly defined in the final EIS or at minimum prior to implementation of the program to ensure consistency with these critical conservation objectives.
- In order to effectively screen applications, the agency must define "high priority landscape features or focal areas important for conservation, restoration, and/or adaptation to climate change, including core areas, corridors, and buffers for vulnerable species." DPEIS, pp. A-28, A-29. It is our understanding that these may be features of the Rapid Ecological Assessments. We expect that if information provided by the Rapid Ecological Assessments is used to modify Resource Management Plans, those modifications would be reflected in the Solar Program. It is imperative that the Solar Program be consistent with information derived from the Rapid Ecoregional Assessments, given the goals and objectives of that critical effort.
- The DPEIS should clarify how "strong consideration" will be given to proposals utilizing previously disturbed areas and areas that will not impact sensitive resources in order to further encourage use of these lands as an alternative to undisturbed areas. DPEIS, p. A-28.
- The DPEIS states that "[t]o the extent that land use plans and/or this PEIS anticipate issues and concerns associated with individual projects, including potential cumulative impacts, the BLM will tier from land use plans and/or the PEIS analysis, thereby limiting the required scope and effort of additional project-specific NEPA analysis. For projects that are proposed in SEZs, only limited additional NEPA analysis may be necessary because of the depth of the analysis contained in the PEIS." As discussed in Section 1.II of this letter, the final PEIS should more clearly state how NEPA analysis would be constructed and used to support a decision regarding the denial of a solar ROW application. DPEIS, p. A-31.

L. The Modified SEZ Program Alternative should insist sensitive species habitat is protected in furtherance of its wildlife management objectives

The Draft PEIS states that “the BLM will review applications for land use plan conformance” at page A-27 and references Table 2.2-2 (at page 2-8) which includes as an exclusion area: “All areas where solar energy development proposals are not demonstrated to be consistent with the land use management prescriptions for or where the BLM has made a commitment to take certain actions with respect to sensitive species habitat.” The final PEIS must clarify how proposals will demonstrate that they are consistent with RMP prescriptions for sensitive species habitat. All applications should conform to RMP wildlife objectives, including population management objectives for special status species.

Recommendation: The Modified SEZ Program Alternative should require applications to conform to RMP wildlife objectives, such as sensitive species management objectives and protected habitat areas.

M. The Modified SEZ Program Alternative should directly address the on-site use of fossil fuel to supplement the variable nature of solar energy.

The PEIS does not adequately address the potential on-site use of natural gas or other non-renewable fuels in the generation of electricity to “firm” solar generation. Natural gas-fired generation is a logical match with variable power resources like wind and solar. But the economic and environmental advantages of wind and solar can be eclipsed if a distinction is not clearly drawn between wind and solar development technologies that may require a minimal amount of natural gas and those whose primary fuel is a non-renewable fossil fuel.

Recommendation: The Modified SEZ Program Alternative should address the potential for on-site use of natural gas and other non-renewable fuels to supplement the variable nature of solar energy by establishing a reasonable cap in terms of the amount of power that can be produced by natural gas as part of the nameplate capacity of the proposed project.

N. The Modified SEZ Program Alternative should better protect the government’s interests in the event of a transfer of project ownership

There have already been two high-profile ROW grant transfers resulting from the “fast track” process. In both cases, we understand the BLM had no role in the transfer of its approved ROWs from the sellers to the buyers. Thus, for example, the agency did not have a role in evaluating the implications of the transfer for the viability of the project as approved. In both cases, the new owners have already expressed their interest in significantly modifying the approved projects, upending months of work spent completing environmental reviews and processing permits. As important, the scarce resources available to conduct these environmental reviews were unable to be spent instead on processing other applications.

The government has a clear interest in ensuring that the transfer of an approved permit will improve, or at least not adversely affect, the chances of successful completion of the project. The BLM must ensure the Solar Energy Program evaluates technical and economic viability of

Section 1. Department of the Interior Action

parties interested in acquiring approved right-of-way grant authorization before transfer regardless of whether the ROW grant is formally reassigned. Additionally, current and future right-of-way grants must include language requiring BLM review and application of the same criteria in the event of a change in ownership of the company holding the grant.

Recommendation: The BLM must ensure that its Solar Energy Program is equipped to evaluate the viability of parties interested in acquiring approved right-of-way grant authorization before transfer. The Modified SEZ Program Alternative should incorporate a requirement for BLM to review right-of-way grants if ownership of the company holding the grant changes and consider whether the ROW should be continued.

O. The PEIS treatment of technology should be strengthened in the Modified SEZ Program Alternative.

We have a number of concerns regarding the draft PEIS's overview of solar technologies. These are addressed in greater detail in Appendix VI to our comments. Four key substantive points are summarized here.

1. BLM's approach to solar technology should be principle-based. We believe it is important that the BLM explicitly acknowledge that solar technology is rapidly evolving and that there are a number of possible permutations and advancements that are now on the horizon that could significantly affect this technology. Consequently, the BLM's approach to solar development should be principle-based and not based on current technology capabilities and characteristics.
2. BLM should revise the criteria used to evaluate solar technologies. The criteria by which the BLM proposes to evaluate the merits of certain solar technologies should be revised to focus on:
 - a. Resource consumption per annual megawatt hours (MWh) produced by the plant. We recommend that this metric be used to judge all cross-system (not just cross-technology) comparisons. Under this criterion, for example, the requirements for land and water would be compared in acres/MWh/year and acre-ft/MWh/year. In addition, some qualitative benefits would accrue to a plant that used storage to match its output to the peaking needs of the grid it is serving.
 - b. Compatibility with the existing grid. Although this can be difficult to define in the most general way, it should include such characteristics as dispatchability, load balancing, and dependability of providing peaking capacity. We believe that use of these criteria can reduce need for additional infrastructure, including for example combustion turbines for spinning reserves and so on.
3. BLM should revise its treatment of how CSP systems operate. The draft PEIS does not accurately describe two important aspects of how CSP systems operate. These relate to a CSP plant's capacity and size and to operating temperature and efficiency. The mischaracterizations detailed in Appendix VI could lead the BLM to unfairly evaluate the potential benefits associated with proposed CSP projects. We recommend that the BLM rewrite the technology-related sections of the draft PEIS to correct these significant inaccuracies.

Section 1. Department of the Interior Action

3. BLM should include climate change impacts on the performance of technologies. The draft PEIS makes no reference to climate change impacts may have on either the future need for, or the performance of, the solar systems. We recommend that the BLM include references to the results of current climate change models, and briefly describe how the predicted changes could impact these technologies. Inclusion of these effects would increase the draft PEIS' adaptability as these effects become more apparent. It is important for BLM to address this issue, so that both the BLM and other stakeholders can fairly evaluate a broad range of projects and programs in the future.
4. BLM should include in their analysis the amount of land produced per megawatt as part of a technology analysis. We believe this is an important metric to use in evaluating solar energy technologies.

Recommendations: BLM must strengthen the treatment of technology in the PEIS by revising the criteria it uses to evaluate solar energy technologies, the discussion of how CSP systems operate, and the discussion of how climate change impacts the performance of technologies.

P. BLM should make decisions under the ROD on the basis of capacity-factor adjusted power production, not nameplate capacity power production.

The RFD estimates the need for additional acres by analyzing a total number of megawatts that could be installed on public lands under the SEZ Alternative and the Preferred Alternative. In the RFD scenario, BLM uses two approximations for determination of a reasonable build out under state RPSs and NREL's Regional Energy Deployment System (ReEDS). This is a useful first pass at approximating how many acres could be included in each of the alternatives, but to increase the accuracy and transparency of its SEZ program in a Modified SEZ Program Alternative, BLM should analyze needs based on megawatt-hours of demand for renewables instead of nameplate capacity. By analyzing and reporting demand in megawatt-hours, or power produced, the capacity factor of solar technologies will be built into BLM's recommendation for total acres that should be designated within zones.³⁹ Defining acres in terms of megawatt-hours of demand supports already existing planning exercises at the local, state, and regional level geared towards meeting demand, which describe load forecasts in terms of power produced, not nameplate capacity.

There are logical benefits of describing needs in megawatt-hours instead of megawatts. First, state RPS goals—calculated as a percentage of total demand that must be met through renewable energy—are set in megawatt-hours. In addition, planning entities at the sub-state, state and regional level, calculate megawatt-hours as they are spread over the length of the planning period. These load forecasts vary over peak load and off-peak load seasonal and daily demand

³⁹ Alternative capacity factors result in differences the MW/acre potential output of each solar technology and therefore the number of total acres needs to meet renewable demand, dependent on which technology is used. BLM has determined a capacity factor of solar technologies available on the market in setting a "Megawatt Capacity Fee" for three solar technologies in its Instruction Memorandum No. 2010-141, dated June 10, 2010. As of the date of this filing, BLM's capacity factors for solar are: Photovoltaic (PV), 20% capacity factor; concentrated PV and concentrated solar, 25% capacity factor; concentrated solar with storage of 3+ hours, 30% capacity factor.

Section 1. Department of the Interior Action

curves. The groups submitting these comments recommend that BLM remain consistent with the existing methods for describing electricity demands that are already in place at regulatory agencies and planning authorities. In effect, the designation of zones amounts to a reprioritization of resource management plans for federal lands, towards energy production in lieu of other values. BLM solar zones should reflect the state and regional energy objectives that have already been established. BLM's role in managing public lands should follow the direction of existing electricity policy.

Recommendation: The Modified SEZ Program Alternative should use capacity-factor adjusted power production rather than nameplate capacity power production to ensure consistency with existing methods for describing electricity.

Q. The Modified SEZ Program Alternative should employ science-based management

When considering the intensive development under a solar energy program, there will certainly be significant impacts to biological resources, including sensitive habitat types and associated fish, wildlife and plant populations. The degree of those impacts rests a great deal on how BLM structures siting and mitigation decisions. Given the magnitude of the development and the range of biological resources at risk, it is of utmost importance that BLM clearly define a science-based planning strategy to first avoid, then minimize, and, for truly unavoidable impacts, mitigate impacts to biological resources.

The key to building an environmentally sound, legitimate solar development program will be through the consistent and transparent adherence to science-based planning and decision-making processes, along with well-articulated policy objectives, decision and evaluation criteria that permit stakeholders and the public to understand and support the rationale behind BLM zoning, siting, and mitigation decisions.

According to scientists in the field of decision-making, there are three essential “ingredients” to science-based management:

- Well-defined, measurable standards (i.e. wildlife population or habitat condition targets), developed via public involvement processes;
- The employment of science-based analytical tools to evaluate compliance with the standards (e.g. population viability analysis, or the spatially explicit Decision Support System recommended by the Western Governors’ Association); and
- Consistent implementation of science-based analysis and decision-making (i.e. dedicated funding for monitoring and science-based adaptive management processes).⁴⁰

Science-based management of natural resources encourages the development of policy objectives and standards that will give shape to these aspirational goals, as well as the construction of effective and efficient methods to evaluate whether or not the objectives are being met. A second example exists with the statutory objective to “minimize” impacts to the environment.

⁴⁰ D.J. Rohlf, *Science, Law, and Policy in Managing Natural Resources: Toward a Sound Mix Rather than a Sound Bite*, 127-142 (2004) in K. Arabas and J. Bowersox, eds. *Forest futures: science, politics, and policy for the next century*. Rowman and Littlefield, Lanham, Maryland, USA.

Section 1. Department of the Interior Action

Decisions that are based on clear criteria, including threshold criteria, both for the avoidance and mitigation of impacts to biological resources, are likely to be more structured than decisions that are made absent clear decision criteria. Structured decisions are those where stakeholders can agree upon clear policy objectives, as well as the means of measuring those objectives.

BLM should take the opportunity to avoid controversy and conflict from the outset in this new program for solar development. One suggested method, and one that the BLM appears to be using, is to avoid designation and development of land types with known high-conflict values, and instead prioritize low-conflict areas (substantive detail on high-conflict and low-conflict land types are described below). Threatened, endangered and sensitive species habitats; unique habitat features; high integrity terrestrial and aquatic ecosystems; wildlife movement corridors – all should be considered high-conflict land types. On the other hand, mechanically-disturbed lands (including non-Federal lands) located in proximity to existing infrastructure, including road networks and transmission facilities, will enjoy much higher probability of project success and sustainable energy production.⁴¹ Of course, land management decisions are often most challenging for the “places in between,” where values collide and there is not a clear path to avoid conflict. Having a structured decision-making process, with clear criteria that can guide tradeoff decisions, in place for these types of scenarios is essential to achieving sustainable conservation outcomes.

Challenges associated with the application of biological information to decision-making are significant. While we applaud the BLM for recognizing sensitive resource areas, we understand that knowledge of BLM-managed ecosystems and the components of those ecosystems are limited, as is our understanding of how large-scale energy development will impact the structure, composition and function of desert ecosystems. We applaud the fact that the BLM is embarking on comprehensive science-driven “ecoregional assessments” of the ecosystems of interest to this planning effort. The need for these assessments validates the fact that biological data, information, and knowledge of these ecosystems is limited. For this reason, we expect the BLM to not only provide information on known biological resources (*e.g.* sensitive species population/habitat conditions) within the study areas, but also a comprehensive discussion of uncertainty (both of baseline biological conditions, as well as in relationships between solar development and biological resources), known information gaps, and processes to collect and apply information future decision-making processes. We expect, for example, a complete inventory of sensitive species population/habitat conditions for all solar study areas, based on our research.

Recommendation: BLM should define a science-based management strategy for biological impacts in its Modified SEZ Program Alternative. This should be based on science-based planning as well as sound policy objectives.

⁴¹ Our groups do not consider lands that have been grazed by domestic livestock, whether publicly or privately owned, to be “disturbed.”

SECTION 2. DEPARTMENT OF ENERGY ACTION

The Department of Energy (DOE) has a long history of promoting and advancing utility-scale solar energy research and technology, particularly within its Office of Energy Efficiency and Renewable Energy, the Solar Energy Technologies Program, and the Loan Guarantee Program. The accomplishments of DOE's solar energy programs are based on directives laid forth in a number of statutory requirements and Executive Orders, such as expedited review of permits, technological advances related to access to transmission and water use, and advancement of local planning efforts.⁴² These gains have resulted in the expansion and advancement of utility-scale solar projects.

DOE's participation in and contribution to the Draft Solar Programmatic Environmental Impact Statement (DPEIS) is defined in its purpose and need statement: "to satisfy both [Executive Orders] and comply with congressional mandates to promote, expedite, and advance the production and transmission of environmentally sound energy resources, including renewable energy resources and, in particular, cost-competitive solar energy systems at the utility scale" (Section 1.4.1).

In its preferred alternative, DOE proposes to integrate environmental analysis, mitigation measures, and other considerations as enumerated in the DPEIS into its evaluation and selection of solar energy projects and technologies seeking DOE funding and support. The agency believes that inclusion of these considerations will help increase the pace of solar energy development and decrease environmental damage, project costs, and stakeholder opposition associated with solar energy projects, therefore helping DOE to meet its legal mandates.

More specifically, DOE proposes to use the Bureau of Land Management's (BLM) analysis in the DPEIS to "provide a technical basis for development of guidance." This guidance would be used to help DOE determine which solar energy projects and technologies to invest in, as well as to develop recommendations for project proponents applying for DOE funding to consider in their applications. Notably, this guidance would apply to all solar energy technologies funded by DOE on federal, state, and private lands.

Because the goals of increasing solar energy development and protecting ecological and cultural resources are not mutually exclusive, we support DOE's preferred alternative. However, DOE should make improvements to this alternative to ensure that it can make informed decisions that support projects and technologies with minimized impacts.

I. Analysis of Alternatives

DOE proposes two alternatives: no action and the proposed action. Under the no action alternative, DOE would continue its business-as-usual methodology of analyzing environmental concerns with the solar projects it supports. It would not develop guidance to improve

⁴² Executive Order 13212 (2001), Executive Order 13515 (2009), and Section 603 of the "Energy Independence and Security Act of 2007."

Section 2. Department of Energy Action

environmental analysis and consideration or recommend mitigation measures that would be applied to DOE-funded solar projects.

The proposed action—and the preferred alternative—would require DOE to use the findings in the DPEIS to develop programmatic guidance that would integrate environmental considerations into its selection process for project funding. The guidance would also specify best practices for DOE solar funding applicants to consider when submitting applications for funding, especially for investment and deployment strategies. Basing this new guidance in the findings of the PEIS allows DOE to make more thorough and sound decisions, and would allow the agency to invest in the least-impactful solar technologies. In addition, the new DOE guidance would include mitigation recommendations for project developers to consider when applying for funding that would address programmatic technology performance goals. This new guidance would help streamline analysis and documentation for projects funded by DOE.

DOE recognizes a number of benefits of selecting the preferred alternative (Section 7.1).

- With new guidance, the agency will be empowered to make more informed decisions about investing in projects that minimize environmental impacts such as land disturbance and water usage.
- Guidance to develop mitigation recommendations for funding applicants will streamline environmental analyses and provide developers with more certainty about the prerequisites for winning DOE financing.
- Guidance for DOE and project funding applicants will spark faster approval in federal and state permitting processes, decreased costs linked to project modification, and reduced opposition. This new funding criteria will also result in quicker construction of renewable energy projects that reduce greenhouse gases and other hazardous combustion-related pollutants.

These benefits help DOE to meet its mandates as described in the purpose and need statement.

Adverse environmental impacts can be caused by a quicker pace of solar energy development, but are hard to quantify given the goals of DOE's proposed action.

I. Support for the Department of Energy's Preferred Alternative

We support DOE's preferred alternative to develop guidance both that would incorporate environmental concerns into DOE's own review of projects and for project proponents seeking to win funding. This alternative will minimize adverse environmental impacts and also help DOE to meet its legal requirements to increase the pace and decrease the costs of solar energy development.

In scoping comments for this PEIS, which many of our organizations submitted, we called on DOE to use the DPEIS as an opportunity to mirror the process and analysis being conducted by the BLM. DOE has undertaken this task in proposing to develop new guidance for selecting environmentally-sound solar projects.

Even though DOE notes that "In all likelihood, only a small percentage of utility-scale solar energy development projected in the [Reasonably Foreseeable Development Scenario] would be

Section 2. Department of Energy Action

directly attributable to DOE’s proposed action,” it nevertheless makes sense to screen projects early on to make sure that they succeed. With better decisions on where to make technology and resource investments that minimize environmental impacts, as well as mitigation recommendations for solar developers, DOE will be working towards an increased pace of solar development, stronger and more resilient projects, and lowered costs for solar energy systems at the utility scale. Our organizations support all of these goals.

II. Recommendations for Improvements to the Department of Energy’s Preferred Alternative

In the Final PEIS, DOE should improve its analysis in order to strengthen the proposed action and preferred alternative. In particular, it should:

- Improve the description of the current DOE solar energy program and its existing guidance. BLM details its current process for issuing rights of way for large solar energy projects (Section 3.7), but DOE does not describe its current process for identifying which solar energy projects and technologies to fund. In the Final PEIS, DOE should disclose the types of solar projects that it currently funds in addition to the specific environmental concerns that it takes into account for funding through its various solar energy programs. DOE should also establish which program offices will utilize the PEIS and new guidance in their decision-making processes.
- Broaden the scope of its analysis with regard to categories of affected lands and resources. BLM describes and evaluates the lands and resources to be affected by the PEIS (Chapter 4), and DOE must expand upon this analysis because it funds projects sited on federal, state, private, and tribal lands.
- Clarify what is meant by the intention to streamline future environmental analysis and documentation for DOE-supported projects (Section 2.3.2.1).

Additionally, DOE has an opportunity the Final PEIS to provide even further certainty to developers and promote the right kind of solar energy development by committing to supporting only low conflict projects. Specifically, DOE should:

- Provide assistance to only those public lands solar projects only that BLM’s screening tool finds to be “low conflict” or that are located within zones. This would lead to solar development that is faster, cheaper, and better for the environment, consumers and project developers.
- Give a preference and/or incentive for solar energy projects on previously-disturbed lands in order to minimize environmental impacts and create jobs in the places that need them the most.
- Demonstrate its commitment to rapid deployment of solar energy projects by indicating a presumption against funding projects on public or private lands in areas with sensitive natural or cultural resources; projects in these areas are likely to be litigated and delayed.
- Commit to only supporting projects for which thorough cultural resource consultation has been completed.

APPENDIX I. ANALYSIS OF REASONABLY FOREESEEABLE DEVELOPMENT SCENARIO

A. Overview

The BLM, the Interior Department and the Energy Department are to be commended for including a Reasonably Foreseeable Development Scenario (RFD) in the draft Solar Energy Development PEIS. Such an analysis relates directly to the task that this PEIS as a whole has been assigned to fulfill and the failure to present one would have constituted a fatal flaw of this document. The RFD that is presented is aggressive both in terms of amount of renewable energy needed in the study area through 2030 and in terms of the amount of solar energy the public lands will provide to meet that need. Precisely because the RFD is so aggressive, it clearly documents that the Solar Energy Zones alternative – supplemented by a system for designating additional zones as needed as the groups submitting these comments advocate – will allow ample room for solar to grow responsibly and thrive sustainably on our public lands. In this section of these comments we comment on the methodology used to create the RFD, suggest some improvements and then detail our conclusions about the RFD and its assumptions.

Development of the RFD. The Draft PEIS used two methods to estimate the RFD scenario or amount of power that would be generated in the six-state study area over the next 20 years. One involved the Regional Energy Deployment System model developed by NREL, while the other used each state’s Renewable Portfolio Standard (RPS) to estimate corresponding renewable energy and solar development. Both of these methodologies are appropriate tools for accomplishing the task at hand and we doubt that there is a “better” single way to estimate the RFD scenario for the study area.⁴³

Table 1 shows the results of the two methods of scenario development.

Table 1. Results of the Renewable Energy Modeling used in the Draft PEIS

Solar Capacity from:		Arizona	California	Colorado	Nevada	New Mexico	Utah
ReEDS Model (MW)	BLM	1,768	2,207	98	1,153	353	0
	Non-BLM	1,724	8,487	2,197	548	3,204	0
RPS-based Method (MW)	BLM	485 - 2,424	3,084 - 15,421	439 - 2,194	348 - 1,701	167 - 833	244 - 1,219
	Non-BLM	162 - 808	1,028 - 5,140	146 - 731	116 - 567	56 - 278	81 - 406

While the results of the two modeling approaches utilized predict extensive solar development, there is substantial variation between them as shown above. The Draft PEIS used the maximum

⁴³ Were the BLM to prepare a new RFD scenario and do so with the goal of obtaining a more realistic estimate of future needs, rather than one that established the outer bound of expected development, we suggest that rather than use a single RFD analysis for all states, an approach should be taken that would allow the analysis to take into account such factors as state RPS requirements, amount of private land, and where development is being proposed.

Appendix I

estimated development as projected by the RPS-based method to establish an upper bound on potential development and associated environmental impacts. It then employed various assumptions to predict how the maximum estimated development might be allocation between BLM-administered lands and private lands. These assumptions are discussed below.

To evaluate the RFD scenario, we contracted with Aspen Environmental Group to review the following items for each state:

- current renewable energy capacity,
- current RPS compliance,
- perceived capacity to achieve RPS compliance,
- renewable energy proposed (both on land managed by the BLM and on private, state, or other federal land), and
- Public Utility Commissions' (or equivalent) concerns and communications.

Some of the data assembled for this analysis are included at the end of this Appendix.

B. Primary Conclusions Regarding RFDs

Based on the available information for each state, it appears clear that the RFD scenario is very aggressive, i.e., that it significantly overestimates the amount of renewable energy that will be needed in the study area in general and the amount of solar energy development that will take place on public lands. Because of these features, the RFD provides a useful basis on which to assess the upper bound of environmental impacts that such development might result in as well as of the need for and viability of the two approaches to development that are considered in the PEIS – the solar zones option and the preferred alternative. Indeed, the RFD scenario amply demonstrates that there is more than enough room in the proposed zones to allow solar development and the solar industry to continue to grow on public lands while simultaneously allowing the BLM, other land and wildlife managers and stakeholders to gain experience with the processing, permitting, construction and operation of these huge projects as well as that there is enough time to permit the identification and designation of additional zones for additional development if and when needed.

1. The RFD Overestimates Renewable Energy Demand That Will Be Met By Utility Scale Generation In General and By Utility Scale Solar Plants In Particular

The RFD scenario overestimates the amount of renewable energy demand that will be met in the study area by utility scale generation in general and by utility scale solar generation in particular in three ways each of which is discussed below: first, because it assumes applicable RPSs will be met chiefly by utility scale generation, an assumption that is clearly changing in at least California and Arizona; second, because it assumes that 50% of applicable RPSs will be met by solar development at whatever scale; and third, because it assumes that 75% of the solar that will be generated to meet 50% of RPS will come from public lands. These assumptions, as indicated, have produced an RFD that is definitely very aggressive in terms of the kinds and amount of solar energy to be produced from the public lands.

- a. Assumptions about the role of large utility scale generation in meeting RPS are changing.

Appendix I

The RFD scenario assumes that the bulk of RPS needs will be met by large utility scale generation. Even two years ago, this assumption might have been sound. At that time, solar developers, regulators, utilities and members of the Public Utility Commissions (PUCs) in many states were assuming that the permitting, construction and operation of utility scale solar projects would proceed with relative ease and, as a result, they favored a paradigm which relied heavily on such projects to meet RPS goals. However, such an assumption is clearly changing – perhaps as a result of experience with the “fast track projects” that were permitted in 2010 in the study area.

Regulators in California set records in permitting large scale solar projects in 2010, on both public and private lands. Even as those records were being set, however, utilities began showing marked interest in projects significantly smaller than utility scale. For example, in California there are a number of rooftop projects currently proposed/being developed by several of the investor owned utilities. See, e.g., CPUC Quarterly Report (which reveals that there are over 250 projects between 1-2 MW in size requesting interconnection to the grid for a total of over 500 MW). In addition, numerous projects smaller than utility scale have been proposed for private lands in California. For example, according to a chart produced by the Renewable Energy Action Team, a team comprised of federal and state regulators and formed for the purpose of facilitating renewable energy generation in California, that is entitled 2011 Generation Tracking for Renewable Projects (hereinafter referred to as “2011 REAT chart”), approximately 70 solar projects of 50 MW or less in size have been proposed and are potentially permittable in 2011. (This REAT chart is included as Attachment 1 at the back of this Appendix.) These projects, together with six that are between 60 and 90 MW in size, would produce almost 2000 MW. *Id.* Similarly, in Arizona, there is a clear trend by the state PUC to permit smaller projects, albeit projects that are still large by most measures (i.e., up to 100 MW). These examples reveal that, as a result of assuming that renewable energy demand in the study area will be met by large utility scale generation, the RFD scenario over-estimates how much large utility scale is needed.

- b. Assuming that 50 percent of RPS will be met by solar development is very aggressive

The RFD scenario assumes a high solar scenario (50% solar and 50% other renewables).⁴⁴ While some states’ RPS goals prescribe the percentage of solar energy required to achieve those goals, the highest percentage of solar prescribed in the six states covered by the PEIS at the time the draft was written was 20%.⁴⁵ Based on our analysis of the types of energy currently used to achieve the interim RPS goals and on these states’ histories with renewable energy, a 50% scenario is definitely aggressive, and likely does not adequately account for grid integration issues such as demand profile and storage requirements.

⁴⁴ As noted above, the reason for assuming this high solar scenario was to enable the upper bound on potential environmental impacts of solar development on public lands to be estimated.

⁴⁵ The California RPS was increased to 33% by law on April 12, 2011. However, the investor-owned utilities are close to meeting their 20% target and are expected to be fully compliant by the end of next year. See, e.g., “CALIFORNIA: Private utilities reached 18 percent renewables in 2010, using mostly geothermal and wind,” Energy and Environment, March 4, 2011. Hence all the energy produced from projects permitted on public lands after completion of the PEIS will be allocatable to meeting the new standard.

Appendix I

To date, data from state public utilities commissions in the study area states or individual providers reveal that states are achieving their RPS goals primarily through wind and geothermal power (and hydroelectric power in those states that allow hydroelectric power to count toward the RPS goals). See Attachment 2 at the back of this Appendix. In Colorado, for example, a total of 1224.5 MW of renewable energy capacity is on line, 1200 MW of which comes from wind and 24.5 MW from solar. In Nevada, there is 79.3 MW of solar energy capacity out of a total of 418.2 MW; geothermal makes up the lion's share of renewable energy in that state – 315 MW. In Utah, out of a total of 570.7 MW of renewable energy capacity on line, the bulk comes from hydro – 286.5 MW – and from wind – 224.8 MW. The picture is similar when it comes to renewable energy net generation by source. See Attachment 3 at the back of this Appendix.

To date, there are no indications that the utilities in the six state study area will stop purchasing large amounts of geothermal and wind power and switch to purchasing solar power except to achieve any applicable diversity requirements. Accordingly, we would submit that it is clear that, because the RFD scenario assumes that 50% of RPS will be met by solar, it significantly overestimates that technology's contribution to the energy needs of the region.

c. Assuming that 75% of solar development will occur on BLM Land is also aggressive.

The RFD scenario assumes that 75% of all solar projects in the six state study area will be constructed on public lands because of the Administration's decision to prioritize solar energy development. As recently as two years ago, the solar industry, utilities and regulators assumed that the bulk of renewable energy development including especially solar development would take place on public lands. Today this assumption too is changing, however.

For example, California currently has more solar energy proposed on private land than on BLM land. As revealed by the 2011 REAT chart, attached to this Appendix, there are currently 8,258 MW potentially permissible on public lands at this time out of a total of a total of 16,950 MW. In addition, California currently has close to the RFD scenario estimate for solar energy on BLM-administered land proposed on private/state land. *Id.*⁴⁶ Indeed, it appears that, as of February 2011, 12,842 MW have been planned, proposed or permitted on public lands in that state.⁴⁷ The 2011 REAT chart indicates that 3,965 MW of large-scale projects (100 MW and above) are proposed, along with the almost 2000 MW of smaller projects referred to above. Clearly, these examples indicate that developers are re-assessing the desirability of putting all their eggs in the federal land basket.⁴⁸

Moreover, while regulators in California set records in permitting large scale solar projects in 2010 – proving beyond a shadow of a doubt that they could permit such projects speedily despite their lack of experience with the technologies involved, the scale of the projects proposed and

⁴⁶ This MW total, which was calculated based on available information including the 2011 REAT chart, does not include rooftop solar projects currently proposed/being developed by the state's investor owned utilities.

⁴⁷ [insert from HOS] his figure does include the projects that were permitted last year in California on private land for a total of at least 480 MW.

⁴⁸ Mitigation costs may be among the reasons for this re-assessment. Because most BLM-land is undeveloped, many public land projects will have higher mitigation costs than those on private disturbed lands. As a result the mitigation burden on public lands may well result in a comparative financial disadvantage when compared to that alternative.

Appendix I

their impacts, the fact is all the projects permitted on public lands to date have been challenged in federal court and it remains to be seen whether the approvals and permits issued will withstand those challenges. The outcome of those cases, in other words, may well affect the desirability of development on public lands to potential developers. Indeed, the available data clearly indicate that, even before all the pending suits were filed, developers were re-assessing the desirability of public lands based on the 2010 experience.

The draft PEIS itself provides information about solar proposals on public lands that suggests that the public land paradigm is shifting. According to data provided in Appendix B of the PEIS, there were 31 fewer proposed projects at the end of 2010 when the PEIS went to print than there were at the beginning: 1 fewer in New Mexico and 35 fewer (or 50% of all proposed projects) in California while very small increases of 1, 2 and 2 more projects in Nevada, Colorado and Arizona respectively.⁴⁹ At the end of the year, Utah still had no renewable applications on public lands. At a minimum, these data may also reflect the trend away from public lands in California discussed above.

The RFDS assumes that 75% of all solar projects would be constructed on BLM-administered lands because of the agency's decision to prioritize solar energy development on those lands. This percentage may turn out to be the case in states such as Nevada, where the BLM administers a large proportion of the lands within the states' borders and/or where there is a history of renewable energy development on BLM-administered land. In Nevada, for example, close to 40% of the RFD scenario estimate has already been approved for development on BLM land.

However, it may not be the case in other western states where there is more available private land on which to build solar projects and where the state itself is prioritizing renewable energy development. For example, as noted above, California currently has more energy proposed on private land than on public land – and has many more acres of lands that have been mechanically disturbed and hence potentially lower resource conflicts in private ownership than on the public estate. Many of these private land projects too are smaller allowing for faster and simpler environmental review. Accordingly it seems quite reasonable to assume that in California less than 75% of the solar development will occur on public lands.

Similarly, the 75% development assumption may not be the case in states which have already indicated certain areas for prioritization of renewable energy. Colorado, for example, has identified Renewable Resource Generation Development Areas where renewable energy could be prioritized. The San Luis Valley GDA currently has approximately 544 MW of solar energy proposed, more than is currently proposed on BLM-administered land in Colorado.

In any event, the assumption that 75% of solar development would occur on public lands unquestionably skews the RFD scenario toward more public land development. This skewing is

⁴⁹ The majority of the decrease in California is undoubtedly attributable to the BLM's aggressive screening of applications on file to determine their technical and financial feasibility – an approach that our organizations strongly support. In other states, it may be the difficulties in building large scale solar is slowing interest in these projects and/or that developers have already filed applications on sufficient or more than sufficient public land acreage for their actual development plans. The economy too has undoubtedly affected these trends.

Appendix I

further amplified for some states by the use of a single RFD scenario for all six states despite the significant differences among them as discussed above. Again, as indicated above, this single scenario may turn out to be the case in some states, such as Nevada where 85% of the land is administered by the federal government and there is a history of renewable energy development on BLM-administered land, but it may not be the case in other states, such as California where the amount of energy projected under the RFDS seem both exaggeratedly skewed toward solar and skewed toward solar on BLM land.

Conclusion. The very aggressive RFD Scenario Clearly Supports a Comprehensive Zone-based Approach.

The Interior Department clearly had a reasonable basis for adopting an aggressive RFD scenario in connection with the preparation of the PEIS. As noted above, use of such a scenario allows for the estimation of the upper bound of likely environmental impacts from the proposed program and alternatives. That said, it is clear from the analysis above that the scenario that was used over-estimates what is likely to occur in the future on our public lands.

As a result, the RFD scenario supports selection of only a comprehensive zones-based approach which is close to only one of the two action alternatives considered in the PEIS – Alternative 2, the zones development alternative. The RFD scenario documents the availability of ample potential in the proposed zones to increase solar generation and grow solar development responsibly – especially considering the large number of existing applications outside of the proposed zones which our groups expect BLM to review,⁵⁰ while the BLM gains experience in developing, permitting and monitoring the operation of large scale projects as well as in understanding the impacts of individual projects and other solar projects in the same and different geographic regions.

To be more specific, one can do a rough, back-of-the-envelope calculation of the amount of BLM land that will be required to develop even the very aggressive numbers reflected in the RFD scenario. That scenario envisions a high estimate of up to 23,792 MWs of solar being developed on BLM land (although, as previously indicated, the real number is likely to be

⁵⁰ Currently there are about 166 applications for solar development on BLM-administered lands in the study area. See, e.g., NRDC, “Bureau of Land Management Utility-Scale Solar Applications – A Geospatial Survey of Active ROW Applications,” April __, 2011, submitted for the record on this draft PEIS by NRDC and others (hereinafter “NRDC Report”). While it appears that a number of these applications are located in proposed zones and many are outside. (One application overlaps a proposed zone slightly.) *Id.* In Arizona, for example, there are no existing applications within zones but 36 outside them. *Id.* at 3. In California, according to data provided by the State BLM Office on March 7, 2011, there are currently a total of 19 first in line applications within the four proposed zones, and at least 14 first in line applications outside them. There are no applications within the zones proposed in Colorado, but approximately two outside as of this date. Nevada appears to have six active applications within proposed zones and 44 outside them, while New Mexico has one application within and two outside the zones. See NRDC Report *supra*. Utah has no public land solar applications, as indicated above.

Although Alternative 2 in the PEIS contemplates no development outside the identified zones, as indicated immediately above, none of our groups actually expect the BLM to reject all applications outside of those zones. Some of these applications will be approved and as a result some development outside zones will unquestionably go forward. This additional development will contribute to actual needs of the states in which it is located as well as to achieving the RFD scenario presented in the draft PEIS. The same is true of any MW generated as the result of projects permitted by the BLM last year.

Appendix I

significantly lower). With a mix of solar technologies, with solar thermal generally requiring fewer acres per MW (5-7) and PV requiring more (as high as 10-12), even using the 12 acre/MW maximum, we get a total acreage of 285,504 necessary for solar production. Using the average, a generous 9 MW/acre, would produce a requirement of 214,128 total acres in the six states. (While additional acres may be needed for substations and transmission, the actual number would be very small by comparison). The proposed Solar Energy Zones in the PEIS include a total of 677,384 acres. Allowing for the fact that not all of these acres will be suitable for solar development, it is still very likely that sufficient land will be available to meet the projected need in these zones alone.

Furthermore, analysis of data in the draft PEIS reveals clearly that in all cases except Arizona, the proposed zones hold more than the RFD scenario build out would require without including any development outside the zones. Indeed, in some states, the zones hold significantly more than is needed to support that build out – again, even without counting generation from any other source. The California SEZs, for example, could potentially produce at least twice as many MWs as projected under the RFD scenario, while the SEZs in Nevada could potentially build out at least nine times as many MWs and those in New Mexico could potentially build out at least 12 times as many MWs. It is equally clear that at least in those states, the proposed SEZs could be reduced significantly and the scenario still achieved⁵¹ – especially if, as we recommend, a process for adding new zones is included in the new program.⁵²

In short, the RFD scenario proves that a comprehensive zone-based solar development program would provide a safety net for agency planners and decision-makers as well as the solar industry and the public lands. As noted immediately above, this is even truer if the Department includes in its new solar program a process for adding additional zones if needed which would provide even further assurance to all concerned that real needs for the generation of solar energy on public lands will be met in the future.

In contrast, selection of Alternative 3, the BLM's preferred alternative, which essentially amounts to a free for all approach to siting of large scale solar projects in our deserts, would not only be inconsistent with the RFD scenario, it would also be inconsistent with the requirements of the Federal Land Policy and Management Act of 1976 (FLPMA), 43 U.S.C. § 1701 et seq., the BLM's Organic Act. FLPMA mandates that the Secretary "take any action necessary to prevent unnecessary or undue degradation of the [public] lands." 43 U.S.C. § 1732(b). Throwing open more than 21 million acres of public lands to the siting, construction and operation of huge solar power plants will have attendant significant and, in many cases, unmitigable impacts as revealed in the EISs the Interior Department prepared on the power plants it permitted on public lands in California last year and doing so *when it is demonstrably unnecessary* as revealed by this PEIS simply cannot be squared with that mandate.

⁵¹ The one caveat that applies to this statement relates to BLM's assumption that 80% of the acreage within zones will be developed. This amount of acreage may not actually be available. In California's Riverside East SEZ, for example, less than 80% of the land within the zone may be developable in large measure because of the sand transport corridor which traverses much of the zone. However, as noted above, there is the potential for development outside of the California zones as well as development within new, additional zones to "make up" for this unavailable land. Moreover, the PEIS estimates that it takes 5 acres/MW for solar trough technology and 9 acres/MW for other technologies. The California BLM uses higher ratios for all projects. If the California numbers had been used in the PEIS, the MWs "lost" from that particular zone would be reduced.

⁵² The process we recommend that the Interior Department adopt is discussed *infra* in Section I.

Appendix I

The selection of Alternative 2 is further supported by existing information that we have obtained regarding contract failure. In connection with our research for preparation of these comments, we learned that contract failure is currently at between 15 and 30%.⁵³ To insure against contract failure, especially failure of utility-scale projects like those that have been permitted and proposed for public lands, utilities are now concentrating on smaller projects (less than 100 MW). The California PUC identified insurance against contract failure as a reason to increase feed-in tariffs for distributed solar projects. Focusing on places where projects are most likely to be successful as the zones-based alternative would do is another and easier way to help utilities guard against contract failure.

STATE-LEVEL RPS INFORMATION

Arizona

- *Approximately 17% of the state is BLM-administered land - 12.2 million surface acres*

At this time, Arizona BLM is actively processing three ROW applications while four utility scale solar projects are proposed on BLM land. Therefore, it seems unreasonable to assume most of the utility scale solar development would be on BLM land. The renewable energy that is already developed and currently under development is on private land and the total number of MW of these projects – 350 MW – is close to half of the estimated solar energy on non-BLM land under the RFD scenario.

California

- *Nearly 15 % of the state is BLM-administered land, 15.2 million acres*

Given the acres of mechanically disturbed (agricultural) land that appears to be available for solar development in the Central Valley, it seems unreasonable to assume that more solar energy would be developed on BLM land than on private land. This is especially the case given the high priority California has placed on renewable energy development throughout the state, not just on BLM-administered land.

It is also important to note that all of the BLM-approved solar projects on BLM-administered land are currently the subject of federal court litigation. Many smaller projects proposed on private land that is less environmentally sensitive have been undergoing environmental review with Negative Declarations or Mitigated Negative Declarations allowing for a faster development schedule. Moreover, the BLM in California reports that it is seeing few new ROW applications and that, more often than not, the new applications that it has received are applications for gen-ties crossing public lands, rather than for solar power plants.

Given the reduced environmental effects of solar projects on previously disturbed agricultural and other private lands as compared to undisturbed pristine desert, it is not only likely that less than 75% of the solar development in California will be on BLM-administered lands, it is even possible that solar development on private land in the state could overtake that of BLM-administered lands over the next couple of years.

⁵³ Indeed, one utility has suggested that it is using a 40% failure rate for its internal planning purposes.

Colorado

- *Almost 12.5 % of the state is BLM land, 8.3 million acres*

For the Colorado RFD scenario, the two models used to estimate the amount of solar required for the RPS goals resulted in virtually opposite estimates. The ReED scenario put close to 100% of solar energy development on private land and the RPS model put close to 100% of the solar energy development on BLM land. Colorado currently has more solar energy proposed on non-BLM administered land than solar energy proposed on BLM-administered land.

Also, Colorado does not require a specific percentage of the RPS to be solar; it focuses instead on distributed generation. Given Colorado's extensive experience with wind power, the capacity for wind energy in Colorado, and the fact that Xcel Energy, the largest energy provider in Colorado, is the utility with the most wind power on the system, the scenario presented in the RFD scenario seems inappropriately skewed toward solar energy.

Nevada

- *Approximately 67% of the state is BLM land, 48 million acres*

In Nevada close to 40% of the RFD scenario estimate has already been approved for development on BLM-administered land. However, close to 30% of the currently proposed solar energy is on private land: three projects totaling 634 MW. Some of the solar projects being developed in Nevada, moreover, may serve California's RPS. For example, if developed, the 457 MW El Dorado project in Clark County would count toward California's RPS goals, rather than Nevada's. Additionally, NV Energy continues to focus on geothermal as the primary renewable energy to achieve the Nevada RPS goals.

New Mexico

- *Approximately 17% of the state is BLM land, 13.4 million acres*

The diversity requirement for New Mexico mandates 20% from solar, which conceivable could justify a higher RFD scenario for the state. However, the estimate of solar development on BLM land is consistent with current development patterns. More specifically, the New Mexico utilities get most of their solar from smaller projects or from projects that go through a third-person provider which are not currently located on BLM land.

Utah

- *Approximately 42% of the state is BLM-administered land, 22.9 million acres*

Given that the Utah RPS is voluntary, it is probable that less solar development will occur on BLM-administered lands than estimated. Currently, there are no proposed solar projects on BLM-administered land. Additionally, the Utah PUC indicated that the solar that was proposed and/or built were smaller projects, often coinciding with public facilities such as schools.

Additional Background on RFDS Issues

Transmission Constraints

As noted in the CPUC 33% Renewables Portfolio Standard Implementation Analysis Preliminary Results (June 2009), transmission planning, permitting, and construction has been

Appendix I

and may continue to be a challenge to achieving 33% renewables by 2020. The report concluded that to meet the 33% RPS goals, seven transmission lines would be required in addition to four new transmission lines required to achieve a 20% RPS. The zonal approach will facilitate transmission planning and permitting to achieve RPS goals: clustering projects in zones will help prioritize needed transmission and, indeed, the basic outlines of the zones in California that are analyzed in the PEIS in California were drawn by the state's Renewable Energy Transmission Initiative, a voluntary, multi-stakeholder process, as part of a major effort to facilitate transmission planning and permitting of the lines necessary to achieve those goals.

Contract Failure

Contract failure has been noted in reports to the California Energy Commission and California Public Utilities Commission as a difficulty in reaching the RPS goals. The rate of contract failure and/or project viability has been addressed as follows:

- Between 2002 and 2011 a total of 27 of the 219 RPS contracts approved or under review (approximately 12%) were terminated (CPUC, Progress Towards California's Renewables Portfolio Standard Goals, Senate Oversight Hearing Feb 1, 2011)
- Utilities should expect a minimum overall contract failure rate of 20 to 30% (Consultant Report for the California Energy Commission, January 2006)
- Of the overall sample used in the report, 54% were categorized as "successful", either online or scheduled to meet online date, 23% were canceled, 14% were delayed, and 9% were in default (Consultant Report for the California Energy Commission, January 2006).
- According to the Database of Investor-Owned Utilities' Contracts for Renewable Generation, Contracts Signed Toward Meeting the California RPS Targets (August 2010), 15% of the contracts signed have been canceled, 21% are delayed, and 64% are on track.
- Top causes of contract failure included siting and permitting issues, developer financial troubles, capital cost increases, and transmission and interconnection issues.
- According to the RPS Status Report Q4 2010, existing RPS contracts should achieve the 2010 20% RPS mandate in 2012 with projects that are online or viable at more than 90%⁵⁴ (see Figure 2: Risk Profile of Executed RPS Contracts). To achieve 33% renewable energy by 2020, approximately 20,000 MW of executed RPS contracts that are less than 90% viable, some as low as 50 percent viable, would be necessary.

Permitting Constraints

The permitting processes for utility scale solar projects in California during 2009 and 2010 were completed remarkably quickly, removing the developers' earlier challenges to agencies' abilities to issue permits for these large projects in an expeditious manner. However, it remains to be seen whether the approvals and permits issued will stand up to the current legal challenges. BLM and other responsible agencies should look carefully at the legal challenges to the 2010 decisions and consider whether the NEPA process for future projects requires more time and attention.

⁵⁴ The CPUC Project Viability Calculator includes project development experience, ownership/O&M experience, technical feasibility, resource quality, manufacturing supply chain, site control, permitting status, project financing status, interconnection progress, transmission requirements, and reasonable of commercial online date

Appendix I

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2010 REAT – Generation Tracking for Renewable Projects (Revised 12/8/2010)

POU RPS Deliveries updated August 2010

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2010 Renewable Energy Standard Compliance Plan Public Services Company of Colorado (Xcel)

Wheatland Electric Cooperatives, Inc. 2009 Renewable Energy Standard Compliance Report

“Renewable Energy: Complementary Policies for Climate Legislation” Testimony of Ronald J. Binz Chairman Colorado Public Utilities Commission

Nevada:

Portfolio Standard Annual Report 04/01/10 Docket # 10-04002

New Mexico:

New Mexico Public Regulation Commission and Renewable Energy in New Mexico

El Paso Electric Company’s Application for Approval of Its 2009 Annual Procurement Plan

El Paso Electric Company’s Application for Approval of its 2010 Annual Procurement Plan

Public Service Company of New Mexico Renewable Energy Portfolio Procurement Plan for 2009

Public Service Company of New Mexico Revised Renewable Energy Portfolio Procurement Plan for 2010

Southwestern Public Service Company (Xcel) 2009 Annual Renewable Energy Portfolio Procurement Plan

Southwestern Public Service Company 2010 Annual Renewable Energy Portfolio Procurement Plan

Appendix I

Utah:

Utah Energy and Mineral Statistics, Chapter 6. Renewable Resources.
<http://geology.utah.gov/emp/energydata/renewenergydata.htm>

Appendix I

Attachments to Appendix I

Appendix 1

2011 RENEWABLE ENERGY ACTION TEAM - GENERATION TRACKING FOR RENEWABLE PROJECTS								
Revised 12/31/2010								
Project Name	County	Developer	ID	Cap. (MW)	Type	Lead Agency	DOE Guarantee	
2011 Priority Projects								
Solar								
1	First Solar Kern	Kern	First Solar	CACA 48820	745	Solar PV	BLM	
2	Maricopa Sun Solar Complex	Kern	Granville Homes	GPA 5, CUP 5,	700	Solar PV	Kern County/DFG/USF	Yes.
3	Antelope Valley Solar	Kern	Renewable Resources		650	Solar PV	Kern County	
4	Quartzite	Riverside	First Solar	CACA 49397	600	Solar PV	BLM	ROD target 2012
5	Desert Sunlight	Riverside	First Solar	CACA 48649	550	Solar PV	BLM	ROD target 2011
6	Topaz Solar Farm	San Luis Obispo	First Solar	DRC2008-000	550	Solar PV	San Luis Obispo County	
7	Sunpeak Solar	Imperial	Superstition Solar	CACA 49150	500	Solar PV	BLM	ROD target 2012
8	Palen	Riverside	Solar Millennium, LLC	CACA 48810	484	Solar Thermal	BLM	ROD target 6/2011
9	Solargen Panoche Valley Solar	San Benito	Solargen	CUP 1023-09	399	Solar PV	San Benito County	No.
10	Stateline	San Bernardino	First Solar	CACA 48669	380	Solar PV	BLM	ROD target 2012
11	Caithness Soda Mtn, LLC	San Bernardino	Caithness Soda Mtn,	CACA 49584	350	Solar PV	BLM	ROD target 2012
12	McCoy	Riverside	NextEra	CACA 48728	250	Solar PV	BLM	ROD target 2012
13	California Valley Solar Ranch	San Luis Obispo	Sun Power	DRC2008-000	210	Solar PV	San Luis Obispo County/DFG	
14	Chocolate Mountains Solar F	Imperial	8 Minute Energy		50	Solar PV	Imperial County	Yes.
15	Calipatria Solar Farm II	Imperial	8 Minute Energy		50	Solar PV	Imperial County	Yes.
16	Lucerne Valley Solar	San Bernardino	Chevron, Fotowatio R	CACA 49561	45	Solar PV	CDFG	
17	High Plains Ranch III	San Luis Obispo	SunPower		40	Solar PV	San Luis Obispo County	Yes.
18	Ocotillo Sol	Imperial	SDG&E	CACA 51625	14	Solar PV	BLM	ROD target 2011
19	Cantil Solar Project	Kern	Nautilus Solar LLC		9	Solar PV	Kern County	Yes.
20	North Muroc	Kern	Nautilus Solar LLC		9	Solar PV	Kern County	Yes.
					6,585			
Wind								
21	Ocotillo Express	Imperial	Pattern Energy Group	CACA 51552	560	Wind	BLM	ROD target 12/2011
22	Iberdrola Tule Wind	San Diego	Pacific Wind, LLC	CACA 49698	200	Wind	BLM	ROD target 7/2011
23	AES Daggett Ridge	San Bernardino	AES Wind Generatio	CACA 49575	84	Wind	BLM	

Appendix I

24	Granite Wind, LLC	San Bernardino	RES North America	CACA 48254	74	Wind	BLM	
25	Walker Ridge	Lake and Colusa	Alta Gas REP	CACA 51667	70	Wind	BLM/DFG	ROD target 11/2011
26	Invenergy Horse Lake	Lassen	Invenergy	CACA 49709	51	Wind	BLM	ROD target 12/2011
27	Rising Tree	Kern	Rising Tree Wind, LLC	CACA 52363	234	Wind	BLM/Kern County	ROD target 12/2011
					1,273			
	Geothermal							
28	Black Rock Geothermal 1,2, a	Imperial	CalEnergy Obsidian Er	2002-AFC-02	159	Geothermal	CEC	No.
29	East Brawley - Ormat	Imperial	Ormat		49	Geothermal	Imperial County	Yes.
30	Wister - Ormat	Imperial	Ormat		49	Geothermal	Imperial County	Yes.
31	Casa Diablo Geothermal	Mono	Casa Diablo Geotherm	CACA 11667,	40	Geothermal	USFS/BLM	
					297			
					8,155			
Other 2011 Projects								
	Solar							
32	Power Partners Southwest	San Bernardino	EnXco	CACA 49585	1,000	Solar PV	BLM	
33	Brightsource	Riverside	Brightsource		750	Solar Thermal	CEC	No
34	Brightsource	Inyo	Brightsource		500	Solar Thermal	CEC	No
35	Trilobite	San Bernardino	PG&E	CACA 49432	500	Solar Thermal	CEC/BLM	
36	Fort Irwin Solar Energy EUL	San Bernardino	Clark-Acciona		500	Solar Thermal	CEC/ARMY	
37	Ogilby Solar	Imperial	Iberdrola Renewables	CACA 49615	450	Solar Thermal	CEC/BLM	No
38	Oro Verde Solar (Edwards AF	Kern	Fotowatio Renewable Ventures		450	Solar PV	USAF	
39	Gateway Solar Project	Kern	East Kern Properties, LLC		350	Solar PV	Kern County	
40	EnXco I	Riverside	EnXco Development	CACA 49488	300	Solar PV	BLM	
41	EnXco III	Riverside	EnXco Development	CACA 49490	300	Solar PV	BLM	
42	EnXco IV	Riverside	EnXco Development	CACA 49491	300	Solar PV	BLM	
43	Iberdrola Renewables	San Bernardino	Iberdrola Renewables	CACA 49813	300	Solar Thermal	CEC/BLM	
44	Cadiz Lake	San Bernardino	Iberdrola Renewables	CACA 49430	300	Solar Thermal	CEC/BLM	
45	Sunpower Kern/LA1	Kern/LA	Sunpower		250	Solar PV	Kern/LA	
46	Sunpower Kern/LA3	Kern/LA	Sunpower		219	Solar PV	Kern/LA	
47	Chuckwalla Solar	Riverside	Chuckwalla Solar LLC	CACA 48808	200	Solar PV	BLM	
48	Mount Signal Solar Farm I	Imperial	8 Minute Energy		200	Solar PV	Imperial County	No.
49	Sunpower Kern/LA2	Kern/LA	Sunpower		181	Solar PV	Kern/LA	
50	Willow Springs Solar Array	Kern	First Solar	CUP 26, Map	160	Solar PV	Kern County	

Appendix I

51	Midway Solar Farm II	Imperial	8 Minute Energy		155	Solar PV	Imperial County	No.
52	Ward Valley	San Bernardino	Solar Reserve, Leopold	CACA 49002	150	Solar Thermal	CEC/BLM	No
53	Great Valley	Kern	Element Power	CACA 51812	150	Solar PV	BLM	
54	Leo Solar	Merced	Fotowatio Renewable Ventures		150	Solar PV	Merced County	
55	Sunpower Central Valley Q2	Unk	Sunpower		138	Solar PV	Unk	
56	Centinela Solar Energy Facility	Imperial	LS Power		130	Solar PV	Imperial County	
57	Rosamond Solar Project	Kern	SGS Antelope Valley	0	120	Solar PV	Kern County	
58	US Solar Holdings Riverside	Riverside	US Solar Holdings	PP24616	100	Solar PV	Riverside County	
59	Salton Sea Solar Farm II	Imperial	8 Minute Energy		100	Solar PV	Imperial County	No.
60	Imperial Solar Energy Center	Imperial	Solar Reserve, LLC	CACA 49884	100	Solar Thermal	CEC/BLM	
61	El Mirage	San Bernardino	Axio Power Holdings		90	Solar PV	San Bernardino County	
62	Cygnus Solar	Kern	Fotowatio Renewable Ventures		80	Solar PV	Kern County	
63	Regulus	Kern	Fotowatio Renewable Ventures		80	Solar PV	Kern County	
64	Colgreen Energy	Riverside	Colgreen Energy	CUP03635	75	Solar PV	Riverside County	
65	Weldon Solar Project	Kern	Renewable Resources	ZCC 3, CUP 1,	60	Solar PV	Kern County	
66	Sunpower Kern W1	Kern	Sunpower		60	Solar PV	Kern County	
67	Calipatria Solar Farm I	Imperial	8 Minute Energy		50	Solar PV	Imperial County	TBD
68	Midway Solar Farm I	Imperial	8 Minute Energy		50	Solar PV	Imperial County	No.
69	Salton Sea Solar Farm I	Imperial	8 Minute Energy		50	Solar PV	Imperial County	No.
70	Alpaugh Solar	Tulare	Solar Project Solution	PSP 10-030	50	Solar PV	Tulare or Kings	
71	US Solar Borrego One	San Diego	NRG Borrego Solar One, LLC		46	Solar PV	San Diego County	
72	Lightsource Renewables, LLC	San Bernardino	Lightsource Renewables, LLC		40	Solar PV	San Bernardino County	
73	Tehachapi Photovoltaic Project	Kern	GE Energy by URS Corp		40	Solar PV	Kern County	
74	Borrego Solar Farm	San Diego	Eurus Energy	CASE NUMBER	45	Solar PV	San Diego County	No
75	Orion Solar	Kern	Fotowatio Renewable Ventures		40	Solar PV	Kern County	
76	SR Solis Vestal Herder	Tulare	SolarGen USA, LLC	PSP 10-017 SF	18	Solar PV	Tulare County	TBD
77	Ridge Rider Solar Park	Kern	Global Real Estate Investment Partn		38	Solar PV	Kern County	
78	Sunpower Central Valley 1	Unk	Sunpower		30	Solar PV	Unk	
79	Sunpower Tribal	Unk	Sunpower		30	Solar PV	Unk	
80	Granite Construction I	Tulare	SolarGen USA, LLC		30	Solar PV	Tulare County	TBD
81	GWF Tracy Amendment	San Joaquin	GWF Tracy		30	Solar PV	CEC	
82	Split Mountain Solar Farm	San Diego	EnXco		26	Solar PV	San Diego County	
83	Imperial Valley Solar Co. I	Imperial	Imperial Valley Solar Co.		23	Solar PV	Imperial County	

Appendix I

84	Smyrna Solar	Kern	EnXco	CUP 5, Map 7	20	Solar PV	Kern County	
85	Mojave Solar 1	Kern	Fotowatio Renewable Ventures		20	Solar PV	Kern County	
86	Mojave Solar 4	Los Angeles	Fotowatio Renewable Ventures		20	Solar PV	Los Angeles County	
87	Rosamond I	Kern	Recurrent Energy		20	Solar PV	Kern County	
88	Rosamond II	Kern	Recurrent Energy		20	Solar PV	Kern County	
89	Porter and Associates	Kern	Porter and Associates		20	Solar PV	Kern County	
90	Tehachapi	Kern	Recurrent Energy		20	Solar PV	Kern County	
91	Columbia II	Kern	Recurrent Energy		20	Solar PV	San Bernardino County	
92	DTE Energy I	Tulare	DTE Energy	PSP 09-077	20	Solar PV	Tulare County	No
93	DTE Energy II	Tulare	DTE Energy	PSP 09-078	20	Solar PV	Tulare County	No
94	Element Power I	Tulare	Element Power	PPA 10-002	20	Solar PV	Tulare County	
95	SR Solis Terra Bella	Tulare	SolarGen USA, LLC	PSP 10-016	20	Solar PV	Tulare County	TBD
96	SR Solis Mouren 3	Fresno	SolarGen USA, LLC		20	Solar PV	Fresno County	TBD
97	SR Solis City of Gustine	Merced	SolarGen USA, LLC		20	Solar PV	Merced County	TBD
98	SR Solis City of McFarland	Kern	SolarGen USA, LLC		20	Solar PV	Kern County	TBD
99	Cal S.P. IV, LLC	Tulare	Cal S.P. IV, LLC	PSP 10-039	20	Solar PV	Tulare County	No
100	White River	Tulare	Solar Project Solutions (SPS)		20	Solar PV	Tulare County	
101	Corcoran	Tulare	Solar Project Solutions (SPS)		20	Solar PV	Kings County	
102	Alpaugh North	Tulare	Solar Project Solution	PSP 10-029	20	Solar PV	Tulare	
103	Victor Phelan Solar One	San Bernardino	Recurrent Energy		20	Solar PV	San Bernardino County	
104	LSR Kramer South	San Bernardino	LSR Kramer South		20	Solar PV	San Bernardino County	
105	North Edwards Solar	San Bernardino	North Edwards Solar		20	Solar PV	San Bernardino County	
106	Old River I	Kern	Recurrent Energy		20	Solar PV	Kern County	
107	SR Solis Oro Loma	Fresno	SolarGen USA, LLC		19	Solar PV	Fresno County	TBD
108	SR Solis Oro Loma-Teresina	Fresno	SolarGen USA, LLC		19	Solar PV	Fresno County	TBD
109	SR Solis Vestal Fireman	Tulare	SolarGen USA, LLC	PSP 10-054	19	Solar PV	Tulare County	TBD
110	SR Solis Vestal Almond	Tulare	SolarGen USA, LLC	PSP 10-015	18	Solar PV	Tulare County	TBD
111	SR Solis Lucas	Tulare	SolarGen USA, LLC		18	Solar PV	Tulare County	TBD
112	SR Solis Mouren 2	Fresno	SolarGen USA, LLC		18	Solar PV	Fresno County	TBD
113	SR Solis Avenal	Kings	SolarGen USA, LLC		18	Solar PV	Kings County	TBD
114	Goose Lake Solar	Kern	EnXco	CUP7 Map 53	15	Solar PV	Kern County	
115	Newberry Springs, Lucerne V	San Bernardino	First Solar		15	Solar PV	San Bernardino County	
116	SR Solis Crown	Tulare	SolarGen USA, LLC	PSP 10-058	15	Solar PV	Tulare County	TBD

Appendix I

117	SR Solis Borden	Tulare	SolarGen USA, LLC		15	Solar PV	Tulare County	TBD
118	SR Solis Yancey Farms	Merced	SolarGen USA, LLC		15	Solar PV	Merced County	TBD
119	Southwestern Solar Power II	Riverside	Southwestern Solar	PP24680	13	Solar PV	Riverside County	
120	SR Solis Rector	Tulare	SolarGen USA, LLC	PSP 10-059	10	Solar PV	Tulare County	TBD
121	Columbia III	Kern	Recurrent Energy		10	Solar PV	Kern County	
122	TA-High Desert	Los Angeles	TA-High Desert		10	Solar PV	Los Angeles County	
123	Elk Hills Solar	Kern	EnXco	CUP16, Map 1	7	Solar PV	Kern County	
124	SR Solis Firebaugh	Fresno	SolarGen USA, LLC		7	Solar PV	City of Firebaugh	TBD
125	SR Solis East Reedley	Fresno	SolarGen USA, LLC		7	Solar PV	Fresno County	TBD
126	San Bernard Solar	Kern	EnXco	CUP 5, Map 1	6	Solar PV	Kern County	
127	Great Lakes	Kern	Recurrent Energy		6	Solar PV	Kern county	
128	SR Solis City of Huron	Fresno	SolarGen USA, LLC		5	Solar PV	Fresno County	TBD
129	SR Solis Mouren 1	Fresno	SolarGen USA, LLC		5	Solar PV	Fresno County	TBD
130	SR Solis Gonzalez	Kern	SolarGen USA, LLC		5	Solar PV	Kern County	TBD
131	Rio Grande	Kern	Recurrent Energy		5	Solar PV	Kern County	
132	Southwestern Solar Power I	Riverside	Southwestern Solar	PP24682	5	Solar PV	Riverside County	
133	Avenida Del Sol Solar Project	Kern	Avenida del Sol Solar		5	Solar PV	Kern County	
134	Old River II	Kern	Recurrent Energy		5	Solar PV	Kern County	
135	Amonix Borrego Solar	San Diego	Avalon Solar, LLC		2	Solar PV	San Diego County	
136	Avalon Riverside	Riverside	Avalon Solar, LLC	PP24670	2	Solar PV	Riverside County	
137	Temescal Canyon RV, LLC	Riverside	Temescal Canyon RV,	PP24075R1	2	Solar PV	Riverside County	
138	Ormat Solar PV I	Imperial	Ormat		Unk	Solar PV	Imperial County	No.
139	Ormat Solar PV II	Imperial	Ormat		Unk	Solar PV	Imperial County	No.
140	Ormat Solar PV III	Imperial	Ormat		Unk	Solar PV	Imperial County	No.
141	Ormat Solar PV IV	Imperial	Ormat		Unk	Solar PV	Imperial County	No.
					10,365			
	Wind							
142	Avalon I	Kern	EnXco		610	Wind	Kern County	
143	North Sky River Energy, LLC	Kern	NextEra	CACA 52348	300	Wind	Kern County/BLM	
144	Oak Creek Sun Creek	Kern	TerraGen	CACA 44611	300	Wind	BLM	
145	Manzana Wind Project	Kern	PG&E	CPCN A.09-12-0	246	Wind	Kern County/CPUC	
146	Shiloh III	Solano	EnXco		200	Wind	Solano County	
147	Camp Rock	Kern	Horizon Wind	CACA 51605	150	Wind	Kern County/BLM	

Appendix I

148	Whitewater Hill	Riverside	Shell Cabazon		105	Wind	Riverside County	
149	Windswept	Kern	Western Wind Energy Corp.		72	Wind	Kern County	
150	Tylerhorse Wind	Riverside	Power Partners South	CACA 51561	60	Wind	BLM	
151	Sand Canyon of Tehachapi	Kern	Sand Canyon of Tehachapi		40	Wind	Kern County	
152	Clear Vista Ranch Wind	Kern	Clear Vista Ranch		20	Wind	Kern County	
153	Avalon/Catalina	Riverside	Power Partners South	CACA 52309	15	Wind	BLM	
154	Lower West Wind Energy Pro	Kern	AERO Energy LLC		14	Wind	Kern County	
155	Coram ZC 60	Kern	Coram Development		6	Wind	Kern County	
156	Shiloh IV	Solano	EnXco		Unk	Wind	Solano County	
157	Sand Ridge	San Bernardino	AES Wind Generation	CACA 50612	Unk	Wind	BLM	
158	Black Mountain	Imperial	Imperial Wind RES	CACA 48272	Unk	Wind	BLM	
159	Soledad Mountain Wind	Kern	Oak Creek Energy	CACA 48536	Unk	Wind	BLM	
160	Pattern Energy Wind	Imperial	Pattern Energy		Unk	Wind	Imperial County	
161	Invenergy, LLC	Modoc	Invenergy, LLC	CACA 48110	Unk	Wind	BLM	
					2,138			
	Geothermal							
162	Black Rock 4, 5, 6	Imperial	CalEnergy Obsidian Energy, LLC		159	Geothermal	CEC	No.
163	Black Rock 7, 8, 9	Imperial	CalEnergy Obsidian Energy, LLC		159	Geothermal	CEC	No.
164	West Chocolate Geothermal	Imperial	Ormat	CACA 43965	50	Geothermal	CEC/BLM	
165	Hudson Ranch II	Imperial	Hudson Ranch		49	Geothermal	Imperial County	
166	East Brawley Iceland America	Imperial	Iceland America, LLC		49	Geothermal	Imperial County	
167	South Brawley	Imperial	Iceland America, LLC		49	Geothermal	Imperial County	
168	IAE Truckhaven I	Imperial	Iceland America, LLC		49	Geothermal	Imperial County	
					564			
	Other Technologies							
169	Eagle Mountain Pumped Stor	Riverside	Eagle Crest		1,300	Pumped Stora	FERC/BLM	
170	El Dorado Irrigation District	El Dorado	El Dorado Irrigation District		21	Small hydro	FERC	
171	Sunshine Landfill	Los Angeles	DTE		20	Landfill Gas	Los Angeles County	
172	Portrero Hills Landfill	Solano	DTE		8	Landfill Gas	Solano County	
					1,349			
					14,416			
					22,571			

Appendix I

	Transmission Lines							
1	Rice Solar Transmission Line	San Bernardino	Solar Reserve, LLC	CACA 51022	161 kV	Gen-tie from S	BLM	Yes ROD 6/2011
2	Centinela Solar	Imperial	Lightsource Renewables	CACA 52092	230 kV	Gen-tie from S	BLM	
3	C Solar South	Imperial	Lightsource Renewables	CACA 51645	230 kV	Gen-tie from S	BLM	
4	C Solar West	Imperial	Lightsource Renewables	CACA 51644	230 kV	Gen-tie from S	BLM	
5	Abengoa telecommunications	San Bernardino	SCE		fiber opt	Abengoa	BLM	
6	Colorado River Substation and	Riverside	SCE	CACA 48771	500 kV	Transmission L	BLM/CPUC	
7	Barren Ridge Transmission Line	Kern & Los Angeles	LADWP	CACA 48871	230 kV	Transmission L	BLM/LADWP	
8	Ivanpah to El Dorado Transmiss	San Bernardino	SCE	CACA 49834	230 kV	Transmission L	BLM/CPUC	
9	Red Bluff Loop in DPV2	Riverside	SCE		500/230	Needed for Pal	CPUC	
10	Red Bluff Substation and Loop i	Riverside	SCE		500/230	Needed for Des	CPUC	
11	West of Devers Upgrades	Riverside	SCE		500 kV	Needed for Ge	BLM/CPUC	
12	Pisgah Substation	San Bernardino	SCE		500/230	Calico	BLM/CPUC	
13	Pisgah to Lugo rebuild	San Bernardino	SCE		500 kV	Calico	BLM/CPUC	
14	Calico telecommunications	San Bernardino	SCE		fiber opt	Calico	CPUC	
15	Coolwater to Lugo rebuild	San Bernardino	SCE		230 kV	Abengoa	BLM/CPUC	
16	Lockhart Substation and loop in	San Bernardino	SCE		230 kV	Abengoa	CPUC	
17	ECO substation	Imperial	SDG&E		500/230	Tule Wind and	CPUC	
18	Morro Bay to Gates reconducto	San Luis Obispo	PG&E		115 kV	Carizzo Plain pr	CPUC	
19	Walker Ridge	Lake and Colusa	PG&E					
20	Path 42	Unk	SCE/IID					
21	Borden to Gregg	Unk	PG&E					

Appendix I

Attachment 2 to Appendix 1: Renewable Portfolio Standards Data (for analysis of Solar Energy Development PEIS)

RPS satisfied for compliance year 2009?	Yes	No	Yes	Yes	Yes	N/A
How is RPS satisfied?	<ul style="list-style-type: none"> Met 2009 compliance year target On target to meet 2010 compliance year target 	<ul style="list-style-type: none"> Slightly under 50% of RPS goal. IOUs have more renewable electricity under contract than needed to achieve 33% RPS target but anticipate that not all this energy will come on line 	<ul style="list-style-type: none"> PSC expects to meet or exceed RPS requirements by 2020. 	<ul style="list-style-type: none"> Slightly under 50% of RPS goal. Likely to achieve RPS assuming sufficient transmission between north of the state (geothermal) and south of the state (biggest load centers) 	<ul style="list-style-type: none"> Approximately 25% of RPS goal achieved 	<ul style="list-style-type: none"> Approximately 5% of goal achieved but RPS is voluntary
RPS Satisfied by currently proposed projects?	<ul style="list-style-type: none"> More than satisfied 	<ul style="list-style-type: none"> More than satisfied 	<ul style="list-style-type: none"> No (but minimal information is available regarding proposed projects) 	<ul style="list-style-type: none"> More than satisfied 	<ul style="list-style-type: none"> More than satisfied 	<ul style="list-style-type: none"> No
Renewable Energy capacity online (data from State PUC or individual provider information)	<ul style="list-style-type: none"> Total: 20 MW (but does not include APS) SSVEC: 3.1MW Tucson Electric Power: 9.9 MW (utility scale) and 3.1 MW DG UniSource Energy Services: 2.2 MW AZ Electric Power Cooperative: 1.6 MW solar, .1 MW wind, 49 solar water heaters w/ 140 kW energy savings 	<ul style="list-style-type: none"> Total: 1,702 MW 	<ul style="list-style-type: none"> Total: 1224.5 MW Wind: 1200 MW Solar: 24.5 MW 	<ul style="list-style-type: none"> Total: 418.2 MW Geothermal: 315 Solar: 79.3 Biomass/Methane: 12.4 Hydro: 11.5 	<ul style="list-style-type: none"> Total: 570.7 MW Biomass: 7.8 MW Geothermal: 50.1 MW Solar: 1.5 MW Wind 224.8 MW Hydro: 286.5 MW 	
Renewable Energy online (data from State PUC or individual provider information) MWh	APS: 653,800 MWh				PNM: 525,000 MWh (wind)	1,069,876 MWh (primarily hydro)

Appendix I

Attachment 3 to Appendix 1: Renewable Portfolio Standards Data (for analysis of Solar Energy Development PEIS)

Renewable Energy Net Generation by State by source (MWh) ⁷	<u>Total: 182,960 MWh</u>	<u>Total: 25,461,867MWh</u>	<u>Total: 3,009,191 MWh</u>	<u>Total: 1,768,426 MWh</u>	<u>Total: 1,561,148 MWh</u>	<u>Total: 372,884 MWh</u>
<ul style="list-style-type: none"> • Biomass: 159,645 MWh • Geothermal: - • Solar Thermal/PV: 13,759 MWh • Wind: 9,555 MWh 	<ul style="list-style-type: none"> • Biomass: 6,062,631 MWh • Geothermal: 13,022,836 MWh • Solar Thermal/PV: 611,763 MWh • Wind: 5,764,637 MWh 	<ul style="list-style-type: none"> • Biomass: 50,528 MWh • Geothermal: - • Solar Thermal/PV: 16,530 MWh • Wind: 2,942,133 MWh 	<ul style="list-style-type: none"> • Biomass: 890 MWh • Geothermal: 1,616,677 MWh • Solar Thermal/PV: 150,858 MWh • Wind: n/d 	<ul style="list-style-type: none"> • Biomass: 17,433 MWh • Geothermal: - • Solar Thermal/PV: - • Wind: 1,543,715 MWh 	<ul style="list-style-type: none"> • Biomass: 696,991 MWh • Geothermal: 279,121 MWh • Solar Thermal/PV: - • Wind: 64,497 MWh 	

n/d = No data reported

APPENDIX II. ANALYSIS OF PREFERABLE LEGAL INSTRUMENT FOR ADMINISTERING SOLAR ENERGY PROGRAM

In Appendix A of the Draft Solar Programmatic Environmental Impact Statement (DPEIS), the Bureau of Land Management (BLM) details current and proposed solar energy development policies and design features. In part A.2.1.2 of Appendix A, Proposed Authorizations Policies to be applicable to all future and existing solar energy applications as part of the “Proposed Solar Energy Program” are listed, with part A.2.1.2.4 specifically concerning “ROW Authorization.” However, a critical element is not addressed in this section of the DPEIS, that of the appropriateness of using BLM’s current right-of-way (ROW) system for permitting solar projects rather than a lease. If BLM proposes to continue operating under its current leasing framework in the Proposed Solar Energy Program, it must demonstrate how a ROW grant is legally and programmatically preferable to a lease.

BLM currently offers solar energy project permits with a ROW grant, as authorized under Title V of the Federal Land Policy and Management Act (FLPMA) and in accordance with Title 43, Part 2800 of the Code of Federal Regulations (CFR). Instruction Memoranda 2007-097, 2010-141, and 2011-003 specify further guidance for permitting, assessing rental fees, terms of the authorization, and other features of ROW applications. BLM recommends in the PEIS that utility-scale solar energy projects on public lands continue under the current model: authorizing ROW permits for terms not to exceed 30 years.

Sufficiency in question of ROW grants in place of leases for solar energy projects

BLM must use the Final PEIS to demonstrate that ROW grants are the most legally-adequate and fiscally-sound documents for permitting solar energy projects on public lands. Current statutes, guidance, and case law seem to suggest otherwise, that leases not only have more precedent for permitting energy projects, but are more appropriate for legal and fiscal reasons.

Because legislation has not been enacted to establish a formal solar energy program at BLM, the agency has relied on permitting projects with ROW grants under its FLPMA multiple use authority, even though FLPMA and additional regulations do not specifically speak to solar projects. For this reason, BLM has promulgated a series of Instruction Memoranda to clarify the use of FLPMA for processing ROW permits for solar projects.

The more traditional legal document for permitting energy projects on public lands, and used for all forms of energy development besides hydropower and wind, is a lease. Leasing is also the traditional legal instrument for conveying commercial energy development rights on private lands.

Pursuant to Title 43, Part 2920 of the CFR, a lease is defined as an “authorization to possess and use public lands for a fixed period of time.”⁵⁵ Alternatively, leases “shall be used to authorize uses of public lands involving substantial construction, development, or land improvement and the investment of large amounts of capital which are to be amortized over time.”⁵⁶

⁵⁵ http://edocket.access.gpo.gov/cfr_2003/octqtr/pdf/43cfr2920.0-1.pdf

⁵⁶ http://edocket.access.gpo.gov/cfr_2003/octqtr/pdf/43cfr2920.1-1.pdf

Appendix II

The first issue with using ROW authorizations over leases is their appropriateness for long-term renewable energy projects. ROW grants have traditionally been utilized for permitting a *use* of the lands, rather than the commercial *development of a resource* emanating from those lands. Commercial development of energy and other natural resources have historically been managed with leases that include specific terms and conditions to govern that development. As noted by a former career attorney with the Congressional Research Service (CRS), this distinction makes the ROW legal instrument “a bad fit” for solar energy projects.⁵⁷

It is important to note that ROW grants are legally-effective decisions that are effective during any appeals, but that significant inadequacies remain. Because ROW grants were not intended to permit long-term, large-scale solar energy projects, or any energy project for that matter, their legal adequacy is called in to question. And, the fact that BLM is forced to rely on FLPMA ROW regulations plus a set of clarifying Instruction Memoranda further proves the insufficiency of this instrument for commercial energy purposes.

Secondly, as described in a recent report by the CRS, “the most significant difference between leases and rights-of-way are the substantial rights to use of the land in question retained by the lessor, the United States.”⁵⁸ This is because, according to Title 43, Part 2920 of the CFR, “A lease conveys a possessory interest and is revocable only in accordance with its terms and the provisions of...this title.” On the other hand, BLM retains many rights under a ROW authorization, including access to lands and facilities, requiring common use of the land, ability to deny renewal of the grant, authority to change the terms and conditions of the grant “as a result of changes in legislation or regulation or as otherwise necessary to protect public health or safety or the environment.”⁵⁹ Companies have fewer legal rights under a ROW permit than they would with a lease, as leases are more flexible, established, and allow for significant input from developers.

Also problematic is the fact that FLPMA ROW regulations and the clarifying solar energy Instruction Memoranda fall short of laying out clear requirements and standards for projects, which “may result in significant variation in individual wind and solar project authorizations and call into question the reviewability of those authorizations.”⁶⁰ ROW permits do not provide the certainty needed to solar energy developers.

Additionally, the Proposed Solar Energy Program’s reliance on ROWs, Instruction Memoranda, and project-by-project National Environmental Policy Act analyses avoids critical and legally-mandated public participation in the development of solar energy programs and projects. The development and promulgation of a legal framework for a solar energy program at BLM (of which an analysis of ROWs and leases would be a part) would provide significant opportunity

⁵⁷ Baldwin, Pamela. “Fair Market Value for Wind and Solar Development on Public Land.” November 1, 2010. ⁵⁷ <http://wilderness.org/files/Fair-Market-Value-Whitepaper.pdf>

⁵⁸ Vann, Adam. “Energy Projects on Federal Lands: Leasing and Authorization.” Congressional Research Service. September 8, 2009. http://assets.opencrs.com/rpts/R40806_20090908.pdf

⁵⁹ Vann, Adam. “Energy Projects on Federal Lands: Leasing and Authorization.” Congressional Research Service. September 8, 2009. http://assets.opencrs.com/rpts/R40806_20090908.pdf

⁶⁰ Baldwin, Pamela. “Fair Market Value for Wind and Solar Development on Public Land.” November 1, 2010. <http://wilderness.org/files/Fair-Market-Value-Whitepaper.pdf>

Appendix II

for public comment. At this point, decisions about the solar energy program at BLM are undertaken unilaterally by the agency via Instruction Memoranda, and no other federal agencies, public groups, or other stakeholders are able to take part in the decision-making . As one author noted, “This closing out of the public is a departure from the usual federal land management approach and will curtail useful input and concerns.”⁶¹

⁶¹ Baldwin, Pamela. “Fair Market Value for Wind and Solar Development on Public Land.” November 1, 2010. <http://wilderness.org/files/Fair-Market-Value-Whitepaper.pdf>

Appendix III

APPENDIX III. ANALYSIS OF PROPOSED POLICY ELEMENTS IN APPENDIX 2

Location in PEIS	Details	In existing guidance?	If so, which?	Critique
A.2.1.2.1.1	The BLM authorized officer will schedule a pre-application meeting with developers to explain BLM’s Solar Energy Program and to identify potential issues and land use conflicts (43 CFR 2804.10).	Yes	IM 2011-061	
A.2.1.2.2.1	The BLM will review applications for land use plan conformance (43 CFR 1610.5-3).	Yes	Required by regulation, reaffirmed and strengthened in IM 2011-061	<p>This should be existing policy as it is required by regulation. What is sorely lacking is predictability in terms of a time frame for when this test gets applied; Land use plan conformance should be evaluated during pre-application meetings and project proponents should be clearly informed in those discussions that</p> <ul style="list-style-type: none"> • applications that are not consistent with underlying land use plans will not be accepted OR • applications that are not consistent with underlying land use plans will be rejected upon receipt as inconsistent with agency regulation

Appendix III

A.2.1.2.2.2	<p>Entities seeking to develop a solar energy project on BLM-administered lands shall coordinate with potentially affected/appropriate federal agencies (e.g., USFWS, NPS), in conjunction with BLM staff, regarding specific projects as early in the project development process as appropriate to ensure that all issues and concerns (e.g., Migratory Bird Treaty Act [MBTA], Bald and Golden Eagle Protection Act [BGEPA], potential impacts on National Park resources) are identified and to ensure that there is potential for those issues to be adequately addressed.</p>	Yes	Recommended, not required, in IM 2011-003	<p>§This is a principle not a policy statement that is not already in prevailing ROW policies (eg, Manual); Language is appealing but would accomplish little without greater specificity to guide field staff implementing these provisions• ‘early in the project development process as appropriate’ does little to provide developers predictability required for rational development• Provisions do not clearly link to the specific prevailing statute, regulation, regulation, policy, or guidelines that would apply, offering little new information to parties including field staff§ Presumption here is that all applications are worthy of review, which should not be the case</p>
A.2.1.2.2.3	<p>Entities seeking to develop a solar energy project on BLM-administered lands shall also coordinate with the U.S. Department of Defense (DoD), in conjunction with BLM staff, regarding the location of solar power tower projects early in the application process...An interagency protocol will be developed to establish a coordination process and the scope of issues to be addressed by such coordination.</p>	Yes	Recommended, not required, in IM 2011-003. Interagency protocol not addressed.	<p>Coordination with DOD is to be lauded but need clear timeframes for when DOD coordination is to occur and tie to progression through NEPA review</p>
A.2.1.2.2.4	<p>Entities seeking to develop a solar energy project on BLM-administered lands shall coordinate with appropriate state agencies and local land managers, in conjunction with BLM staff, regarding specific projects as early in the project development process as appropriate to ensure that all issues and concerns are identified and that there is potential for those issues to be adequately addressed.</p>	Yes	Recommended, not required, in IM 2011-003	<p>Establish timeframes for engagement and tie to progression through NEPA review; RECOMMEND establishing a single point of contact for each zone to facilitate this engagement pre-application</p>

Appendix III

A.2.1.2.2.5	Entities seeking to develop a solar energy project on BLM-administered lands shall contact the owner of any federal mining claim located with the boundaries of the proposed solar energy project, in conjunction with BLM staff, to ensure that there is a potential for resolving any conflicts with federal mining claims.	Yes/No	IM 2011-061 requires pre-application meetings to identify other existing authorized uses, but mining not specifically mentioned.	Zone-based development would not require this additional step, saving time and scarce resources; As long as the BLM does not have a time-bounded process, segregation of lands for this purpose could be an indefinite withdrawal only feeding the speculative behavior the agency and most developers have said it wants to dampen
A.2.1.2.2.6	The BLM will determine whether the lands included in the proposed solar energy project should be segregated from appropriation under the public land laws, including the mining laws, while the solar energy application is being considered by the BLM for authorization.	Yes/No	In existing code 43 USC Sec. 1714 ??? Not found in existing IMs.	

Appendix III

A.2.1.2.2.7	<p>On the basis of the analysis of the application and the necessary coordination described above, the BLM can exercise its discretion to deny an application that it finds to be inappropriate for solar ROW uses (43 CFR 2802.10(3)) or to be insufficient under any section of the ROW regulations . Projects that will cause unacceptable impacts to important resources and values will be denied. The denial of an application is an appealable decision. Offices must develop a rationale and record to support their decision to deny an application. Although they do not form a comprehensive list of items for consideration , the following items must be considered in the analysis of applications.</p>	Yes	<p>IM 2011-060 reaffirms BLM authority to reject applications that cannot demonstrate technical or financial feasibility. IM 2011-061 clarifies authority to reject application if the proposal does not avoid conflict with sensitive resources and values, and authority to screen applications for "potential for conflict" and prioritize processing based on those issues.</p>	<p>This restatement of the authority to reject is a helpful step forward by creating a third decision point (other than the terminal decision point under NEPA and, for some state offices, the POD evaluation required under FLPMA) for managing applications. However, fact that tied back to regulations NOT designed for this type of development is troublesome and is not responsive to the concerns raised by developers and conservationists to date</p>
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Appendix III

A.2.1.2.2.7.1	At the time a ROW application is submitted, the BLM will review the best available landscape-scale information (including information developed through complete or ongoing landscape conservation cooperatives [LCCs], partnerships, and rapid ecological assessments [REAs]) and will determine whether areas proposed for solar ROW uses and/or associated transmission facilities are inconsistent with other high-priority conservation, restoration, and/or adaptation objectives.	No	<ul style="list-style-type: none"> • Spirit here is sound and should be applauded • There is no description of where in process this analysis would be undertaken
A.2.1.2.2.7.2	The extent to which the proposal will result in impacts to open space, particularly large and/or regionally important, undisturbed tracts. In general, proposals that utilize previously disturbed areas or areas that otherwise lack important open-space values will be given strong consideration	No	"Strong consideration" is not meaningful or proscriptive - should be favored with description of how or in what process.
A.2.1.2.2.7.3	The extent to which the proposal will result in impacts on areas of critical environmental concern (ACECs) and other special areas or sensitive cultural, recreational, wildlife, or visual resources, including special areas and resources administered by other agencies or organizations. In general, proposals that avoid impacts on resources that are the basis for special designations (e.g., National Parks and Monuments) will be given strong consideration.	No	Although ACECs are "medium potential for conflict" in IM 2011-061.
A.2.1.2.2.7.4	The extent to which the proposal will result in impacts to high priority landscape features or focal areas important for conservation, restoration, and/or adaptation to climate change, including core areas, corridors, and buffers for vulnerable species.	No	Assume mean "adverse impact."

Appendix III

A.2.1.2.2.7.5	The extent to which the proposal will result in impacts on mitigation lands identified in previously approved projects, including those lands onto which plants or wildlife are translocated and any lands that are restored or managed more intensively to mitigate project impacts.	No	Although IM 2011-61 requires pre-application discussions, one of the purposes of which is to identify other existing authorized uses near the project area. Are mitigation lands considered authorized uses?
A.2.1.2.2.7.6	The extent to which the proposal will result in impacts to lands donated or acquired for conservation purposes. Applicants will be advised to avoid these lands or provide details on how they would plan to operate or mitigate their project in a manner consistent with the values of the lands donated or acquired for conservation purposes.	No	Needs to be linked to terms of the donation.
A.2.1.2.2.8	The BLM may consider proposed solar energy projects in areas with potential wilderness characteristics or in areas of citizen-proposed wilderness. Where these lands have not previously been inventoried, or where the BLM determines that the inventory should be updated, then, as part of the environmental review for proposed solar energy projects, these lands will be inventoried for wilderness characteristics. If an inventory determines that the lands have wilderness characteristics, then, consistent with applicable policy, the BLM shall consider whether to initiate a land use plan amendment process to determine how these lands should be managed. After completing the inventory process, if the BLM determines that wilderness characteristics are not present, it may proceed to process the proposed solar energy project consistent with applicable policy.	No	Although IM 2011-061 lists "lands with Wilderness characteristics outside Wilderness and Wilderness Study Areas that have been identified in an updated inventory" as "medium potential for conflict." Revised policy approach sense – why not also do for habitat? If lands are found to be of wilderness quality pursuant to prevailing SO, the lands should be immediately segregated from consideration for further development pending Congressional action

Appendix III

A.2.1.2.2.9	<p>The BLM will review the lands for sensitive resources and resource uses (e.g., paleontological, Endangered Species Act [ESA] listed, and BLM sensitive status species) and for potentially affected resources and values under the administration of other agencies (NPS, etc.). Assessment of the resources will include coordinating with appropriate federal, state, and local agencies that have regulatory authority for such resources. Coordination with the NPS may include a determination by the NPS as to whether a proposed project has the potential to cause unacceptable impacts to the resources and values of NPS-administered areas. (See recommendation to establish a local coordination protocol in Administration Policies above.)</p>	No	<p>Coordination with agencies recommended, not required, in IM 2011-003.</p>
A.2.1.2.2.10	<p>The BLM will consider the visual resource values of the public lands that could be affected by proposed solar energy development projects, consistent with BLM visual resource management (VRM) policies and guidance. The BLM will also coordinate with other potentially affected land managing agencies (including the NPS) regarding potential impacts to visual resources within shared viewsheds.</p>	Yes, to some extent	<p>IM 2011-061 places Visual Resource Management classes in different levels of "potential conflict."</p>
A.2.1.2.2.11	<p>To enhance the consideration and protection of the resources and values associated with shared landscapes (including nearby county, state, Tribal, or other federal agency lands, such as NPS lands), the BLM will coordinate and/or consult, as appropriate, with stakeholders who may be adversely affected by the BLM's decision to issue a ROW authorization for a solar energy development project. Potentially affected federal and state land managers will be provided the opportunity to participate in pre-application meetings with prospective project applicants (see Pre-application Meeting section above).</p>	Yes	<p>IM 2011-059, and IM 2011-061 requires pre-application meetings.</p>
A.2.1.2.2.12	<p>The BLM will review applications to determine if the applicant can demonstrate adequate financial and technical capability to construct, operate, and maintain the solar energy facilities.</p>	Yes	<p>Preceded by IM 2011-003 as modified by IM 2011-060.</p>

Appendix III

A.2.1.2.2.13	The BLM will review applications to determine completeness. If necessary, the applicant will provide, in a timely manner, additional information requested by the BLM to process an application.	Yes	Due diligence requirements in IM 2011-060.	Strongly agree but significant additional information is needed to ascertain whether materially different from a general restatement of existing direction. RECOMMENDATIONS: <ul style="list-style-type: none"> • Increase amount to \$75,000 to dampen speculation, non-refundable • Charge holding fee • Offer different cost recovery options outside of zones?
A.2.1.2.2.14	Applicants will be required to submit an initial processing fee deposit and enter into a formal cost recovery agreement with the BLM for each solar energy ROW application filed. The applicant will provide, in a timely manner, the required processing fees.	Yes	Processing fees in 43 CFR 2804.14. Cost recovery requirements in IM 2007-097 and IM 2011-061.	Strongly agree but significant additional information is needed to ascertain whether materially different from a general restatement of existing direction. RECOMMENDATIONS: <ul style="list-style-type: none"> • Increase amount to \$75,000 to dampen speculation, non-refundable • Charge holding fee • Offer different cost recovery options outside of zones?
A.2.1.2.3.1	Applicants for solar energy development on BLM-administered lands shall develop a BLM-approved plan of development (POD) that incorporates the required programmatic design features and SEZ-specific design features established in the BLM's Solar Energy Program and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, approved land use plans, and current policies. The POD must address all components of a solar energy generation facility, including the installation and maintenance of solar collectors, water for steam generation and cooling purposes, oil or gas used by backup generators, thermal or electrical storage, turbines or engines, access roads, and electrical inverters and transmission facilities.	No	IM 2011-060 states that PODs must have enough basic information to begin environmental review but does not go into detail on these further components.	
A.2.1.2.3.2	Management goals and objectives for special status species (such as the sage grouse and desert tortoise) that the BLM has identified in land use plans or goals and objectives substantiated by best available information or science shall be incorporated into the POD for proposed solar energy projects.	No	BLM special status species policy is in BLM Manual 6840, but no requirements to include in POD ???	

Appendix III

A.2.1.2.3.3	<p>Individual projects will incorporate adaptive management strategies to ensure that potential adverse impacts of solar energy development are avoided, minimized, or mitigated to acceptable levels. Operators will be required to develop monitoring programs in coordination with the BLM, to establish metrics against which monitoring observations can be measured, to identify additional potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.</p>	No	<p>BLM should develop standard monitoring protocols for biomes and require their use. Should be funded by surcharge on all pending and new applications</p>
A.2.1.2.3.4	<p>The BLM must complete an environmental review of solar energy ROW applications in accordance with NEPA prior to issuing a ROW authorization. The coordination and considerations discussed above will also be an integral part of the necessary NEPA analysis. The level of environmental analysis to be required under NEPA will be determined at the field office level on an individual project basis . To the extent that land use plans and/or this PEIS anticipate issues and concerns associated with individual projects, including potential cumulative impacts, the BLM will tier from land use plans and/or the PEIS analysis, thereby limiting the required scope and effort of additional project-specific NEPA analysis. For projects that are proposed in SEZs, only limited additional NEPA analysis may be necessary because of the depth of the analysis contained in the PEIS. Potentially affected federal, state, local, and Tribal land managers and government agencies should be invited to participate as cooperating agencies in BLM's site-specific NEPA processes for solar ROW applications.</p>	No	<p>NEPA for solar clarified in IM 2011-059, but not with regard to zones.</p>

Appendix III

A.2.1.2.3.5	<p>The BLM will conduct project-specific public involvement prior to issuing a ROW authorization for solar energy development to ensure that all concerns and issues are identified and adequately addressed. Public involvement may occur as part of the NEPA process or separately, depending on the type of NEPA analysis undertaken. Opportunities for public involvement include, but are not limited to, scoping, public meetings, and public review and comment on completed NEPA documentation.</p>	Yes	NEPA for solar clarified in IM 2011-059.
A.2.1.2.3.6	<p>The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands and as required under Section 106 of the National Historic Preservation Act of 1966 (NHPA) as early in the project development process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.</p>	Yes/No	In statute. ??? Tribes may be included in pre-application discussions in IM 2011-061, but not required.
A.2.1.2.3.7	<p>The BLM will consult with the appropriate State Historic Preservation Officer(s) (SHPOs) and the Advisory Council of Historic Preservation, as required by Section 106 of NHPA</p>	Yes	In statute.
A.2.1.2.3.8	<p>When lands are identified for project mitigation, the BLM will consider amending the applicable land use plan to identify those lands as ROW exclusion areas. Examples of project mitigation lands may include, but are not limited to, lands onto which plants or wildlife are translocated and any lands that are restored or managed more intensively to mitigate project impacts</p>	No	Should amend, not "consider amending"
A.2.1.2.3.9	<p>The BLM will determine if the proposed action may affect any listed or proposed threatened or endangered species or critical habitat. If so, the authorized officer would comply with Section 7 of the ESA</p>	Yes	In statute.
A.2.1.2.3.10	<p>On the basis of the required NEPA analysis and public process, the BLM may decide to deny an application for a solar ROW authorization.</p>	Yes	This authority is reaffirmed in IM 2011-060 and IM 2011-061.

Appendix III

A.2.1.2.4.1	Utility-scale solar energy projects will be authorized as ROW authorizations under Title V of the Federal Land Policy and Management Act and 43 CFR Part 2800.	Yes	Reaffirmed many times, most recently in IM 2011-061.	ROW are a poor fit as a legal instrument - should lease. At a minimum, create a new right-of-way grant application form for solar (different from SF299) or create a supplement to the SF299 specific to solar energy
A.2.1.2.4.2	The BLM will issue all solar energy ROW authorizations for a term not to exceed 30 years; shorter terms may be justified in some cases. Each solar energy ROW authorization will contain a specific provision allowing for renewal, consistent with the regulations.	Yes	IM 2011-003.	concerns with renewal terms in regs
A.2.1.2.4.3	All solar energy ROW authorizations will be issued subject to valid existing rights.	Yes	Statute.	
A.2.1.2.4.4	The BLM will require payment of annual rent for use of the public lands on the basis of a rental schedule. The rental schedule will include a base rent for the acreage of public land included within the solar energy ROW authorization and an additional megawatt capacity fee based on the total authorized megawatt capacity for the approved solar energy project on public lands administered by the BLM. The BLM may adjust the rental whenever necessary, to reflect changes in fair market value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices. The rental provisions of the authorization may also be modified consistent with the provisions of any regulatory changes or pursuant to the provisions of new or revised statutory authorities.	Yes	IM 2010-141.	Raise concerns about the inherent limitation of a rent-based system to precisely accomplish the goals of FLPMA; Value of phase-in and relief; Reserve right to amend at any time = less certainty; Efficiency argument on rents (but what is solution?); Revenue reinvestment

Appendix III

A.2.1.2.4.5	<p>The BLM will require a Performance and Reclamation Bond, in an amount determined by the authorized officer, for all solar energy development projects on BLM-administered lands to ensure compliance with the terms and conditions of the ROW authorization and to address environmental liabilities associated with hazardous waste and hazardous substances; decommissioning, removal, and proper disposal of improvements and facilities; and reclamation, revegetation, restoration, and soil stabilization. The authorized officer will require that the holder submit a Reclamation Cost Estimate for review and to assist the authorized officer in determining the bond amount. The authorized officer will review the bond on an annual basis to ensure the adequacy of the bond amount. The authorized officer may increase or decrease the bond amount at any time during the term of the ROW authorization, consistent with the regulations.</p>	Yes	IM 2011-003.	RCE sound; Concerns about effectiveness of reclamation
A.2.1.2.4.6	<p>All solar energy ROW authorizations will include a provision that specifies that ground-disturbing activities cannot begin until the BLM authorized officer issues a Notice to Proceed (Form 2800-15). Each Notice to Proceed will authorize construction or use and occupancy only as therein expressly stated and only for the particular location or use and occupancy therein described (i.e., a construction phase or site location). The holder will not initiate any construction or other surface disturbing-activities on the ROW without such prior written authorization of the BLM authorized officer.</p>	Yes	IM 2011-003.	

Appendix III

A.2.1.2.4.7	<p>Upon issuance of a ROW authorization that precludes livestock grazing, the BLM authorized officer will issue a separate proposed grazing decision to the grazing permittee/lessee that includes a copy of the ROW authorization. The proposed grazing decision will (a) state that the effective date of the permit/lease cancellation, and issuance of a new permit/lease for any remaining permitted use, will be 2 years from the permittee's/lessee's receipt of the certified letter; (b) address compensation for range improvements; (c) inform the permittee/lessee of his/her ability to unconditionally waive the 2-year notification requirement; and (d) address grazing management changes as required by the ROW issuance decision. The proposed grazing decision will become final unless protested.</p>	No	
A.2.1.2.4.8	<p>Upon issuance of a ROW authorization that includes meteorological or power towers or other tall structures that could pose a hazard to air navigation, the BLM will ensure the locations of such facilities are noted on aerial navigation hazard maps for low-level flight operations that may be undertaken by the BLM and other federal or state agencies for fire operations, wild horse and burro censuses and gathers, wildlife inventories, facility maintenance, or other activities.</p>	No	But is included in IM 2009-043 for wind.
A.2.1.2.4.9	<p>Failure of the holder to comply with any diligent development provision of the authorization may cause the authorized officer to suspend or terminate the authorization in accordance with 43 CFR 2807.17–2807.19 and use the posted Performance and Reclamation Bond to cover the costs for removal of any idle or abandoned equipment and/or facilities.</p>	Yes	In 43 CFR 2807.17–2807.19 and reaffirmed in IM 2011-003.

Appendix III

A.2.1.2.4.10	The holder shall perform all operations in a good and workmanlike manner, consistent with the approved POD, so as to ensure protection of the environment and the health and safety of the public. The authorized officer may order an immediate temporary suspension of operations, orally or in writing, in accordance with 43 CFR 2807.16 to protect public health or safety or the environment.	Yes	In terms and conditions as required by 43 CFR 2805.12.	
A.2.1.2.4.11	Upon the request of the BLM authorized officer, the holder shall provide access to environmental, technical, and financial records, reports, and information related to construction, operation, maintenance, and decommissioning of the ROW authorization.	Yes	IM 2011-003.	
A.2.1.2.4.12	The BLM authorized officer may change the terms and conditions of the authorization as a result of changes in legislation, regulations, or as otherwise necessary to protect public health or safety or the environment in accordance with 43 CFR 2801.15(e).	Yes	Statute.	
A.2.1.2.4.13	Operators of solar power facilities on BLM-administered lands shall coordinate with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the solar facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.	No	In terms and conditions for some projects.	
A.2.1.2.4.14	The solar ROW authorization, shall, at a minimum, be reviewed by the BLM authorized officer at the end of the 10th year and at regular intervals thereafter not to exceed 10 years.	No	In terms and conditions for some projects.	How will this conform with adaptive management ideas?
A.2.1.2.4.15	The solar ROW authorization may be assigned consistent with the regulations, but all assignments are subject to approval by the BLM authorized officer.	No	In terms and conditions for some projects.	Real concern fuel speculation and waste scarce resources; already proven insufficient

Appendix III

A.2.1.2.4.16	An application for renewal must be submitted at least 120 days prior to the expiration of the existing authorization. The BLM authorized officer will review the application for renewal to ensure the holder is complying with the terms, conditions, and stipulations of the existing authorization instrument and applicable laws and regulations. If renewed, the ROW authorization shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.	No	In terms and conditions for some projects.	Should be viewed as relicensing not just renewing land use – comprehensive chance to review whether current technology is optimal use of space, configuration could be modified given new conditions, etc.; need to move up deadline to 360 days given reclamation obligations
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APPENDIX IV. EVALUATION OF EXISTING METHODOLOGIES FOR DETERMINING NEED

Determining whether additional acreage should be made available for solar development is key to ensuring both that taxpayers receive a fair return for the use of public lands as an input into commercial electricity production, and that project proponents and agencies can focus on only the most promising areas for solar development to ensure faster and cheaper project reviews. States have traditionally been the primary determiner of need for new electric generating facilities in the West. An examination of the states featured in the Draft Solar Energy Programmatic Environmental Impact Statement (DPEIS) six-states shows that directed efforts are underway, and that BLM should consider how to integrate into a five-year reassessment process.

Assessing Need: Acres as Megawatts

BLM's Reasonably Foreseeable Development Scenario (RFD) presents an aggressive solar energy development scenario on the public lands. With greater attention and recognition of already-existing electricity planning processes, BLM can better tailor its Solar Energy Zones (SEZ) towards policy objectives for renewable energy generation set through states and regional entities. BLM should view the need for additional acres in solar energy zones through the lens of renewable energy goals set in megawatt-hours of demand, which accounts for the capacity factor of various solar technologies. If BLM were to act independently of existing electricity planning exercises, the agency would risk inaccurately assessing the number of acres that should be made available for solar energy development.

When considering acres for inclusion in a SEZ, BLM should rely on outside expert consultation regarding electricity demands, markets, and renewable energy policies. Utility approved plans, state public utility commissioners, and regional planning entities such as California-Independent System Operator (ISO) and the Western Energy Coordinating Council can all provide useful inputs into BLM's determination of needed additional acreage to meet new renewable generation goals. BLM should take into consideration policy goals and trends in the solar market.

How is Need Determined?

Developers licensed to sell power in a state must comply with specific laws within each state to regulate electricity. Every state in the U.S. has established a regulatory agency known as the "public service commission" (PSC) or "public utility commission" (PUC) which oversees public utilities.⁶² These are an independent regulatory agencies made up of staff and a judicial body (appointed by the state legislature) which determines the "just and reasonable price" that a utility can charge for its service.

The basis for additional capacity in the electricity system is determined by an assessment of "need" for system upgrades, also termed a "load forecast." Need is evaluated under the economic

⁶² Municipalities and cooperatives responsible for serving customers are not regulated by utility commissions and individual state rules apply to these electricity providers.

Appendix IV

and reliability frameworks by the regulatory agency which oversees rates paid by consumers, also referred to as the “rate base.” Utility proposals for new capital investments (new generation, transmission, or distribution infrastructure) are presented to the state regulatory agency for review to determine the necessity of a system upgrade before the utility may proceed with a building project. Frequently this request is in the form of an application for a “certificate of public convenience and necessity.” This is the recognition that there is a need for new generation or transmission capacity that will ensure that the reliability needs of the system are met while costs are kept prudent.

Load forecasts are constantly evaluated through a number of planning processes including utility, municipality, or cooperative plans, and through planning processes established within regional markets. “Needs” assessments are based on two principles: ensuring the reliability of the bulk electric power sector and keeping the cost of electricity low by providing access to the lowest cost electricity available in the market. These objectives are constantly evolving as local, state and federal policies and regional electricity markets shift towards renewable goals. At the federal level, the North American Electric Reliability Corporation is responsible for setting the reliability standards and monitoring the bulk electric power system.⁶³ At the state level, the impact to the customer rate base of a regulated utility is considered by the state’s public service commission.

State-Specific Practices

All of the states included in BLM’s solar PEIS engage in advance load forecasting for electricity demand.

Arizona

The Arizona Corporation Commission requires electric utilities in the state to engage in Integrated Resource Planning. Every two years, utilities file a 15-year plan to identify how they will meet future demand as well as the type of generation that will be used to meet future load.

California

Three agencies in California govern generation and transmission, the California Public Utility Commission (CPUC), the California Energy Commission (CEC) and the California-ISO. The CEC is responsible for load forecasting, the CPUC assigns particular utilities the amount of megawatts they need to build, and utilities work through the CA-ISO to design a plan for meeting load forecasts.

California has a specific loading order to meet demand:

1. Energy efficiency
2. Demand-side management
3. Renewables, to meet a Renewable Portfolio Standard
4. Conventional sources, most of which are natural gas, but no coal

⁶³ NERC was designated by the Federal Energy Regulatory Commission as the national electric reliability organization (ERO). For additional information on NERC, visit www.nerc.gov.

Appendix IV

Colorado

To determine need, Colorado engages in “electric resource planning” (ERP), similar to “integrated resource planning.” The ERP is undertaken every four years and looks out 10 years for projected demand. The ERP is required for regulated utilities, which are responsible for supplying approximately 60 percent of Colorado’s electricity needs. All types of resources can be included in the utilities “acquisition plan.” Colorado’s Renewable Electricity Standard (RES) states that 30 percent of retail electric sales to customers of regulated utilities by 2020 will come from renewable resources. The remainder of Colorado is served by cooperatives which are not regulated by the PUC. Cooperatives have a lower RES goal of 10 percent by 2020.

Nevada

Load forecasting in Nevada is determined through an IRP process. Ninety to ninety-five percent of the state’s electricity is met by investor owned utilities (IOU). Under the IRP, IOUs are required every three years to file a 20-year forecast. This forecast includes current resources, projected load, and planned retirements. IOUs then file a new generation plan to meet future load which is subject to review by the Nevada PUC.. IOUs are tasked with determining an optimal level of cost-effective DSM to meet future load. The Nevada PUC approves rates for the subsequent three years of the plan and oversees placeholder agreements for generation and transmission for the 20-year plan. Once approved, IOUs can file amendments to the IRP to accommodate shifts in demand and technological advances.

The RPS requirement is a component of the IRP. IOUs are not required to have in place contracts for RPS requirements more than three years out. On April 1st each year, Nevada compiles a progress report on how utilities are meeting their RPS requirements.

New Mexico

The Renewable Energy Act (“REA”), §§ 62-16-1 et seq. NMSA 1978 and Title 17.9.572 NMAC⁶⁴ (“Rule 572”) establish an RPS applicable to all IOUs in New Mexico. IOUs must have in their portfolio as a percentage of total retail sales to New Mexico customers, renewable energy of no less than 15 percent by 2015 and 20 percent by 2020.

In addition to the RPS, Rule 572 requires that IOUs must offer a voluntary renewable energy program to their customers. In addition to and within the total portfolio percentage requirements, utilities must design their public utility procurement plans to achieve a fully diversified renewable energy portfolio no later than January 1, 2011, as follows:

- *No less than 20 percent wind*
- *No less than 20 percent solar*
- *No less than 10 percent other technologies*
- *No less than 1.5 percent distributed generation (2011-2014) and 3 percent distributed generation by 2015*

⁶⁴ <http://www.nmcpr.state.nm.us/NMAC/parts/title17/17.009.0572.htm>

Appendix IV

Utah

The Utah Public Service Commission has jurisdiction over the only public utility in the state. Pacific Corps serves 80 percent of the load in Utah, and the remainder is served by municipalities and cooperatives. Pacific Corps engages in an IRP process for their service territory in six-states every two years in order to provide a framework for resource acquisition. The IRP process is acknowledged by the Utah PSC and serves as the basis for determining load forecasting to meet the state's RPS. Pacific Corps files a progress report for meeting the RPS with the Utah PSC.

APPENDIX V. RECOMMENDATIONS FOR PERFORMING DROP-DOWN ENVIRONMENTAL ANALYSIS WITHIN DESIGNATED ZONES

This appendix details the methods used to approximate impacts for Solar Energy Zones (SEZs) in the Draft Solar Energy Programmatic Environmental Impact Statement (DPEIS), and suggests additional analyses that would be necessary to provide a basis for development. Although the analyses performed in the PEIS are not currently sufficient to permit tiering at the project level, the monitoring program defined below would build the baseline data needed and would provide a foundation for a defensible zone-based solar program that streamlines environmental review at the project level. Suggested monitoring efforts and protocols mirror those being pursued by other agencies as well as those the Bureau of Land Management (BLM) is in the process of implementing in other contexts.

Special Status Species Analysis Performed in the PEIS

The methods used for the Special Status Species (SSS) analysis in the PEIS are summarized below.

- Define the area of direct effects (the zone itself as well as projected road and transmission access corridors to access the nearest transmission and state/U.S. highways).
- Define the area of indirect effects by buffering each solar energy zone by five miles. These are areas with no ground disturbance that could be affected by dust, runoff, noise, lighting, pollution, etc.
- Define a “SEZ region” around each SEZ that includes all lands within a 50-mile buffer of the SEZ centroid.
- Use heritage, state fish and game, and Southwest Regional Gap Analysis Project (SWReGAP) data to define species lists of all SSS that might be present in the SEZ region, direct, and indirect effects areas. These species include:
 - Threatened or endangered under the Endangered Species Act (ESA)
 - Proposed for listing, review, or candidate species under ESA
 - BLM sensitive species
 - State listed species
 - Species that have been ranked as critically imperiled (S1) or imperiled (S2)
 - State or U.S. Fish and Wildlife Service (FWS) species of concern
- Use SWReGAP habitat models to project the proportion of habitat for each species in the direct effects area relative to the SEZ region.
- Assign a projected impact of low (<1 percent), medium (1-10 percent), or high (>10 percent) based on the proportion of habitat in the direct effects area compared to the SEZ region.

The critical stage of this analysis is defining suitable habitat for SSS. The model output used for this purpose, SWReGAP, is based on associating species with vegetation cover types, then further restricting distribution using elevation and knowledge of the geographic range of the species in question. It is well documented that these models over-predict suitable habitat for most species, and for some quite dramatically. For example, SWReGAP models associate Great

Appendix V

Basin amphibian species with blackbrush when they are actually associated with water bodies found within blackbrush-dominated systems. Accuracy assessments of these models for a range of species found in Utah's national parks (Edwards et al. 1996) compared park verified species lists with those predicted from SWReGAP models and found the models consistently over-predicted for well studied taxa (birds and mammals) and that accuracy decreased with study area. The authors state that extrapolating results at scales smaller than that of Utah's national parks "is problematic and should be viewed with caution." Although there are two SEZs in California that approximate this size (Iron Mountain and Riverside East), all other SEZs are approximately one order of magnitude less than this, making it fairly certain that presence of SSS in the direct and indirect impacts areas of most SEZs has been overestimated. The inaccurate results that come out of this analysis extend beyond over-defining species that might be present; by over-predicting distribution of species, the output of the analysis also potentially under-represents the vulnerability of a species. In other words, if a species is present in a SEZ or in the area of indirect effects, its habitat is likely more limited than predicted, and the habitat that is actually being used in this area could be far more important than indicated by the analysis.

For the reasons detailed above, the scope and detail of this analysis is insufficient to allow the PEIS to be tiered off through the use of project-level Environmental Assessments. In addition to over-predicting, the analysis presented in the DPEIS allows no inference to the status and trend of SSS or to the amount of habitat actually occupied.

We feel that the existing analysis provides enough detail at the programmatic level to inform the next level of SSS analysis, however. Specifically, it provides a conservative species list for each SEZ that can be used as the basis for the assessment and monitoring program detailed below. A comprehensive consideration of impacts will require the use of two additional layers of Environmental Impact Statements, one layer that examines cumulative impacts at the scale of individual SEZs and their surrounding landscapes, and one that builds off the SEZ-level EIS to quantify impacts and mitigation at the individual project level.

Previous BLM Monitoring Efforts

The legal obligation of BLM to initiate and maintain monitoring programs that quantify the status and trends for a range of special status species was discussed previously. Although systematic monitoring has been initiated on some BLM lands, effort has historically been patchy and inconsistent, particularly in areas where there is little public interest and few obvious, high profile resource values to protect. By the Bureau's own admission (Falise et al 2005), monitoring programs until very recently frequently lacked clear objectives, gathered incomplete information, failed to analyze collected data, did not tie monitoring to management actions, and lacked targets and thresholds to influence future management. For the most part, past evaluations have focused on "moment in time" assessments and on projects and leases at the local scale. In addition to spatial and temporal limitations, data were not collected using a statistically designed sampling method, allowing no inference to cumulative impacts at the landscape scale and no basis to support a monitoring program (BOA 1994, Pellant et al. 2005). However, these previous efforts do provide some baseline data, background knowledge of ecological systems and their key drivers, and information relevant to selection of monitoring sites (Habich 2001, O'Brien et al. 2003, Pellant et al. 2005).

Recently Proposed and Ongoing BLM Monitoring Relevant to the Solar PEIS

Recently there have been several exciting developments in BLM monitoring protocols that, if executed properly, would effectively define ecological baseline data and determine status for many sensitive species. The BLM's flagship monitoring program for the new National Monitoring Strategy is detailed in Kotliar et al. 2008, where it is applied to create a regional approach to wildlife monitoring in oil and gas development areas in Colorado. This framework is quite flexible, and could be adapted to the range of species found in the various SEZs, as well as to abiotic resources such as groundwater, surface water, and soils. The basic approach detailed in Kotliar et al. 2008 is suggested as a framework to organize and focus field surveys and modeling that will feed into a cohesive monitoring system for SEZs and the projects sited within them. The authors describe a seven-step framework that is executed iteratively in a three-phase process that could be applied at the level of the SEZ region and scaled up to landscapes or ecoregions. Phase I, which synthesizes existing data and model outputs to evaluate the cumulative effects of solar development, would take place at the scale of individual SEZ regions. Phase II takes place at the same scale, and uses the data collected in Phase I to clarify management objectives and link them to management decisions. Phase III scales the previous analyses up to the field office scale and beyond, linking them with similar studies in adjacent SEZs and providing a broad context for project level analyses. Thorough implementation of this three-phase process would be sufficient for the SEZ-level EIS. Provided that analyses at the SEZ level create a sound baseline of data to assess status and trend across landscapes for focal species, project specific efforts could tier extensively off this research and be completed with a reduced level of effort.

An implicit part of the framework is identification of the highest priority species and management issues for the study area, as well as the ability to update all information sources listed above as new information, tools, and insights become available in later phases. Proper use of this process would allow inference to the status and trends of SSS as well as the stressors that affect them, linking stressors to indicators and to management and mitigation. In short, it would allow BLM to meet its legal obligation for stewardship of lands and sensitive species related to solar energy development.

Application of BLM's New National Monitoring Strategy to Further SEZ Review

As required by BLM, the monitoring protocol described in Kotliar et al. used a seven-step framework adapted from Mulder et al. (1999). This framework could be applied to the DPEIS if the agency takes the following steps:

1. Develop, Refine, and Prioritize Initial Monitoring Goals and Objectives

Extensive meetings with personnel from BLM and other agencies as well as stakeholders is essential at this stage to define objectives and the scale(s) at which they should be analyzed. A preliminary list generic to all SEZs is given below.

- Prior to SEZ development, evaluate population status of selected SSS and/or focal species. If possible, use the same analysis along with existing data to evaluate trend for those species.

Appendix V

- Define the natural range of variation of parameters of interest (abiotic and biotic) and explore how cumulative effects of development would affect this range of variation.
- Define areas not available for solar development, whether inside or outside SEZs, that could be used to offset impacts in areas to be developed.
- Ensure that the net effect of development (taking into account areas to be developed as well as any mitigation to offset impacts) do not result in unacceptable impacts to focal species.

2. Identify Key Stressors

Stressor identification occurs concurrently with formulation of goals and objectives, and also requires diverse agency and stakeholder input. As mentioned above, all work is subject to revision; stressors must have clear ties to ecosystem processes and states, but they must also be possible to assess with a degree of precision in order to be useful. An iterative process is needed to determine the best set for a given area. Stressors might include:

- Habitat loss within developed areas.
- Habitat loss outside of developed areas due to fragmentation, disturbance, erosion, invasive weeds, dust loading, and other indirect and cumulative effects on surface habitat features.
- Drop in groundwater levels directly impacting species (e.g. vegetation dependent on phreatic water).
- Drop in groundwater levels indirectly affecting surface water dependent species through surface water hydrology.
- Blockage of migration/movement corridors needed for population viability.
- Loss of soil fertility due to ground disturbance and associated loss of topsoil and biological soil crusts.
- Direct mortality to species from equipment.
- Indirect mortality due to loss of forage or prey.
- Invasive exotic species displacing native species and disrupting plant communities.

3. Create Conceptual Models For Ecosystem Function and Stressors, Develop Regional Questions

The general conceptual model used in Kotliar et al. generally applies to the southwest desert and Great Basin cold desert ecosystems being considered for development in the DPEIS.

In the figure below, the dominant ecological processes are shown in text outside the boxes, processes and pathways that drive ecosystem changes are represented by arrows, and major biotic and abiotic components of the ecosystem are within the polygons. Stressors disrupt the

processes, but are not shown explicitly.

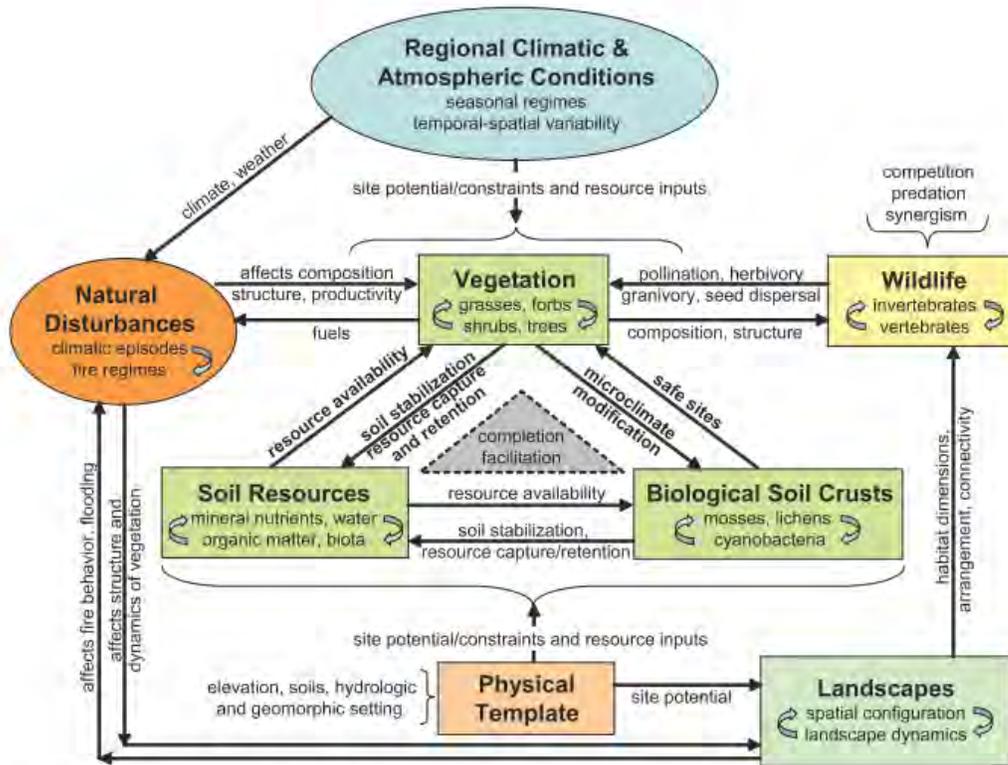


Figure 9. Conceptual model illustrating key structural components (rectangles) and functional relationships (arrows) of ecosystems for the Colorado focal area. Ovals represent natural drivers of temporal variability and change (adapted from Miller, 2005).

Regional questions would be expected to vary across the range of desert ecosystems encompassed in the solar PEIS. Several examples of these questions are:

- In the Chihuahuan desert, how can solar development proceed without exacerbating pre-existing trends of conversion of native grasslands to habitats dominated by invasive shrubs such as creosote?
- In the Great Basin deserts of Nevada and Utah, how can water use for solar development and other existing uses avoid regional groundwater depletion effects that cascade through connected basins?
- In multiple desert ecosystems, how can ground clearing associated with development avoid impacts associated with loss of topsoil and soil crusts, spread of invasive weeds, associated changes in nutrient and fire regimes, dust loading and air quality issues, accelerated snowmelt and changes in groundwater availability, etc.?
- In multiple desert ecosystems, how can solar development be made compatible with the need to preserve long-lived keystone plant species such as Saguaro cactus, Joshua tree, and tall sagebrush species that are already compromised by development activities, and for which restoration efforts have been largely unsuccessful?

4. Select and Prioritize Indicators, Assess Information Availability and Needs

The conceptual models provide the initial basis for selection and prioritization of indicators, which would again be chosen using inputs gathered through a stakeholder process. Indicators suggested below are a small, generic subset of those that could be selected. References associated with the use of each indicator are provided; some references support the use of the indicator while others detail how it can be quantified. Most of the indicators suggested below are ones that lend themselves to the use of remotely sensed data; practical implementation of the suggested monitoring should minimize field data collection requirements while still capturing important ecosystem properties and maximizing predictive power. However, remote sensing would not be sufficient by itself to quantify baseline data. SEZ and region-specific field data, both existing and new, would also be required to both supplement and calibrate remotely sensed data (Wallace and Marsh 2005, Wallace et al. 2008). Indicators derived from new field data would be defined in Phases II and III of the process, and are not listed here.

- Percent bare ground, mean bare patch size, and other metrics of ground cover (Whiteford et al. 1998, de Soyza et al. 2000, Pyke et al. 2002, O'Brien et al. 2003, Herrick and Pyke 2008).
- Percent cover by life form, species, or species type (de Soyza et al. 2000, Knick et al. 1997, Whiteford et al. 1998).
- Percent cover by sagebrush (Sivanpillai et al. 2009).
- Non-native and/or invasive species (Everitt and Yang 2007, Herrick and Pyke 2008).
- Plant species of management concern (Herrick and Pyke 2008).
- Plant species richness (Herrick et al. 2009).
- Plant density (Herrick et al. 2009).
- Soil stability (Herrick and Pyke 2008, Herrick et al. 2009).
- Disturbance of soil crusts (Brotherson and Rushforth 1983, Belknap 1995, Belknap and Gillette 1998, Evans and Johansen 1999, Stohlgren et al. 2001, Ustin et al. 2009).
- Density of harvester ant mounds as indicators of shrub and invasive annual grass invasion (Bestelmeyer 2005, Fletcher et al. 2007, Ostoja et al. 2009).
- Percent cover of exotic annual grasses (Miller 2005).
- Road density, infrastructure density, and other measures of anthropogenic disturbance (Trombulak and Frissell 2000, Gelbard and Belknap 2003, Wilburt et al. 2008, Frair et al. 2008).
- Suitable habitat and activity areas for focal species (Lambeck 1997, Maes and Bonte 2006, Penrod et al. 2010).

5. Select Final Indicators and Design Sampling and Research Program

This stage requires a full evaluation of legacy data to incorporate any existing information that can be used to meet monitoring objectives. Status of populations and habitats for priority species must be evaluated, historical range of variation for important landscape processes quantified, data gaps identified, field methodologies for needed information defined, and a data management framework implemented. Based on this work, indicator selection would be further refined, defining a set of indicators that are not only encompass meaningful attributes of the ecosystem being studied, but also respond to ecosystem change in a predictable and useful manner, are

feasible to collect, make predictions at useful spatial and temporal scales, and have sufficient existing data associated with them to define the historical range of variation.

6. Identify Thresholds of Change and Triggers for Management Action

In Phase I, status and trends for priority habitats and their relationship to indicators are examined, and management targets and triggers are incomplete and mostly based on expert opinion solicited from scientists and managers. As existing data are further synthesized with newly-collected field data and knowledge of the current status and trend of monitored resources, their historical range of variation, and the behavior of selected indicators to monitor their status improves, thresholds and triggers can be further refined.

7. Integrate Monitoring into Planning, Evaluation, and Management

As above, incorporating monitoring into mitigation, restoration priorities, and proposed management action is tentative and based on incomplete information in Phase I, but is expanded in Phase II to adaptively reflect new information.

The design presented in Kotliar et al. has been further refined to make it specific to the White River Field Office in an appendix of BLM Colorado's White River Field Office Resource Management Plan Amendment. We understand that this appendix describes a Resource Management and Monitoring Protocol that builds off the work in Kotliar et al. to monitor soil, vegetation, disturbance, atmospheric, landscape spatial pattern, and water resources in addition to focal species. The focus of this effort is on monitoring surface disturbance and reclamation activities related to oil and gas development, but the general extension of the monitoring framework is exactly what would be needed to define a rigorous monitoring program for BLM lands to be developed for utility-scale solar.

This adaptation of Kotliar et al. bases indicator selection on the coarse filter approach (Noss 1987, Hunter et al. 1988), in which representative communities are protected that sustain the needs of most associated species. To cover the needs of species not adequately conserved by the coarse filter, the fine filter component tailors management to optimize habitat for these exceptions, which are ideally umbrella species (Roberge and Angelstam 2004) whose diverse habitat requirements are shared by a variety of species. In general, indicators were prioritized that were relevant to landscape changes of interest, demonstrated to be effective in the literature, feasible and reliable to quantify as a long-term metric, interpretable to decision makers and the public, and relevant to existing baseline data. The three main types of indicators proposed are attributes of key ecosystem services, direct measures of species abundance; and general descriptive or spatial statistics used to describe abundances.

Given the large anticipated data gaps, the monitoring framework suggested for solar development on BLM lands will need to emphasize efficient field data collection protocols and the use of advanced modeling techniques. The most detailed modeling process proposed for solar development to date is currently being developed for the California Energy Commission by researchers from the University of California Santa Barbara, the U.S. Geological Survey, and Conservation International.⁶⁵ This research uses an array of state of the art models capable of

⁶⁵ David, Frank et al. "Cumulative Biological Impacts Framework for Solar Energy Projects in the California Desert." <http://www.energy.ca.gov/research/notices/2011-01->

Appendix V

accepting relatively sparse wildlife survey data and other inputs to extrapolate wildlife habitat use, approximate population status, model habitat connectivity and fragmentation. Results from these analyses can be used to guide siting, project cumulative effects, and define potential offsite mitigation areas. Monitoring abiotic indicators will also need to make use of similar modeling approaches to make the best use of existing data and monitoring resources.

The data development and analysis processes recommended above have good support in the literature, are in line with comprehensive monitoring efforts that have been underway for years at other federal agencies and non-governmental organizations, (Noss 1987, Hunter et al. 1988, Debinski and Brussard 1992, Bascietto and Higley 1992, Preston and Ribic 1992, Walker and Jones 1992, Gentile et al. 1994, NRC 1994, Paulsen and Linthurst 1994, Herlihy et al. 1997, NPS 2002, Turgeon et al. 1992, Fisher et al. 2003, Ringold et al. 2003, Lazorchak et al. 2003, O'Brien et al 2003, Parrish et al. 2003, USDA 2004, USDA 2009, Miller 2005, Herrick et al. 2009), and reflect the direction BLM has recently committed to with its National Monitoring Strategy. This overarching and long overdue initiative will ultimately extend to all energy development on BLM lands. The recommendations above are not unique to solar, nor are they to be funded by the solar energy industry: the monitoring at the SEZ and SEZ-region scale recommended above are part of BLM's ongoing stewardship obligations under the Federal Land Policy and Management Act, and are a prerequisite to further project level studies prior to development, studies that will be facilitated by the breadth of knowledge gathered at the SEZ level.

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APPENDIX VI. EVALUATION OF SOLAR ENERGY TECHNOLOGIES IN THE DRAFT PEIS

BLM Solar Draft PEIS –

Comments & Recommendations

February 28, 2011

Clean Energy Solutions LLC

Major Thematic Concerns & Recommendations

Generality of PEIS Standards

Recommendation: The BLM criteria for evaluating technologies should be principle-based and not become prescriptive based on current technology capabilities and characteristics.

Explanation: We believe that the most rational and adaptable PEIS standards will come from a careful consideration of the general nature of the public costs (e.g. natural resource impacts) vs. the public benefits (i.e. cleaner energy and reduced emissions).

The information currently included in the PEIS seems to be based heavily on the project proposals the BLM is currently reviewing and has recently approved. While these proposals are substantially more mature than previous plants, they still do not represent a mature technology in a mature industry, and there are a number of possible permutations and advancements that are now on the horizon that could affect the technology characteristics significantly.

Figures-of-Merit

Recommendation: In line with Section 1.1 of our comments, we recommend that the BLM base their EIS decisions on two primary criteria:

- A. Resource consumption (such as land and water use) per annual Megawatt hour (MWh) produced by the plant, and
- B. Compatibility with the existing grid.⁶⁶

We recommend that these be used to judge all cross-system (not just cross-technology) comparisons. Under these criteria, for example, the requirements for land and water would be compared in acres/MWh/year and acre-ft/MWh/year. In addition, some qualitative benefits would be accrued to a plant that used storage to match its output to the peaking needs of the grid it is serving.

⁶⁶ Although difficult to define in the most general way, these criteria should include such characteristics as dispatchability, load balancing, and dependability of providing peaking capacity. We believe that use of these criteria can reduce need for additional infrastructure, including for example combustion turbines for spinning reserves and so on.

Appendix VII

Explanation: When developing the solar program contemplated by the PEIS and evaluating individual proposed solar projects, the BLM is required to follow the multiple-use mandate required by FLPMA and complete environmental reviews required by NEPA. In order for the BLM to fairly evaluate proposed projects, the agency needs to have good information about how a project would fit within the requirements FLPMA and NEPA, including the project’s likely impacts and benefits. This information is also critical for informed engagement by the public, environmental organizations, and other stakeholders involved in the NEPA process.

The BLM is well versed in analysis of potential impacts, but less experienced in assessing potential benefits. The benefits from proposed solar projects are namely: a) the amount of clean energy produced and the associated displacement of emissions of CO₂ and other criteria pollutants, and b) the “value” that the new generation source provides in integrating with, and supporting, the rest of the electric grid, thereby minimizing the investment in additional infrastructure.

The best indicator of CO₂ emissions displaced is the total MWh of “no carbon” electricity generated by the new systems. Because, as shown in Table 1, the majority of conventional generation in the Southwestern states is from coal and gas, the solar generation will be displacing electricity from some type of fossil fuel fired plant.⁶⁷ This metric -- MWh generated per year -- is notably different from the nominal output capacity (measured in MW) of the plant because solar plants do not typically run all of the time.⁶⁸ A reliance on nominal output capacity would potentially place promising solar power technologies -- particularly those with storage -- at a significant disadvantage despite their important capability to provide dispatchable power during a utility’s peak demand period and the fact that their actual annual power output - could potentially be greater.

TABLE 1. PERCENT OF ANNUAL GENERATION FROM FOSSIL FUELS (2008)

State	% from Coal	% from Nat Gas
Arizona	37%	32.5%
California	1.1%	57.7%
Colorado	65.2%	25.2%
Nevada	22.3%	68.5%
New Mexico	73.0%	21.5%
Utah	81.6%	15.8%

The first and probably most important indication of how well the new generation sources will interface with the existing grid is the dispatchability of the plant – that is, the ability to deliver the power to the utility when it is needed, as opposed to simply whenever the sun is shining. This capability is becoming increasingly important as peak demand in the Southwest continues to grow, not only in maximum capacity delivered, but also in duration during the day and an increasing amount of power is being produced from non-dispatchable sources, mainly solar PV and wind.

For example, in the PEIS the land area required for a power tower plant and a PV plant are estimated to be the same in terms of acres/MW. However, these values are NOT good metrics for the benefits -- or value -- of the plant to the public. In particular, when the tower’s higher capacity factor is taken into account we can see that the acres/MWh/year would be expected

⁶⁷ Although AZ and CA in particular, have significant nuclear capacity, these plants provide base load power and are not designed for load-following. It is unlikely they would be turned down to accommodate solar generation.

⁶⁸ The difference can be obtained through comparison of the capacity factor of equally sized plants. This is the ratio of the energy actually produced by the plant in a year divided by the amount of energy produced if the plant were able to run at its nameplate capacity for the full year. It is not defined well in the PEIS document.

to be much better (i.e. smaller) than for the PV plant.⁶⁹ Similarly when comparing two CSP plants -- one with, and one without storage -- the plant without storage would have a decided advantage in acres/MW, even though the unit with storage would most likely have a lower value in acres/MWh.⁷⁰ In fact, measuring water consumption on a MWh/year basis would obviate the need for the huge (3x) range of water consumption rates listed for the trough plants, since much of this range is attributed to differences in capacity factor. The second figure-of-merit suggested, the value of the electricity generated to the grid, is clearly much more difficult for the BLM to measure. However, the utilities have largely incorporated this metric into the prices that they offer to the developers. As a consequence probably the best figure of merit for this characteristic is the comfort of both the utility and the developer with the power purchase agreement (PPA) that they can negotiate. The approach recommended here is both more general and less prescriptive than the variety of metrics listed in the draft PEIS. As a result it should be more adaptable to changes in the technology, or even to completely new technologies like the Solar Tower (also known as ‘Solar Chimney’) plants currently being proposed in Arizona.

Plant Design and Operating Characteristics

Recommendation: We recommend that the BLM rewrite the sections of the PEIS that describe the solar technologies to make them shorter, with more description of the general characteristics of the technology, and much simpler to understand. In particular, these sections should clearly identify the operating principles behind key subsystems of the CSP plants. These principles can then be used to form the basis for the plant descriptions offered later. Using this more general approach will allow the BLM and the public to fairly evaluate various proposed plants based on these descriptions.

Explanation: The draft PEIS does not accurately describe two important aspects of how CSP systems operate. First, a CSP system consists of three major sub-systems: the solar field, the power block, and the storage system (if storage is part of the plant). Within certain limits, the capacity of each of these subsystems can be varied independently to produce plants that

Important Plant Characteristics:

Solar Multiple and Hours of Storage

Solar Multiple is the ratio of the peak thermal output capacity of the solar field relative to the capacity of the power block. Thus, a plant with a solar multiple greater than 1.0 will actually collect more thermal energy than it can immediately use at solar noon on the summer equinox. Note that even when no storage is included in the design, engineers will typically use a solar multiple of 1.4 or larger, to maximize the utilization of the high-cost power block equipment.

Hours of Storage is the period of time that the fully charged storage system could drive the power block at its design capacity. The size of the storage relative to the power block is usually determined by the price paid for “on-peak” power and the daily duration of the on-peak period.

Note that increasing the size of the storage almost certainly implies increasing the solar multiple, since a larger field would be required to charge the larger storage. This will cause the acres/MW to increase, but could actually cause the acres/MWh/yr to decrease, since the capacity factor of the plant will go up significantly.

⁶⁹ In fact, for a tower plant the acres/MW ratio is NOT even a constant – it is a strong function of the radius of the field and the height of the tower, both of which are closely related to the size of the plant. This is intuitively seen by noting that the heliostats on the outer perimeter of the field need to be significantly farther apart to avoid shading and blocking. This is another example of using the characteristics of current designs to describe a technology that is in its commercial infancy.

⁷⁰ This mistake is actually made at least once in the PEIS document.

Appendix VII

are optimized for specific economic considerations.⁷¹ Because of the importance of these relationships, engineers have defined several terms – “Solar Multiple” and “Hours of Storage” -- to measure them, as described in the sidebar.

A plant that has a large storage system can potentially provide power through the utility’s entire peak period, thus eliminating the need to operate – or potentially even to build -- costly and comparatively “dirty” combustion turbines to meet the peak demand. However under the existing draft PEIS language, such a plant is likely to not be evaluated fairly because it would require a fairly large solar field (and thus land area) relative to its capacity.

The second important mischaracterization in the draft PEIS is the relationship between the “operating temperature,”⁷² the efficiency, and the water consumption of the plant. At several points in the draft PEIS it appears that the agency seems to argue against plants with higher operating temperatures, whereas in reality the increase in temperature will tend to allow the plant to operate more efficiently and will minimize the resource impacts per MWh delivered. In other words for every unit of thermal energy input, more electricity is produced.

A higher operating temperature can provide two positive benefits for the resource impacts of the solar system.

- First, since more of the thermal energy is converted to electricity, the amount of cooling -- and thus cooling water -- required is decreased.
- Second, since the power block is now producing more power per unit of thermal energy input, a smaller solar field will be required to drive a given output capacity, leading to a lower land requirement.

We recommend that the BLM rewrite the technology-related sections of the draft PEIS to correct these significant inaccuracies.

Climate Change Impacts

Recommendation: The current draft PEIS makes no reference to the impacts that on-going changes in the climate of the Southwestern U.S. will have on either the future need for, or the performance of, the solar systems. We recommend that the BLM include references to the results of current climate change models, and briefly describe how the predicted changes could impact these technologies. Inclusion of these effects will make the document more general and should help to increase its adaptability as these effects become more apparent. It is important for BLM to address this issue, so that both BLM and other stakeholders can fairly evaluate a broad range of projects and programs in the future.

Explanation: It no longer seems either reasonable or wise to ignore the changes in our climate that are underway. This is especially true when considering the cost/benefit characteristics of

⁷¹ To take an extreme example, in northeastern Australia there is a nearly constant need for power 24 hours a day to supply the mining operations that are the bulk of the demand. This would require a CSP system that has a very large field and storage relative to the power block. This requirement is very different than the optimized design for a plant providing residential needs of the greater Phoenix, Arizona area.

⁷² Although this term is never defined in the draft PEIS, it is used to mean specifically the turbine inlet steam temperature.

Appendix VII

plants that have an economic life of more than 20 years. The changes that have been predicted are likely to have significant impacts on both the demand for electricity and the performance of the solar plants. For example, the reduced rainfall and longer, hotter summers predicted for the desert Southwest would likely both increase the size and the duration of the peak electric load, and reduce the availability of water to cool any of the thermal plants (solar, fossil or nuclear) built in this region. In addition they would also increase the production penalty associated with dry-cooling technologies.

On the face of it, these impending changes would seem to indicate a preference for systems that have the highest efficiency and thus lowest water consumption, combined with the flexibility to adapt to changing conditions in the future. This consideration would also seem to argue for the BLM to maintain significant flexibility and adaptability in its technology considerations. All of the technologies described here are immature relative to conventional power generation technologies, and will inevitably evolve considerably over time. Similarly, new solar or other renewable technologies are likely to emerge (see earlier reference to Solar Towers/Solar Chimneys) that challenge today's "conventional wisdom" and offer a different balance of costs and benefits. Again this appears to argue for using principle-based, as opposed to prescriptive, metrics when considering the potential impacts and benefits of solar plants.

Organization of Document

Recommendation: The technology sections of the draft PEIS appears to be designed to accommodate two functions: A primer on solar technology, and a "how to" instruction set for analyzing the potential resource impacts and benefits of varying solar technologies.

Unfortunately, these two functions are interwoven in often confusing ways. We recommend that the BLM clearly separate them, make the solar technology description material more general and more analytical (as described in Section 1 above), and then show how the resource impact and benefits assessment relates to the general solar technology descriptions.

Recommendation: Reorganize and rewrite the technology sections, Chapter 3 and Appendix F. It's hard to see much distinction between the material presented in these two sections. In fact, in a number of cases it appears that these were authored by two separate writers who didn't read one another's section. We recommend consolidating them into a single, more general description of the technologies. Then perhaps use the Appendix to list the characteristics of specific current proposals as examples of the more general descriptions in Chapter 3.

Recommendation: We recommend that the BLM develop a glossary of important terms like solar multiple, hours of storage, capacity factor, and so on. If the definitions in this section are carefully designed, it would help a solar technology novice more quickly and completely understand some of the subtleties of the technology.

Technical issues

The following sections contain subjects that are not as general as the topics above. However, they do appear to us to be serious enough to warrant substantial attention.

Missing topics

- F-4, 11:⁷³ Provide a better description of how to handle fossil-hybrid system designs. The draft PEIS states that for those plants that will have fossil-fuel fired augmentation, “the environmental impacts... are not evaluated in this PEIS”. We know that the BLM has procedures already in place for evaluating the environmental impacts of fossil-fuel burners, such as the procedures described in the draft EIS for the proposed Sonoran Solar project in Arizona. We recommend that these be incorporated by reference.

This important design option should be treated a bit more thoroughly to avoid confusion and potentially negative outcomes. For example, “topping off” the steam with fossil-fuels can increase the efficiency of the plant reducing both the water consumption and the size of the solar field, while also increasing the flexibility and dispatchability of the plant. It will be important that these benefits be balanced against the increased emissions profile of such a design.

Technical Problems

The following comments refer to specific pages in the document, noted by (Section-Subsection, page #). It will likely be helpful for the reader to have the PEIS at hand to understand some of these comments.

- 3-4, 19: One should be cautious about using current technology as the standard for technology comparisons. For example, in this section it is stated that water is “needed” for cooling. This is obviously incorrect since it is clear that the primary barrier to dry cooling currently is an economic one. In this case it would be correct to state that water is “typically used” for cooling thermal plants.
- 3-4, 27: In this section the water consumption of a solar plant is compared to that of a single individual. This per capita comparison is between items that are neither of the same “type” or “kind.” Since land and water use on the scale needed for solar development is much more similar to the requirements for agriculture, a more appropriate comparison might be to the per acre consumption of locally prevalent crops like cotton or alfalfa. Or – if there is a compelling reason to use human consumption as the standard – perhaps compare the solar consumption to the “per acre” water use of a typical Southwestern subdivision.
- 3-11, Table 3.1-1: The range of water use (3x) for CSP is unduly large as a result of including a very large range of capacity factors (30 percent to 60 percent) and other inputs. Water consumption should be measured relative to MWh/yr, instead of

⁷³ The numbers that precede each point represent the section and page number. For example 3-2,3 is from Section 3-2, page 3. Similarly F-4,11 is from Appendix F, Section 4, page 11.

Appendix VII

MW/yr, to eliminate the confusion introduced by the very large range of capacity factors. MWh/yr comparisons would eliminate the uncertainty introduced by the wide range of capacity factors introduced by all of the technologies.

The numbers given in the draft PEIS are not well-supported and are sometimes wildly too general. Examples include the water requirements for troughs (on 3-4,24, 4.5-14.5 ac-ft/yr/MW) and for tower plants (on 3-6,21, 9 ac/MW), as well as the land requirements for PV (on 3-11, Table 3-1.1).

In addition, the estimates for land requirements tend to be notably higher than estimates found in other literature. Trough estimates seem to be based on actual plants that are in operation while estimates for the other technologies are based on proposals for plants. However, it is noted earlier in the draft PEIS that developers tend to submit proposals for dramatically more land than they actually plan to use. For example, the table below details examples of acreage estimates drawn from a recent literature search.

	Parabolic Trough	Power Tower	Dish / Stirling	PV
Required area (acres/MW)	6	5	4	4
Total water usage (Gal/MWh)	718	718	1	1
From: "Study of Potential Mohave Alternative/Complementary Generation Resources", Sargent & Lundy Global Energy Consulting (Reviewed and Approved by David W. Cohn), February 2006				

- 3-6, 5 – Acreage per MW capacity for Towers can vary widely with the size of the plant, the amount of storage and the tower height. It would probably be best to use a range here.
- 3-6, 19 – The estimated water consumption cited here for power tower plants is the same as for trough plants. This is not only contradicted elsewhere in the document, but most engineers and analysts generally assume that tower plants will require less water per unit output because of their higher operating efficiencies resulting from higher operating temperatures.

Appendix VII

- 3-9, 7 – The “excess heat” addressed in this line comes from higher levels of solar concentration, not higher levels of operating efficiency.
- 3-11, 5 - This is a "per power block" number and is an economic optimum, not a physical limitation. It is likely that the economic and technical limitations that cause these economic optima today will change as the technology improves and electricity becomes more expensive.
- F-3, 29 - Quote from text: “One inherent limitation of solar energy technologies is that power can be produced only when the sun is shining.” This is incorrect. It would be correct to say, "energy can be collected only when the sun is shining." But plants with storage can still generate electricity without direct solar thermal input.
- F-4, box – Quote: "the more insolation, the higher temperature". We suggest that this sentence be deleted since it is not necessarily true. A good example is Colorado’s San Luis Valley that has very strong insolation levels because of its high altitude and dry climate, but the high altitude also brings lower ambient temperatures.
- F-7, 5-8 – The description of Organic Rankine Cycle engines (ORCs) is problematic. We recommend that the BLM rewrite this section keeping the following points in mind.
 - No analogy to steam cycles is ever mentioned. ORCs use exactly the same thermodynamic cycle but with a working fluid typically better suited to lower temps.
 - Low temperature Rankine cycles rarely have efficiencies much above 20%. A thermal efficiency of 85% for a Rankine cycle of any sort is a wildly atypical result. At the very least a citation is required to support this statement.⁷⁴
 - There are numerous reasons that conventional power plants use steam – vs. organic fluids -- as their working fluid. This introduction ignores these, and as a consequence would leave the reader wondering why all plants aren’t ORCs?

⁷⁴ It may be that the author picked up a “2nd Law” efficiency number by mistake. This is a measure of how well a cycle performs relative to an “ideal cycle” at that same temperature range. However, this type of efficiency rating is NOT comparable to the other efficiencies cited in the draft PEIS.

Appendix VII

- ORCs also require cooling, just like steam turbine generators (STGs). The reason that they don't typically use wet cooling is that they are usually so small that wet cooling would be too costly to justify.
- F-16,40 – This section describes the "intrinsic benefits of ORC engines" This type of engine is neither new nor innovative. It has a variety of important and well-understood applications, typically for smaller and lower-temperature situations. Solar plants are not limited to the low temperatures that require the use of organic working fluids. It is an advantage to be able to have high enough temperatures and large enough plants to use steam. This is why the operating and proposed plans are all designed to use steam cycles and not ORCs.
- F-8, 43 – This material appears dated. There are not many faceted glass mirrors being installed today because they are too expensive. Curiously there is no mention of polymer membranes, e.g. SkyFuel's ReflecTech.
- F-12,1 – Although this statement is technically true, large tanks for HTF or TES must have containment basins (this is a standard design feature for all large industrial tanks). Salt is easily cleaned up once it freezes (which happens at typical ambient temperatures). Clean up of leaks of organic HTF from existing plants is routinely handled by off-site incineration.
- F.2.2.2.1 (F-14, 23) – The discussion of the CFLR technology seem overly optimistic. We recommend that this discussion include a careful analysis of the proponents' claims, and an examination of the technical hurdles facing this technology.
- F-19, 19 – The term 'solar multiple' is used here but doesn't seem to ever be defined. We recommend that, as part of the more general discussion of solar technologies recommended in Section I above, this be included in a glossary of important solar engineering terms.
- F-19, 26 – The statement is made that plants with TES can produce power during peak loads during times when power is more valuable to system operators and that this "may result in a somewhat higher cost of electricity for consumers". This statement does not make sense since peak power from a solar system is likely to be much LESS costly than the conventional peak power sources such as combustion turbines. This should lead to lower costs to consumers.

Appendix VII

- F-20, 8 - Good discussion of capacity factor and the relationship between solar multiple (still yet to be defined), TES capacity and nameplate capacity of power block. This is a critical design characteristic of CSP systems and should be introduced very early and given some prominence. This also is closely related to the concept of normalizing system characteristics to energy output rather than design capacity.
- F-22, text box – The listing of ‘Structures and Improvements’ is missing the power block facility, which can run 10,000 sq ft. or more. The comparison does include this facility (F-23, 18)
- F-23, 10 – Overestimates a production of 600,000 MWh/yr from a 26.5% capacity factor. These numbers are not internally consistent.
- F-35, 1 - Promoters of CLFR claim a benefit of this technology will be the ability to achieve higher temps than trough technologies, not lower. This would increase operating efficiencies and decrease water consumption.
- F-40, 27 – The sentence “practical limitations exist as to the length of time heat can be stored in molten salt” is very misleading. The limit is not in the length of time heat can be stored, which is very long, but optimizing the size of the tanks to the hours available for full production from the storage. This economic optimization time, in the American southwest, is roughly 6 hours. In other situations this optimum will change dramatically.
- F-41, 5 - This is an amazingly confusing way to present this material. In fact, the challenges with using salt as the HTF fall into 3 categories.
 - 1) Materials challenges caused by:
 - Higher temperatures, and
 - Corrosion
 - 2) Increase in parasitic power losses resulting from:
 - Higher viscosity, and
 - Freeze prevention
 - 3) Increases in maintenance costs caused by all of the above.

Materials issues like these can probably be addressed pretty successfully, although there will likely be some additional capital cost. However, the parasitic power losses are largely intrinsic

Appendix VII

and are unlikely to go away. The maintenance issues are probably amenable to some reduction through long-term "learning" and optimization of maintenance procedures.

- F-43, 11 – As with the ORC, this is an unusually high number that at least needs a citation. Manufacturers will often claim to hit 60% in their top-of-the-line combined cycle plants. A claim of 80% First Law conversion efficiency needs a citation, at least.
- F-45, 1 – Incorrect claim and use of standard terminology. Using fuel combustion as the heat source for a Stirling engine does not make it an internal combustion engine. (By this token steam locomotives would also have been internal combustion engines!). "Internal combustion" refers to combustion happening inside the engine proper, e.g. within a cylinder. Stirling engines are intrinsically limited to using external heat sources. (See also 51,17-23)
- F-57, 31 - Asserting that multi-junction cells will ultimately be the most cost-effective choice for utility-scale PV plants seems like an overstatement at this point in the development of the technology. (see also 60,13-15, and 62,19-23)

Inconsistencies

- In Chapter 1, dish/Stirling solar technologies are categorized with photovoltaic (PV) technologies, as opposed to concentrating solar power (CSP), because these two do not use steam and a power block in electrical production, however after this point dish/Stirling is viewed as a CSP technology because it utilizes the concentration of the sun's thermal energy.
- Ch3 – The acreage and water specifications are internally inconsistent between Ch3 and the Appendices. For example, power tower water consumption is stated to be 800 gal/hr/MW in Ch 3 (3-6,21) and 600 gal/MWh in Appendix F (F-34,26).
- Novel and untested technologies are described in glowing terms with few – or no -- technological hurdles mentioned. For example:
 - Molten salt as a heat transfer fluid (HTF) (Intro-42, 14).
 - Compact linear Fresnel reflectors (CLFR) discussed as a "variation" on trough technology (3-3, 39).
 - Thermal energy storage (TES) for dish technologies (3-6, 40).
 - Organic liquids for cooling loops (3-14, 10).
- No mention of solar tower (chimney) despite project applications in Arizona and a PPA with Southern California Public Power Authority.

Appendix VII

- Appendix F asserts that multi-junction cells "will be the choice" of utility-scale PV plants then later observes that current plants tend to be thin-film and that thin-film will be the likely choice for future "grid-connected central plants" (F-62,19; F-59,29-31; F-60,13-16).
- Inconsistent definition of "maximum" plant sizes - PV/dish vs. trough/tower. The "maximum" sizes listed for the trough and tower technologies are, in fact, economically optimal sizes based on current costs and heat transfer considerations. There are already several proposals for projects that consist of multiple adjacent trough and/or tower plants (3-11, Table 3-1.1).

APPENDIX VII. CRITERIA FOR USE IN IDENTIFYING AND PRIORITIZING LANDS TO BE CONSIDERED FOR NEW OR EXPANDED ZONES

Bureau of Land Management (BLM) lands offer some of the most intact landscapes, wildlife habitats and corridors, and important ecological resources in the United States. In addition, these landscapes include important cultural resources and historic sites and are part of a mix of lands managed by federal and state agencies for their recreational, scenic, historical and cultural values such as units of the National Park System, national monuments, and national wilderness areas.

Human understanding of the arid ecosystems that are most often of greatest value for solar energy development is limited and evolving. While thought of by some as “wastelands,” these landscapes are, in fact, rich in biodiversity and in historic, cultural, scenic, and recreational value. For these reasons, a deliberate and thoughtful process for their review for solar energy development based upon a set of criteria that recognize the important values of these landscapes is required.

The following is an approach for screening lands with high solar energy potential that meet appropriate standards for energy potential, aspect, and slope (relative to the technology to be employed) to ensure the protection of important ecological, historic, cultural, and scenic values. In addition to applying these screens in assessing the potential acceptability of sites for solar energy zones, early and frequent stakeholder involvement should be employed to ensure that those who have an interest in the candidate lands and/or may be affected by their potential development are an integral part of the process.

To evaluate new and potential solar energy zones as a part of the Modified Solar Energy Zone Alternative presented in our comments of the Draft Solar Energy Programmatic Environmental Impact Statement, we recommend a two-step process that employs a Landscape-Scale Assessment Approach followed by the identification and prioritization of Least Conflict Lands within identified landscapes deemed to have high solar energy zone potential.

The overarching goal of this approach is to ensure that zones where solar energy projects are located are areas of high energy potential that, when developed, will not adversely affect the persistence, distribution and diversity of the ecoregional biota and all its natural components and processes today and in the future while protecting important historic, cultural, scenic, and recreational values.

The Landscape-Scale Assessment should:

- Contain an evaluation of both public and private lands in a geographic area that makes sense from a biological perspective.
- Clearly define objectives that guide selection of conservation targets/goals, structure of impact analyses, and the targets and measures selected for monitoring.
- Evaluate the impact of various planning scenarios on the biodiversity and ecosystem function goals as well as on the target species.

Appendix VII

- Implement and improve upon existing conservation and recovery plans
- Result in a conservation reserve design that best satisfies this suite of biological goals while also meeting renewable energy goals.
- Include an adaptive management framework.

From an ecological perspective, the following must be considered as part of developing the reserve design under the landscape-scale assessment:

- Locations that support sensitive biological resources, including federally designated and proposed critical habitat; significant populations of federal or state threatened and endangered species; significant populations of sensitive, rare and special status species; and rare or unique plant communities.
- Areas of Critical Environmental Concern (ACEC), Wildlife Habitat Management Areas, proposed Habitat Conservation Plans and Natural Community Conservation Planning Conservation Reserves.
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes and allow for long-term shifts in distribution of native species in response to climate change.
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.
- Areas that support a geophysical or other ecosystem process upon which sensitive biological resources depend.

The DPEIS states that “all BLM-administered lands are not appropriate for solar energy development.” The landscape-scale assessment should incorporate and build off of the following areas, which have already been identified as by the DPEIS as inappropriate for solar energy development based on environmental criteria:^{75, 76}

- All ACECs, including Desert Wildlife Management Areas (DWMAs) in the California Desert District.
- All critical habitat areas (designated and proposed) for listed species under the Endangered Species Act of 1973 (as amended).
- All areas where the applicable land use plan designates no surface occupancy.
- All areas where there is an applicable land use plan decision to protect lands with wilderness characteristics.
- All Special Recreation Management Areas, developed recreational facilities, and special-use permit recreation sites (e.g., ski resorts and camps).

⁷⁵ Note: some of these overlap with the key ecological considerations identified above.

⁷⁶ While this list is focused on ecological considerations, a comprehensive list of cultural resource areas to be avoided was laid out in a letter sent to Secretary Salazar and California Governor Schwarzenegger dated June 29, 2009. This includes areas with a high density of cultural resources requiring inventory and consultation, Historic Property/National Register, National Historic Landmarks and Landmark Districts, National Historic Districts and Archaeological Districts, High potential route segments and high potential historic sites of National Historic Trails, National Historic and Scenic Byways, sacred sites identified by an Indian tribe in accordance with Executive Order 13007, and traditional Cultural Properties eligible for or listed in the National Register of Historic Places or an equivalent state register.

Appendix VII

- All areas where solar energy development proposals are not demonstrated to be consistent with the land use management prescriptions or where the BLM has made a commitment to take certain actions with respect to sensitive species habitat, including but not limited to sage-grouse core areas, nesting habitat, and winter habitat; Mohave ground squirrel habitat; and flat-tailed horned lizard habitat.
- All right-of-way (ROW) exclusion areas designated in applicable plans.
- All ROW avoidance areas designated in applicable plans.
- All areas where the land use plan designates seasonal restrictions.
- All desert tortoise translocation sites identified in applicable land use plans.
- Big game migratory corridors identified in applicable land use plans.
- Big game winter ranges identified in applicable land use plans.
- Research Natural Areas.
- Lands categorized as Visual Resource Management Class I or II (and, in Utah, Class IIIb).
- National Recreation Trails and National Back Country Byways.
- National Historic and Scenic Trails, including a corridor of 0.25 mi (0.4 km) from the centerline of the trail, except where a corridor of a different width has been established.
- National Historic and Natural Landmarks.
- Within the boundary of properties listed in the “National Register of Historic Places” and additional lands outside the designated boundaries to the extent necessary to protect values where the setting and integrity is critical to their designation or eligibility.
- Areas with important cultural and archaeological resources, such as traditional cultural properties and Native American sacred sites, as identified through consultation.
- Wild, Scenic, and Recreational Rivers, including a corridor of 0.25 mi (0.4 km) from the ordinary highwater mark on both sides of the river, except where a corridor of a different width has been established.
- Segments of rivers determined to be eligible or suitable for Wild or Scenic River status, including a corridor of 0.25 mi (0.4 km) from the ordinary high-water mark on either side of the river.
- Old-growth forest.
- Lands within a solar energy development application found to be inappropriate for solar energy development through an environmental review process that occurred prior to finalization of the PEIS.

Finally, the following areas should be avoided when identifying areas for directed development because of the high degree of conflict that a proposal for development would cause:

- Lands purchased for conservation including those conveyed to the BLM.
- Proposed Wilderness Areas, proposed National Monuments, and Citizens’ Wilderness Inventory Areas.
- Locations directly adjacent (within 2 miles) to National or State Park units.

In addition to screening landscapes in accordance with the above criteria and guidance, we further recommend that a second step in this analysis should be to identify and **prioritize Least Conflict Lands** within the landscapes identified above (or, under some circumstances, though rarely, outside of those larger landscapes) in the selection of future solar energy zones by guiding

Appendix VII

zones to areas consisting of or dominated by land types and landscapes that reflect the following characteristics:

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
 - Lands that have been “type-converted” from native vegetation through plowing, bulldozing, or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).
- Public lands of comparatively-low resource value located adjacent to degraded and impacted private lands on the fringes of BLM-managed land. This combination of public and private lands could allow for a conjunctive use area, allowing for the expansion of renewable energy development onto private lands.
- Brownfields and other contaminated or previously contaminated sites identified by the Environmental Protection Agency’s RE-Powering America’s Land Initiative.
- Idle or underutilized industrialized sites.
- Existing transmission capacity and infrastructure are typically in place.
- Locations adjacent to urbanized areas.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally-designated corridors with existing major transmission lines with capacity to carry the additional electricity generated by proposed facilities.
- Locations that have been repeatedly burned and invaded by fire-promoting non-native grasses.

It is important to recognize that several ongoing processes have employed this or a similar approach in attempting to guide future solar energy development to locations that would achieve the objectives of high solar energy potential that, when developed, will not adversely affect the persistence, distribution and diversity of the ecoregional biota and all its natural components and processes today and in the future, nor negatively affect important cultural, historic, and scenic values. The Desert Renewable Energy Conservation Plan in California and the Arizona BLM’s Restoration Design Energy Project provide two examples of processes that employ many of these criteria and guidelines to identify potential zones for future solar energy development. These processes warrant further development and, perhaps, should be replicated in other western states.

**APPENDIX VIII. SURVEY OF BEST MANAGEMENT PRACTICES FOR
RENEWABLE ENERGY DEVELOPMENT**

**BEST MANAGEMENT PRACTICES FOR SITING, DEVELOPING
OPERATING, AND MONITORING RENEWABLE ENERGY IN THE
WEST: A CONSERVATIONIST'S GUIDE**

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Table of Contents

Introduction p.1

Laws and Regulations for Renewable Energy Developmentp.3

 Executive and (Interior) Secretarial Orders relating to energy development p.3

 Inter-agency MOUs p.3

 Energy Legislation p.4

 Renewable Energy on Tribal Lands. p.4

 Bureau of Land Management p.4

 Amending Land Use Plans in Light of Solar and Wind EIS's p.6

 Other Applicable Federal Laws p.9

 State Permitting, Siting and Regulation of Renewable Energy. p.10

 Typical Steps in Wind and Solar Permitting Process p.11

Best Management Practices for Wildlife and Habitat for Solar and Wind
Development on Western Lands p.12

 Siting – General p.13

 BMPs for Wildlife (general willdife) p.15

 Justification for Wildlife BMPs p.19

 BMPs for Sage grouse p.21

 Justification for Sage grouse BMPs p.22

 BMPs for Raptors p.24

 Justification for Raptor BMPs p.25

 BMPs for All Other Birds p.26

 Justification for BMPs, All Other Birds p.29

 BMPs for Bats p.31

 Justification for Bat BMPs p.33

 BMPs for Site Hydrology p.35

 Justification for Site Hydrology BMPs p.37

 BMPs on Land Use Planning and Renewables p.39

 Adaptive Management and BMPs p.40

Research Needs p.41

Conclusion p.42

Literature Cited p.43

Introduction

Development of renewable energy provides important benefits, enhancing our energy security and helping us shift away from climate-changing fossil fuels. Currently, the Department of the Interior is on track to permit more than 30 “fast track” wind and solar generation and transmission projects, and has committed to a performance goal of 9,000 megawatts of renewable energy by the end of 2011. In 2010, the Department of the Interior approved a dozen renewable energy projects on public lands, including nine commercial-scale solar energy initiatives that combined will create more than 7,000 construction and operational jobs and produce almost 4,000 megawatts of energy, enough to power 1.2 million American homes. So far eight of eleven western states have adopted Renewable Portfolio Standards requiring utilities to generate 15 to 25 percent of energy from renewable sources. It is likely that we will have 50,000 MW of new wind power online in the U.S by 2020.

Our early experiences with permitting and constructing wind and solar energy facilities has shown us that meaningful renewable energy development will only happen at the pace and scale needed to transition away from fossil fuels if we do it “smart from the start.” That means establishing a proactive approach to siting and conservation strategies that protect wildlife and wildlands while allowing renewable energy deployment to ramp up. We here explore this approach and refer to it as a set of Best Management Practices (BMPs) for renewable energy siting and development.

These Best Management Practices for renewable energy siting and development and the justification for them draw on scientific, peer-reviewed research. While primarily written for conservationists who are working to positively affect renewable energy development in the West, this manual can also help to better inform wind and solar energy developers, stakeholders and decision-makers about the link between wind and solar energy development and responses by wildlife and the functions of their habitat. The goal is to enable developers, wildlife agencies, conservationists and other stakeholders to work with a consistent knowledge base and set of appropriate technical questions and well-established guidance to assess a given project location and develop wind and solar energy in a way that is smart from the start for wildlife and their habitats.

These BMPs were designed to guide conservationists to positively affect renewable energy siting and development outside of the built environment. The potential of distributed small-scale generation, such as rooftop solar, to meet Western energy needs is strong. Yet, there are literally hundreds of proposed wind and solar projects – outside of the built environment – on the books for the coming decades, and we must work to ensure that these developments are done right with regard to wildlife and their habitats. While decreasing energy demand in our cities through efficiency and other demand-side measures can reduce the need for large scale renewable energy facilities to be built outside of our cities, this strategy is not addressed in this document.

Similarly, this document does not address geothermal development. Instead, we refer readers working on geothermal plant siting and environmental issues to a number of other useful publications, including the Bureau of Land Management’s and U.S Forest Service’s Programmatic Environmental Impact Statement for geothermal leasing in the Western U.S (BLM and USFS 2008a and b), the Wilderness Society’s publication on geothermal development on public lands (TWS 2010), the Geothermal Energy Association’s *A Guide to Geothermal Energy and the Environment* (GEA 2007), and the U.S. Department of Energy’s *Geothermal Power Plants – Minimizing Land Use and Impact* (USDOE 2008).

Appendix VIII

The guidelines and BMPs are not designed to address transmission beyond the point of connection to the transmission system. The national grid and proposed smart grid system are beyond the scope of this document. For wildlife and habitat related issues regarding transmission impacts and transmission planning, we refer readers to *Smart Lines: Transmission for the Renewable Energy Economy* (Resource Media and WRA 2008) the Western Electric Coordinating Council's Environmental Data Task Force's *Preliminary Environmental Recommendations for the Transmission Planning Process* (WECC 2011), and the Avian Power Line Interaction Committee's *Suggested Practices for Avian Protection on Power Lines* (APLIC 2006).

Use of these BMPs and this guidance document by the conservation community and others should help ensure that potentially adverse impacts to most species of concern and their habitats present at renewable energy project sites would be reduced. These BMP's and this manual will evolve over time as additional experience, monitoring and research becomes available on how to best minimize wildlife and habitat impacts from wind and solar energy projects. As such, we plan to continue work with industry, developers, the conservation community and other stakeholders and states to evaluate, revise and update these BMPs and guidance document on a periodic basis.

Laws and Regulations for Renewable Energy Development

Numerous laws, federal regulations, state ordinances, and Executive Orders either directly or indirectly provide management, regulatory and policy guidance for siting, zoning for, and permitting large scale solar and wind energy development on both private and public lands. We give an overview here sufficient to help conservationists have a general understanding of these processes. Much more detailed guidance on these topics has been published by the National Wind Coordinating Collaborative (2002), American Wind Energy Association (2008) and Stoel Rives, LLP (2010). While these guidelines for understanding zoning, siting, regulatory, and permitting process are primarily focused on wind energy and wind energy developers and utilities, they are still useful for conservationists trying to affect these processes for both solar and wind development.

Executive and (Interior) Secretarial Orders relating to energy development

On May 18, 2001, President George W. Bush issued Executive Order (E.O.) 13212, “Actions to Expedite Energy-Related Projects,” which established a policy that federal agencies should take appropriate actions, to the extent consistent with applicable law, to expedite projects to increase the production, transmission, or conservation of energy.

In 2009, the Secretary of the Department of the Interior Ken Salazar issued Secretarial Order Number 3285, which acknowledged the need to identify suitable areas for both wind and solar development on Interior Lands. This was a great stride toward creating a policy framework capable of tackling the challenge inherited by the Obama administration, when it inherited an Interior bureaucracy focused on oil and gas development, and faced with hundreds of wind and solar permits languishing in a queue dating back to 2002. This Secretarial Order was clarified in 2010 by Secretarial Order 3285A1 which ordered the Department of the Interior to identify and prioritize locations best suited for solar development.

Inter-agency MOUs

Also in May of 2001, the President’s National Energy Policy Development Group (NEPDG) recommended to the President, as part of National Energy Policy, that the Departments of the Interior, Energy, Agriculture, and Defense work together to increase renewable energy production (NEPDG 2001). In July 2001, the Departments created an interagency task force to address the issues associated with increasing renewable energy production on federal lands (USDOE and USDOI 2002). The task force developed a Memorandum of Understanding (MOU) among the U.S. Department of Energy, U.S. Department of the Interior, U.S. Department of Agriculture, U.S. Environmental Protection Agency, Council on Environmental Quality and the members of the Western Governors’ Association to establish a framework for cooperation between western states and the federal government to address energy problems facing the West and to facilitate renewable energy production.

Energy Legislation

On August 8, 2005, the President signed into law the Energy Policy Act of 2005 (P.L. 109-58). Section 211 of the Act states, “It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-

Appendix VIII

hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity.”

Renewable Energy on Tribal Lands

Tribal lands are not federal public lands or part of the public domain, but are rather retained by Tribes or set aside for tribal use pursuant to treaties, statutes, court orders, executive orders, judicial decisions, or agreements. Thus, Tribal lands are not subject to the controls or restrictions set forth in federal public land laws. Tribes manage Indian lands in accordance with tribal goals and objectives, within the framework of applicable laws. Tribal coordination is important not only in federal discussions about renewable energy. Many tribal traditional lands and tribal rights extend outside federal lands onto state regulated lands. In addition, tribal interests can also be impacted in private land developments. A discussion of tribal input to all proposed solar and wind projects is important.

Bureau of Land Management

We chose to focus chiefly on the Bureau of Land Management (BLM) for this guidance document because the majority of permitted solar and wind facilities on public lands thus far have been on BLM lands. The American Wind Energy Association's Wind Energy Siting handbook (2008) addresses wind energy development on lands administered by other federal agencies, such as Bureau of Reclamation, Bureau of Indian Affairs, U.S. Forest Service, and U.S. Department of Defense. While this handbook primarily addresses siting, zoning, permitting, and regulatory issues surrounding development of wind projects, there is also applicability to solar energy development in terms of these issues and processes on a variety of federal lands.

BLM Wind PEIS and permitting. In 2005 the Bureau of Land Management (BLM) issued a Record Of Decision on the implementation of a wind energy development program and how this would affect 52 land use plans in nine states (basically by amendment). The decision (BLM 2005a) established policies and Best Management Practices for the administration of wind energy development activities and established minimum requirements for mitigation measures. The policies and BMPs were evaluated in the Final Wind Energy Programmatic Environmental Impact Statement, or PEIS (BLM 2005b). The amendments to the 52 land-use plans were to include (1) adoption of the BLM's Wind Energy Development Program policies and best management practices (BMPs), and (2) identification of specific areas where wind energy development will not be allowed.

The Record Of Decision (ROD) for the Wind PEIS explains how site-specific concerns, and the development of additional mitigation measures, will be addressed in project-level reviews, including NEPA analyses, as required. It also requires that at this site-specific level, natural resource issues and concerns must be addressed by project-specific plans, programs, and stipulations during each phase of wind energy development, and that mitigation measures protecting these resources will be required to be incorporated into project Plans Of Development. This will include incorporation of specific programmatic BMPs as well as the incorporation of additional mitigation measures contained in other, existing and relevant BLM guidance, or developed to address site-specific or species-specific concerns.

The ROD also outlines how the BLM will initiate consultation early in the process of wind development on BLM lands with the following, as appropriate and required by law: Indian Tribal governments, U.S. Department of Defense, the U.S. Fish and Wildlife Service, and the State Historic Preservation Office. It goes on to say that the level of environmental analysis to be

Appendix VIII

required under NEPA for individual wind power projects will be determined at the Field Office level, will incorporate public involvement, and will include analyses of project site configuration and micro-siting considerations, monitoring program requirements, and appropriate mitigation measures. The BLM also requires financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs.

With the decision to implement the Wind Energy Development Program, the BLM Interim Wind Energy Policy (BLM 2002) was replaced by a new policy in 2006 (Wind Energy Development Policy IM 2006-16) that incorporates the programmatic policies and BMPs evaluated in the PEIS. That framework was carried forward and supplemented by BLM's revised Wind Energy Development Policy IM 2009-043, issued in 2008. One major revision in the 2008 IM compared to the 2006 IM allows wind energy development in an Area of Critical Environmental Concern (ACEC) to the extent that it would be consistent with the management prescriptions of that individual ACEC.

On BLM lands, wind project development usually proceeds in two phases: (1) a site testing and monitoring phase and (2), if the wind resource is viable, a project construction and operation phase. BLM permits all wind facilities, whether for testing and monitoring or for project construction and operation, through use of Right of Way (ROW) grants authorized by the Federal Land Policy and Management Act ("FLPMA"), 43 U.S.C. §§ 1701-1784. BLM offers three types of BLM wind energy ROWs: a Site Specific Grant for Testing and Monitoring ("Site-Specific Grant"), a Project Area Grant for Testing and Monitoring ("Project Area Grant"), and a Development Grant for project construction and operation.

BLM Solar PEIS and permitting. In 2007, the BLM developed and issued a Solar Energy Development Policy (BLM Instruction Memorandum 2007-097) to establish procedures for processing Right of Way applications. This policy was updated in 2010 by two more detailed policies (BLM Instruction Memorandums 2010-141 and 2011-003). In accordance with these policies, the BLM currently evaluates solar energy ROW applications on a project-specific basis. In 2010 the BLM issued a Draft Programmatic Environmental Impact Statement (PEIS) (BLM 2010a) in order to develop a new Solar Energy Program. The PEIS will support utility scale solar energy development on BLM-administered lands that would be applicable to all pending and future solar energy development applications upon execution of the Record of Decision (ROD) and implementation of this decision through amendment of relevant BLM land use plans in six western states.

The Solar PEIS evaluated the potential effects of establishing the solar energy program elements and strategies across the six-state study area (California, Nevada, Utah, Arizona, Colorado and New Mexico). The analysis informed BLM's decision to identify 24 Solar Energy Zones within the six-state study area. The BLM decided that these 24 locations are best-suited for utility-scale solar energy development (i.e., high resource value and low [or limited] resource and/or environmental conflicts). In addition to presenting general design features to best develop solar resources, the Solar PEIS identified specific design features for projects developed within individual Solar Energy Zones. However, the PEIS also explains that the BLM's proposed solar energy program would require that site-specific and species-specific issues be addressed during individual project reviews. These evaluations would tier to the programmatic analyses in the Solar PEIS and the decisions implemented in the resultant ROD.

BLM regulations pertaining to both solar and wind energy. In the case of either wind or solar development on BLM lands, BLM Manual 6840 "Special Status Species Management" (BLM 2001) would require that appropriate survey, avoidance, and mitigation measures would need to be identified and implemented prior to any construction activities to avoid impacting any sensitive species or the

Appendix VIII

habitats on which they rely. Also, in areas that experience ground disturbing activity, it is important to remember that the BLM Standards and Guidelines for Healthy Rangelands (CITE), still apply to those lands. This is particularly important to consider when, for example, wind turbines are erected in an active grazing allotment.

Also, in February 2011 the BLM issued three related Instruction Memoranda (IM 2011-59, 2011-60 and 2011-61) to reiterate and clarify existing BLM National Environmental Policy Act (NEPA) policy to assist offices that are analyzing externally-generated, utility-scale renewable energy right-of-way applications. It includes examples and guidance applicable to renewable energy right-of-way applications that supplement information in the BLM's NEPA Handbook (H-1790-1). Utility-scale renewable energy projects are distinct from many other types of land and realty actions due to their size and potential for significant resource conflicts, as well as the priority that has been placed on them by the Department of the Interior.

Special section – amending BLM land use plans in light of Solar and Wind Programmatic Environmental Impact Statements

Land use plans are important in siting renewable energy facilities. Such a planning process provides a means to comprehensively address the diverse topics described in this best management practice guide. In most settings, compliance with approved land use plans is a legal requirement for a large project on public lands. This section summarizes the theoretical basis for land use, and describes planning practices using BLM lands as an example.

Theoretical Basis for Land Use

The American Planning Association (AMP) defines a land use plan as “an adopted statement of policy, in the form of text, maps, and graphics, used to guide public and private actions that affect the future. A plan provides decision makers with the information they need to make informed decisions affecting the long-range social, economic, and physical growth of a community” (AMP 2006). Given goals or end results that are desired, planners determine the best means for achieving them.

According to BLM's Land Use Planning Handbook 1610-1 (BLM 2005c), BLM's land use plans are created within a process that follows the model for rationality described in planning theory. Planning theory views rationality as a central rule in planning methodology (Faludi 1973). In this context, rationality means the power of reason as opposed to faith and values to define a central fact (Teitz 1985). Rationality in planning is the standard used to measure decisions (Faludi 1985) and provides political legitimacy to the process (Weaver et al. 1985). Plans must guide and result in action otherwise they are outside the realm of testable rationality (Johnson 1985). Perhaps more than other fields, land use planning has embraced rationality as a core concept (Teitz 1985). Rationality in planning involves standard technical processes for management, control of specialist information, and a clear system of rules, monitoring, and analysis (Weber 1947).

In the field of planning, ethics play a role in evaluating the objectivity and legitimacy of any completed plan. The American Planning Association (2009) has developed a code of ethics that should be followed in land use planning:

- A planner must provide full, clear and accurate information to citizens and decision makers.
- A planner must exercise independent professional judgment on behalf of the clients, employers, and public.
- A planner must report any actual, apparent or reasonably foreseeable conflict between the planner and the client or employer.

Appendix VIII

Planning Practices on BLM Lands

Since more of the future renewable energy proposed for the West will occur on BLM lands than on any other government agency's land, this section will focus on the application of land use planning by BLM.

BLM's land use planning process is guided by BLM Handbook 1601-1 (BLM 2005c). Required by an act of Congress (FLPMA, 43 U.S. C. 1711-1712), BLM land use plans are called Resource Management Plans (RMPs). BLM's handbook directs land use plans to establish goals and objectives for resource management (desired outcomes) and measures to achieve these goal and objectives (management actions and allowable uses). Such RMPs are to make decisions that guide future land management actions and site specific implementation (BLM 2005).

Three types of land use plan decisions are described in BLM's planning handbook – desired outcomes, allowable uses, and management actions. These can be defined as follows:

- **Desired outcomes** are “expressed in terms of specific goals and objectives.” Goals are “broad statements of desired outcomes (e.g. maintain ecosystem health and productivity, . . .).” Where possible, objectives are quantifiable and measurable within an established timeframe for achievement.
- **Allowable use** identifies the type of use and where it is allowed or prohibited. The resulting plan then defines which areas allow, prohibit, or put limitations on actions or uses.
- **Management actions** include restoration or administrative designations for areas such as Areas of Critical Environmental Concern or Research Natural Areas. For example, where undesired habitat conditions may not correct themselves on their own, management actions may be necessary to restore habitat to land use plan objectives. Any action that BLM takes must by law conform with an approved land use plan. Conformance means that the action is consistent with the terms, conditions, and decision of the plan (43 CFR 1601.0-5(b)). For example, a decision to permit a drilling operation in an area where the approved RMP prohibits surface activity would be considered not to conform with the plan. If the plan does not mention the action, then it is assumed to be in conformance. This legal requirement creates an incentive in BLM to limit the number of acres where management actions are prohibited.

In practice, BLM has defined planning more narrowly than its handbook describes. Many of BLM's RMPs focus primarily on one of the three types of decisions: allowed actions. For example, BLM's RMP for the Kemmerer area in southwest Wyoming has excellent potential for renewable energy facilities, especially wind power. The Kemmerer RMP outlines land use decisions of the allowed use type; therefore, to describe “allowed uses” for wind energy production, this plan presents preferred wind power development sites and exclusion areas. In considering renewable energy, most BLM land use plans provide “avoidance areas” and “exclusion areas” for wind energy. These avoidance areas are areas with important or sensitive resource values and thus will be excluded or avoided (BLM 2005).

In 2008, the state of Wyoming developed a sage grouse management plan that identified sage grouse core areas based on best available information on sage grouse use. These core areas are designated so as to prohibit surface disturbing activities, including the installation of renewable energy facilities (Frudenthal 2009). Endorsed by the U.S. Fish and Wildlife Service, this planning alternative recommends no new surface disturbance in these areas. BLM's state director found it appropriate for BLM to “base our

Appendix VIII

management strategy on these core areas” (Simpson 2008). But in the Kemmerer RMP issued in 2010, BLM did not designate these core areas as development avoidance or prohibition areas. Instead this plan allows, in fact encourages in some sage grouse core areas, surface disturbing development. The Kemmerer RMP’s preferred areas for renewable energy overlap about half of the sage grouse leks identified in the planning process. 154,396 acres are excluded from wind power which is 5% of all lands BLM manages in this area. BLM promised to address sage grouse issues on a case by case basis but not in the land use plan.

Neither the draft nor approved plan explains the decision process that lead to the final land use decision issued in the Kemmerer RMP. The justification for the plan’s preferred areas for renewable energy remains hidden to the public and no rational basis for this decision is given. When a decision seems to conflict with the objective rational basis presented in the plan, political power hidden from view is a likely factor. Where power relations are unbalanced, negotiations tend to lead to co-option of the weaker party where no mediated negotiations occur (Forester1989). In the case of the Kemmerer RMP, it would seem that some power had more influence than either the BLM state director or the Governor in planning where to promote renewable energy.

Other Applicable Federal Laws

For all solar and wind projects on federally managed lands, issuance of land use permits and right-of-way authorizations by the relevant federal agency does not relieve the applicant of obtaining any and all other permits and authorizations that may be required for the proposed project, and abiding by various federal laws and acts, many of which also apply on private lands. A multitude of laws have sections that are applicable to the siting, development, permitting, and operation of large scale wind and solar energy, and therefore also provide a foundation for the Best Management Practices described in this document. Below is a list of the most important of these laws, with a brief description of how each may apply.

- *The National Environmental Policy Act (NEPA)* (42 U.S.C. §§ 4321-4370f). NEPA will be triggered by the developer’s need for a federal permit or approval, siting of the project on federal lands, accessing a federally owned transmission line, or being eligible for federal grants for the project. Depending on the type of actions and the potential for impacts, the federal agency involved at the development site may have to prepare an Environmental Assessment or Environmental Impact Statement for the project before it can act. The NEPA process requires public involvement in identifying issues to be considered and in commenting on the agency’s analysis. Also, under NEPA various alternatives for the project must be assessed before carrying out an action that may significantly affect the integrity of the land and its uses. And, potential cumulative impacts must be assessed⁷⁷. The reviewing agency may use the results of the NEPA review (a Record of Decision or a Finding of No Significant Impact or a Categorical Exclusion) to clarify requirements for mitigation and monitoring to address the project’s environmental impacts.
- *The Endangered Species Act (ESA)* (16 U.S.C. § 1536(a)(2)) requires that agencies insure that permitting large scale solar and wind development “is not likely to jeopardize the continued

⁷⁷ Cumulative impact analysis should include determining which species of concern or their habitats within the landscape are most at risk of significant adverse impacts from renewable development in conjunction with other reasonably foreseeable significant adverse impacts. The magnitude and extent of the impact on a resource depends on whether the cumulative impacts exceed the capacity for resource sustainability and productivity. (USFWS 2010a).

Appendix VIII

existence of any endangered species or threatened species or result in the destruction or adverse modification” of critical habitat of such species. The U.S Fish and Wildlife Service has primary responsibility for terrestrial and freshwater organisms protected under the Act. To insure that there is no harm to federally listed species, the developer will need to consult with the USFWS under section 7 of the Act. To be in compliance with the ESA, the developer or relevant agency might have to write a Biological Assessment if there are any predicted impacts of the project to a federally listed species, and the U.S. Fish and Wildlife Service, which typically administers the ESA, would then write a Biological Opinion in response to the Biological Assessment. Unlike NEPA, the ESA has the authority to actually stop a project based on a potential taking of endangered species or habitat (while NEPA only requires analysis of impacts).

- *Federal Noxious Weed Act* -- Public Law 93-629 ([7 U.S.C. 2801 et seq.](#); 88 Stat. 2148), enacted in 1975, established a Federal program to control the spread of noxious weeds.
- *The Federal Land Policy and Management Act* (FLPMA) as amended (43 U.S.C. 1701 et seq.) recognizes the value of public lands and provides a framework in which they can be managed in perpetuity for the benefit of present and future generations. FLPMA defined BLM’s mission as one of multiple use. Under FLPMA, the BLM is authorized to grant Right of Ways on BLM land for solar and wind installations.
- *The Migratory Bird Treaty Act*, as amended (16 USC 703-712), implements a variety of treaties and conventions among the United States, Canada, Mexico, Japan, and Russia. This treaty makes the take, killing, or possession of migratory birds, their eggs, or nests unlawful, except as authorized under a valid permit. Most of the bird species reported from the 11 western states are classified as migratory under this act. The USFWS maintains a list of migratory birds protected by the MBTA. In addition, Under E.O. 13186, each federal agency that is taking an action that has or is likely to have negative impacts on migratory bird populations must work with the USFWS to develop an agreement to conserve those birds. The protocols developed by this consultation are intended to guide future agency regulatory actions and policy decisions.
- *The Bald and Golden Eagle Protection Act* (16 USC 668-668d) provides for the protection of both bald and golden eagles by prohibiting take unless allowed by permit.
- *The Clean Water Act* (33 USC 1251-1387) governs impacts to water resources. The Clean Water Act has a broad goal of restoring and maintaining the chemical, physical, and biological integrity of the nation’s waters. Among other things, the Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and managing polluted runoff. In particular, wind energy projects may be subject to Water Quality Certification under Section 401 of the CWA and permit requirements under Sections 402 and 404 of the CWA.

State Permitting, Siting and Regulation of Renewable Energy

Extensive discussions have been taking place around the country on the issue of siting wind and solar energy facilities. A number of states – both those new to renewable power development and those already familiar with it – have expressed strong interest in the approaches that other states use when considering the siting of wind and solar power plants. Federal, state and local governments have long governed siting and permitting of energy facilities in the United States. Now, states have begun to develop siting guidelines, model ordinances, statutes, and checklists that address specific issues that are frequently raised in siting and permitting solar and wind energy facilities.

Appendix VIII

Jurisdiction over siting energy facilities varies from state to state. In some states, siting authority rests with a local branch of government. In these cases, county commissions, planning and zoning boards, or other local government departments are responsible for conditioning and approving wind farms and other energy facilities. Other states retain primary siting authority at the state level. Often other state regulatory agencies are involved in permitting processes. For example, when wildlife or other environmental issues arise, a state environmental protection agency may become involved.

Most state guidelines dealing with specific siting issues make reference to post-construction monitoring to ensure that no threatened or endangered species, nor their habitats, are affected by development of wind or solar energy. In most cases, state guidelines call for applicable authorities to consult with agencies charged with implementing the Endangered Species Act and other habitat protection requirements. Not all state approaches call for consideration of non-wildlife environmental issues, such as visual, noise, and construction-related effects. Others set clear limits on allowable levels of state influence in these areas. In most cases, granting of stormwater management permits for construction activities will be issued by a state's environmental quality department. Still other permits such as conditional use permits, building permits, and encroachment permits are handled at the County level, usually with a county planning and zoning department, but we will not go into detail on that level of planning in this guidance document.

In summary, the regulatory process for siting and permitting wind or solar energy projects varies widely from state to state. Both the American Wind Energy Association's Wind Energy Siting Handbook (2008), and the National Wind Coordinating Collaborative State Siting and Permitting of Energy Facilities Fact Sheet (2006) discuss the typical state-level and local regulatory frameworks that a wind developer is likely to encounter, and go into more detail on these state-level processes than we can go into here. "The Law of Wind" (Stoel Rives 2010) similarly gives good guidance on siting and permitting wind facilities on the state and local level. And "Lex helius: The law of solar energy" (Stoel Rives 2009) does the same for solar facility permitting. A particularly helpful guidance document for wind and solar projects on BLM lands was released by the BLM in November 2010 (BLM 2010c). This document, "Best Management Practices and guidance manual: Desert renewable energy projects", is an excellent source for developers wading through the federal regulatory process for siting on public lands, for both the pre-application and post-application periods.

Typical Steps in Wind and Solar Permitting Process

Pre-application. During the pre-application phase, project developers often meet with nearby landowners, community leaders, environmental groups, and other potentially affected interests. This acquaints the developer with their initial concerns and allows the developer to respond to questions regarding the project. In some jurisdictions, the project developer is required to hold public meetings or submit a public notice regarding the project during this phase. At this stage, pre-NEPA preliminary environmental screening analysis is a good idea, since this pre-NEPA analysis is often reviewed by potential investors as they evaluate the feasibility and risks associated with a proposed project and how much capital may be required.

Application review. For most agencies, the application review begins when the project developer files a permit application. Any NEPA-related environmental assessment and review would occur during this stage. The public has an opportunity to participate in this stage, through public scoping and comments periods associated with the preparation and publication of any NEPA documents such as Environmental Assessments and Environmental Impact Statements.

Decision-making. In its decision-making, the relevant federal agency not only determines whether or not to allow a proposed wind or solar facility to be constructed and operated (based on the application review

Appendix VIII

phase, above), but also whether environmental mitigation and other construction, operation, or decommissioning requirements are needed. This phase frequently includes one or more public hearings.

Administrative Appeals and Judicial Review. Appeals of all or a portion of a final decision are considered during the administrative and judicial review phase. The public (such as a conservation group) can be an appellant but first needs to make sure they have standing. The first avenue of appeal is directed to the decision-maker. Only after all administrative appeals have been exhausted are challenges to the decision reviewed by the courts. Appeals to the courts most frequently are directed at determining whether the permitting process was executed fairly and in accordance with the review requirements.

Permit Compliance. The permit compliance phase extends throughout a solar or wind project's lifetime, and may include inspection or monitoring to ensure that the project is constructed, operated, and decommissioned in compliance with the terms and conditions of its permit and all applicable laws.

Best Management Practices for Wildlife and Habitat for Solar and Wind Development on Western Lands

These Best Management Practices are broken up into six sections according to the species or resource affected: (i.e. raptors, or vegetation/hydrology). Each section provides recommendations for those species and resources and, afterwards, reviews research on solar and wind energy production and its impacts to lowlands and desert systems in the West using the best available science. The BMPs below are separated into “Siting BMPs”, “Planning and pre-construction BMPs”, “Construction/Operation BMPs”, and “Monitoring BMPs.” This breakdown reflects the different decision-making processes that land managers often encounter. There is an additional, seventh, section on how to address renewable energy development within the land-use planning context. These BMP’s do not cover decommissioning of a site.

1.0 Siting - General

Not all lands are suitable for renewable energy development, and difficult choices will be required to minimize the environmental impacts of significantly expanded renewable energy. The following screening suggestions are an amalgamation of screening recommendations of thirteen different sources⁷⁸. There was considerable overlap with the screening recommendations of all of these sources. We note that screening recommendations from the BLM for both wind (BLM 2005b) and solar (BLM 2010a)

⁷⁸ Sources include BLM 2005b, Clean Energy States Alliance 2006, National Wind Coordinating Collaborative 2007, Audubon 2008, Molvar 2008, Oregon Natural Desert Association 2009, BLM 2010a, The Wilderness Society (TWS) 2010, TWS et al. 2010, US Fish and Wildlife Service 2010a, Wyoming Game and Fish 2010, Wyoming Outdoor Council 2010, American Bird Conservancy 2011.

Appendix VIII

were also incorporated into this list and these specific guidances are indicated by an asterisk.⁷⁹ Based on this comprehensive collection of all other renewable screening guidances we could locate, categories of land that should be prioritized for wind and solar development include:

- Lands identified by the BLM in the 2010 Solar Programmatic Environmental Impact Statement (PEIS) as Solar Energy Zones* (BLM 2010a). By guiding projects to zones that have already been analyzed in the PEIS, BLM will be able to rely on some of the environmental analysis already conducted, making project-specific environmental evaluation and development of any needed mitigation measures faster. Further, because the zones have been selected for their low conflicts with other resources and uses, opposition to projects that leads to extended conflicts will be reduced. By reducing the time required to approve projects and the conflicts with stakeholders, project approvals will cost less if they are built in the already identified Solar Energy Zones. In addition, because projects are likely to be located closer to existing roads and transmission lines, there will be fewer costs associated with constructing new supporting infrastructure. Further, because these projects are in areas that have fewer conflicts with natural and cultural resources, there should be fewer costs associated with design adjustments and mitigation measures to address potential damage to other values (TWS 2010).
- Lands that have been previously degraded or disturbed, such as fallow or abandoned agricultural fields, landfills, reclaimed mine sites or any tract of land that has resulted in “type-conversion” from native vegetation through plowing, bulldozing or other mechanical impact.
- Private lands of comparatively low resource value, or public lands of comparatively low resource value located adjacent to degraded and impacted private lands, which would allow for the expansion of renewable energy development onto private lands.⁸⁰
- Brownfields and contaminated or previously-contaminated sites, including abandoned mines.⁸¹
- Oil, gas and coalbed methane fields.
- Privately owned feedlots and lands currently in agricultural production⁸²
- Locations adjacent to urbanized areas. This can also provide jobs for local residents often in underserved communities, while also minimizing workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.*
- Locations that could be served by existing substations.

⁷⁹ BLM’s Wind energy Programmatic Environmental Impact Statement (BLM 2005b) also states that “additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple use activities or land use plans.”

⁸⁰ Private lands development offers tax benefits to local government. Also, in a Netherlands study, van den Berg (2008) found that respondents with direct economic benefits (such as private land owners siting wind farms on their properties) were more accepting of wind turbines from visual and noise perspectives. This suggests that siting turbines on private lands may entail greater acceptance as landowners realize direct benefits while the public does not perceive direct compensation for the development of utility-scale wind projects on public lands.

⁸¹ This can also revitalize idle or underutilized industrialized sites.

⁸² The National Wind Coordinating Collaborative (2002) considers agriculture as “a wind-compatible resource.” Because wind developments typically take less than 2% of the land out of agricultural production and yield additional sources of revenue, they may be especially attractive to private agricultural landowners (Molvar 2008). In addition, crop fields support a monoculture of non-native vegetation and tend to provide ecologically impoverished fauna and low biodiversity. In general, bird fatalities at sites located in agricultural croplands have been at the lower end of the spectrum (Erickson et al. 2003, Molvar 2008).

Appendix VIII

- Locations proximate to load centers.
- Locations with adequate access to transmission lines.*

Categories of land to be prioritized for avoidance include:

- Units of the National Landscape Conservation System, including National Parks, National Monuments, National Wildlife Refuges, Wild and Scenic Rivers, National Conservation Areas, and designated Wilderness areas.*
- Special federal land management designations, such as Areas of Critical Environmental Concern (ACECs),* Desert Wildlife Management Areas (DWMAs);* Research Natural Areas (RNAs),* Outstanding Natural Areas (ONAs), and other areas that have been identified by a federal agency for the protection of important wildlife resources, ecological features, and significant historical, paleontological, and archeological resources.
- Wilderness Study Areas* and other wilderness quality lands, including USFS Inventoried Roadless Areas, areas where there is an applicable land use plan decision to protect lands with wilderness characteristics,* and other inventoried roadless areas documented by environmental groups.
- Lands that support federally threatened/endangered and candidate species, including federally designated and proposed critical habitat*, and other lands that provide important habitat for federal T/E/Candidate species, such as greater sage grouse core breeding areas (called “Sage Grouse Core Areas”).*
- “Important Bird Areas” identified by the Audubon Society
- Wild and Scenic rivers, wetlands, riparian areas and ecologically significant intermittent washes.
- All areas where the applicable land use plan designates no surface occupancy, or Right of Way Exclusion or Avoidance Areas.*
- Landscape level biological linkages, including lands in wildlife corridors, such Big Game Migratory Corridors identified in land use plans.*
- Big Game Winter Ranges identified in applicable land use plans.*
- Historic Property/National Register lands*, and cultural sites eligible for National Register* or areas with a high density of cultural resources requiring inventory and consultation.
- Lands purchased or acquired by exchange for conservation purposes including lands conveyed to the BLM.
- State wildlife management areas and state parks
- Important wildlife habitat as identified in State Wildlife Action Plans. A good example are the “Wildlife Action Plan Focus Areas” outlined in the Utah’s State Wildlife Action Plan
- Lands identified as portfolio sites in Nature Conservancy Ecoregional Plans or as “core areas” in regional Conservation Area Designs or Wildlands Network Designs.

2.0 BMPs for Siting, Constructing, Operating and Monitoring Wind and Solar Development on Western Lands

All Best Management Plans outlines below apply to both large scale wind and solar developments, unless specifically stated that it applies to one or the other.

2.1 BEST MANAGEMENT PRACTICES FOR WILDLIFE – GENERAL

Appendix VIII

The Siting, Planning/Pre-construction, Construction/Operation, and Monitoring BMPs for wildlife, below, are an amalgamation of BMP's gathered from numerous different sources.⁸³

2.1.1 Siting BMPs for Wildlife

- For wind facilities, place turbines in such a way to minimize fragmentation of large contiguous tracts of wildlife habitat, and to avoid wildlife migratory pathways and known travel corridors.
- For both wind and solar installations, avoid development in big game winter and parturition ranges.
- For both wind and solar installations, avoid development in core areas, linkages and portfolio sites identified in Nature Conservancy Ecoregional plans or other conservation areas designs or reserve designs.
- For both wind and solar installations, avoid siting in important, sensitive, or unique habitats in the vicinity of the project (i.e., away from riparian habitats, streams, wetlands, drainages, or other critical wildlife habitats). See below on surveys that may be needed to identify these important wildlife areas.

Planning and Pre-construction BMPs for Wildlife should include pre-construction evaluation conducted at a potential solar and wind energy sites, which can help indicate whether a renewable power development is likely to cause wildlife impacts at levels of concern, help determine sites to avoid, and help to design a less impactful project. The pre-construction surveys should use scientifically sound, peer reviewed research protocols to determine how wildlife use a proposed project area. The estimation of displacement risk requires an understanding of animal behavior in response to a project and its infrastructure, and a pre-construction estimate of presence/absence of species whose behavior would cause them to avoid areas in proximity to turbines, roads and other components of the project. Adjust siting and facility design based on the results of these studies to reduce potential impacts to the animals. Following are our recommended preconstruction and operation BMPs:

- Consult with the state fish and game agency to determine locations of species of concern other special-status species identified by the agency in past surveys.
- Conduct surveys for federally listed and state-protected animal and plant species, as well as for other species of concern such as other special-status species identified by the state fish and game agency. Submit survey protocols to the USFWS and appropriate lead State Fish and game agency agencies for review, comment, and approval. Most listed species have required protocols for detection (e.g., the black-footed ferret).
- Relate wildlife use to site characteristics. This requires that samples of wildlife use also measure site characteristics thought to influence use (i.e., covariates such as vegetation and topography) in relation to the location of use. The statistical relationship of wildlife use to these covariates can be used to predict occurrence in unsurveyed areas during the survey period and for the same areas in the future.
- Consult with the state fish and game agency to determine the locations of crucial ungulate habitats and migration corridors.⁸⁴
- Pre-construction studies should be sufficiently detailed in order to create maps of special status species habitats (e.g. wetlands or riparian habitat, and large, contiguous tracts of undisturbed

⁸³ Sources include BLM 2005a, BLM 2005b, Clean Energy States Alliance 2006, California Energy Commission 2007, BLM 2008, Molvar 2008, ONDA 2009, Wyoming Outdoor Council 2009, Arizona Game & Fish Dept. 2010, BLM 2010a, U.S Fish & Wildlife Service 2010a, Wyoming Game and Fish 2010.

⁸⁴ Studies are needed to determine whether the presence of wind turbines on crucial seasonal ranges will adversely affect big game. Big game crucial ranges should be avoided when siting wind plants, but if crucial ranges are implicated we recommend that wind companies monitor radio-collared animals for at least two years pre and post-construction.

Appendix VIII

wildlife habitat) as well as other local species movement corridors (e.g., deer, elk, pronghorn) that are used daily, seasonally, or year-round.

2.1.3 Construction and Operation BMPs for Wildlife

- Minimize project disturbance area (footprint) as much as possible.
- If lights on auxiliary buildings are deemed necessary, they should be motion-activated and downcast (avoid side-casting light) to reduce light pollution and to prevent disturbing or attracting wildlife.
- Minimize roads and other infrastructure. Use existing roads whenever possible. If new access roads and ways are needed, avoid gravel roads if possible and instead rely on dirt tracks and jeep trails constructed by cross country travel. Use road surfacing, road sealant, soil bonding, and stabilizing agents if needed on non-paved surfaces that are non-toxic to wildlife.
- Avoid constructing energy infrastructure during critical wildlife seasons such as breeding, nesting, and parturition seasons.⁸⁵ Within 2 miles of crucial migration corridors, wind power facility construction activities should occur outside their period of use by wildlife.
- Minimize construction and operation related noise levels to minimize impacts to wildlife. All equipment should have sound-control devices no less effective than those provided on the original equipment. All construction equipment used should be adequately muffled and maintained.
- Avoid the use of fencing. A 6-ft chain-link fence with 2 strands of barbed wire on the top, or a woven wire/high tensile electric/barbed wire combination exclusion fence can be used around central operations and maintenance buildings. If other fencing away from central operations must be used, use a smooth bottom wire at least 18 inches off the ground to facilitate pronghorn movements. Use a smooth top wire or top rail to facilitate elk and deer movements, and to reduce avian fatalities. Spacing between the two top wires should be 12 inches to avoid entangling deer. Fences should be no higher than 40-42 inches. Minimize the length of temporary fencing.
- Use of evaporation ponds should be avoided where the water would be considered toxic to birds and other wildlife. If evaporation ponds are absolutely necessary, they should be fenced and netted, where feasible, to prevent use by wildlife. The lower 18 in. (46 cm) of the fencing should be a solid barrier that would exclude entrance by amphibians and other small animals.
- Instruct project and maintenance personnel to drive at appropriate speeds, be alert for wildlife, and to avoid harassing and/or disturbing wildlife.
- For wind energy, portions of the wind energy facility inside crucial winter ranges or migration corridors should be closed to vehicle use (and human presence must be minimized) during their period of use by wildlife.
- For wind energy, remove wind turbines when they are no longer cost effective to use or retrofit so they cannot present a collision hazard to birds and bats.

2.1.4 Monitoring BMPs for Wildlife

- Conduct post construction surveys for same wildlife species of concern that pre-construction surveys were conducted for, using the same survey methods. Compare post-construction survey data to pre-construction surveys.
- Relate post-construction wildlife use to site characteristics. This requires that samples of wildlife use also measure site characteristics thought to influence wildlife use (i.e., covariates such as

⁸⁵ The Wyoming Game and Fish (2010) states that if siting within big game winter ranges cannot be avoided, suspend construction activities from November 15 – April 30, and if siting within big game parturition areas cannot be avoided, suspend construction activities from May 1 – June 15.

Appendix VIII

vegetation and topography) in relation to the location of use. Compare post-construction survey data to pre-construction surveys.

- Compare post construction survey data with post construction survey data. Manage adaptively through changes in site operation (i.e operation of turbines) if monitoring indicates that wildlife populations are no longer meeting pre-set goals for wildlife. A technical advisory committee should be established to review monitoring results and make suggestions regarding the need to adjust site operations or mitigation and monitoring requirements.

A note about designing wildlife monitoring and post-construction studies

It is important that the outcomes of monitoring tie into specific plans of action, based on whether management goals and objectives are being met. Each management objective should be essentially “tested” through monitoring methods that have been scientifically validated. Post-construction studies and wildlife monitoring that is conducted while the wind or solar project is operational need to be tied to answering basic questions about the impact of the project, or a well-defined research question. To use one example, with fatality studies at wind developments, the basic questions to answer might include (the following is summarized from USFWS 2010a):

1. What are the bird and bat fatality rates for the project? The primary objective of fatality searches is to determine the overall estimated fatality rates for birds and bats for the project. Several metrics are available for expressing fatality rates. Early studies reported fatality rates per turbine. However, this metric is somewhat misleading as turbine sizes and their risks to birds vary significantly (NRC 2007). Fatalities are frequently reported per unit capacity (i.e. MW), a metric that is easily calculated and better for comparing fatality rates among different sized turbines. Analysis of fatality data of birds and bats can also allow calculating fatality rates per turbine of all species of concern at a site when sample sizes are sufficient to do so.

2. How do the estimated fatality rates compare to the predicted fatality rates? There are a several ways that predictions can be assigned and later evaluated with actual fatality data. During the planning stages for the project, predicted fatalities may be based on existing data at similar facilities in similar landscapes used by similar species. In this case, the assumption is that use is similar, and therefore that fatalities may be similar at the proposed facility. Alternatively, metrics derived from pre-construction assessments for an individual species or group of species – usually an index of activity or abundance at a proposed project – could be used in conjunction with use and fatality estimates from existing projects to develop a model for predicting fatalities at the proposed project site.

3. How do the fatality rates compare to the fatality rates from existing facilities in similar landscapes with similar species composition and use? Comparing fatality rates among facilities with similar characteristics is useful to determine patterns and broader landscape relationships, and to provide insight into whether a project has relatively high, moderate or low fatalities. Fatality rates should be expressed on a per MW or some other standardized metric basis for comparison with other projects.

4. Do bird and bat fatalities vary within the project site in relation to site characteristics? Turbine-specific fatality rates may be related to site characteristics such as proximity to water, forest edge, staging and roosting sites, known stop-over sites, or other key resources, and this relationship may be estimated using regression analysis. This information is particularly useful for evaluating micro-siting options when planning a future facility or, on a broader scale, in determining the location of the entire project.

Appendix VIII

5. What is the composition of fatalities in relation to migrating and resident birds and bats at the site? The simplest way to address this question is to separate fatalities per turbine of known resident species (e.g., big brown bat, prairie horned lark) and those known to migrate long distances (e.g. hoary bat, red-eyed vireo). These data are useful in determining patterns of species composition of fatalities and possible mitigation measures directed at residents, migrants, or perhaps both, and can be used in assessing potential population effects.

The above example is just one way that a post-construction monitoring study can be designed, in this case focused on fatality of birds and bats at a wind facility. The underlying thread with all post-construction wildlife studies and monitoring is to set post-construction goals for wildlife, based on knowledge of general patterns of wildlife population abundance and distribution health prior to the project commencing. Measurements made and monitoring conducted post construction need to be able to tell wildlife biologists whether they are on track with ensuring that post-construction wildlife population abundances and distribution are meeting the pre-set goals. If the post-construction data collection indicates that there are impacts to a local wildlife population, an adaptive management plan needs to be developed to mitigate these impacts.

2.1.5 JUSTIFICATION FOR WILDLIFE BMPS

Solar installations and wildlife. On solar power installations, the site is typically cleared of all vegetation to allow access to the installed equipment and to prevent fires. Herbicides may be sprayed or vegetation mowed to maintain cleared zones under and around the solar fields. These facilities typically include numerous graded access roads, construction of new or expansion of existing substations, new transmission lines, and a surrounding security fence that prevents movement of wildlife through the site (Arizona Game and Fish Department 2010, Randall et al. 2010). Proposed solar projects can range in size from 100 to over 5,000 acres (Arizona Game and Fish Department 2010).

These large scale clearing and grading activities can result in the direct injury or death of wildlife that are not mobile enough to avoid construction operations (e.g., reptiles, small mammals, and young), that utilize burrows (e.g., ground squirrels and burrowing owls), or that are defending nest sites (such as ground-nesting birds). Although more mobile species of wildlife, such as deer and adult birds, may avoid the initial clearing activity by moving into habitats in adjacent areas (Hagan et al. 1996), adjacent habitats are often at carrying capacity for the species that live there and often cannot support additional biota from the construction areas (BLM 2010a). The subsequent competition for resources in adjacent habitats would likely preclude the incorporation of the displaced individual into the resident populations (BLM 2005b).

Light and noise pollution associated with solar power plants can also be problematic for wildlife. Polarized light pollution from PV panels can attract aquatic insects and other species that mistake the panels for bodies of water, potentially leading to population decline or even local extinction of some organisms (Horvath et al. 2010). Nighttime lighting for security or other reasons may negatively impact a variety of local species, many of which have developed nocturnal behavior to escape the daytime heat of the desert. In addition, solar thermal plants that employ dry cooling generate noise pollution through the use of large fans (Randall et al. 2010), which may affect local wildlife.

Some solar facilities, which use water for cooling or cleaning solar array mirrors, will have evaporation ponds on the site. Open water sources in the desert provide water subsidies to ravens and other predators that may feed on special status species (e.g., desert tortoise). In addition,

Appendix VIII

these water sources may attract wildlife to them but may also have elevated levels of harmful contaminants (e.g., TDS and selenium) that can harm many species of wildlife (BLM 2010a).

Wind installations and wildlife. On big game winter ranges, where wind farms are most likely to be sited (as opposed to higher elevation summer ranges), elk and other big game are highly susceptible to disturbance. Disturbance during this time of year can be particularly costly, since the metabolic costs of locomotion are up to five times as great when snows are deep (Parker et al. 1984). To the degree that wind power facilities involve human presence in crucial ranges during the most sensitive time periods, these developments may tend to displace elk from their preferred habitats into marginal ranges, where habitat conditions may be poor or where they may be forced to compete with resident animals already at or near their carrying capacity. Several studies have shown that elk abandon calving and winter ranges in response to oilfield development (e.g. Johnson and Lockman 1979, Johnson and Wollrab 1987, Van Dyke and Klein 1996), with potential implications for utility-scale wind power development. For mule deer, Sawyer et al. (2005) found that in the Pinedale area, wellfield development caused abandonment of mule deer crucial winter ranges for years at a time, and ultimately resulted in a 46% decline in mule deer populations, while herds in undeveloped areas showed a much smaller decline over the same period; the affected population has yet to recover to predisturbance levels (Molvar 2008). Other researchers have posited that overcrowding of species such as mule deer in sub-optimal winter ranges after they have been pushed out of optimal ranges could cause density-dependent effects, such as increased fawn mortality (Sawyer et al. 2006).

Wind farms may disrupt wildlife movements, particularly during migrations. For example, herd animals such as elk, deer and pronghorn can be affected if rows of turbines are placed along migration paths between winter and summer ranges or in calving areas (NWCC (2002). One lesson learned from oil and gas development in the Piney Front elk study in Wyoming demonstrated that oil and gas development could pose a barrier to elk migration, denying herds access to crucial winter ranges (Molvar 2008). Other researchers have posited that loss of habitat continuity along migration routes would severely restrict the seasonal movements necessary to maintain healthy big game populations (Sawyer and Lindzey 2001; Thomson et al. 2005). That said, the National Wind Coordinating Collaborative (2002) points out that because wind farms affect a relatively small proportion of the land they occupy, these sorts of effects on wildlife should be minor in most cases.

Impacts to wildlife common to solar and wind installations. Both solar and wind installations have the potential to impact a variety of wildlife species through a number of means. These include direct loss of habitat from construction activities; habitat alteration as a result of soil erosion and/or introduction of non-native vegetation; construction of obstacles to migration; and indirect habitat loss as a result of increased human presence and noise. In particular, increased traffic, noise, night lighting, and other human activities can temporarily discourage wildlife from using areas around energy facilities while these projects are being constructed (NWCC 2002).

Both large scale wind and solar installations can serve to fragment wildlife habitat (BLM 2005b, BLM 2010a). Habitat fragmentation is defined as the separation of a block of habitat for a species into segments, such that the genetic or demographic viability of the populations surviving in the remaining habitat segments is reduced (e.g. Dobson et al. 1999, Willyard et al. 2004, Dixon et al. 2007). Site clearing, access roads, transmission lines and turbine tower arrays remove habitat and displace some species of wildlife, and may fragment continuous habitat areas into smaller, isolated tracts (USFWS 2010a). Habitat fragmentation is of particular concern when species require large expanses of habitat for activities such as breeding and foraging. Consequences of isolating local populations of some species include decreased reproductive success, reduced genetic diversity, and increased susceptibility to chance events (e.g. disease and natural disasters), which may lead to extirpation or local extinctions (Noss 1983, Harris 1984, Dobson et al. 1999). In addition to displacement, development of wind and especially solar

Appendix VIII

energy infrastructure may result in additional loss of habitat for some species due to “edge effects” resulting from the break-up of continuous stands of similar vegetation resulting in an interface (edge) between two or more types of vegetation (USFWS 2010a). The extent of edge effects will vary by species and may result in adverse impacts from such effects as a greater susceptibility to colonization by invasive species, increased risk of predation, and competing species favoring landscapes with a mosaic of vegetation (Harper et al. 2005).

Sometimes renewable energy installations require the use of fencing. Fencing may disrupt wildlife movements, entangle wildlife, and increase bird fatalities (WOC 2009, ADGF 2010). Both wind and solar installations have the potential, during construction activities, to see increases in exotic plant species such as cheatgrass, which is known to do well with ground disturbance (BLM 2010a). The establishment of invasive vegetation could reduce habitat quality for wildlife and locally affect wildlife occurrence and abundance (BLM 2005b).

Lastly, many new solar and wind facilities in previously undisturbed, open areas will require a new network of roads to access them. A number of studies have shown that wildlife such as elk avoid roads (e.g. Grover and Thompson 1986, Rowland et al. 2000, in part because increased motorized access results in decreased elk habitat and security (Lyon 1983, Hayes et al. 2002, Rowland et al. 2005). Even songbirds are sensitive to road impacts; Ingelfinger and Anderson (2004) reported that population densities of sagebrush obligates, particularly Brewer’s sparrow and sage sparrow, were reduced by 40% to 60% within a 330-ft (100-m) buffer around dirt roads at their sagebrush study sites. And with new roads can come many new problems for wildlife that can occur when there is increased access to lands that previously had limited access. These impacts can include wildlife harassment and poaching, (PBS&J 2002), and unauthorized OHV use off of these roads (BLM 2005b) (and exotic plant seeds that can hitch a ride on the knobby tires (BLM 2010a, and citations within). Even if all vehicles stay on the roads, roads are often considered to facilitate the dispersal of invasive plant species by altering existing habitat conditions, stressing or removing native plant species, and allowing easier movement by wildlife or human vectors that can unknowingly carry seeds (Trombulak and Frissell 2000).

2.2 BEST MANAGEMENT PRACTICES FOR SAGE GROUSE

The Siting, Planning/Pre-construction, Construction/Operation, and Monitoring BMPs for sage grouse, below, are an amalgamation of BMP’s gathered from numerous different sources.⁸⁶

2.2.1 Siting BMPs for Sage Grouse for Wind Installations

- Wind Turbines should not be located within designated Sage Grouse Core Areas.
- Wind turbines and met towers should not be sited within 5 miles of an active sage grouse lek.
- Wind turbines should not be sited within sage-grouse nesting and brood-rearing habitat, and should be sited away from other high-use sage grouse areas identified in preconstruction surveys (see below).

2.2.2 Planning and Pre-construction BMPs for Sage Grouse

- Consult with the state fish and game agency to determine locations of greater sage-grouse leks, nesting and brood-rearing habitat, and wintering areas based on past surveys.
- Use scientifically sound, peer reviewed research protocols to determine how sage grouse use a proposed project area. Be sure to determine whether the site has a resident or migratory

⁸⁶ Sources include Manville 2004, Molvar 2008, ONDA 2009, Wyoming Outdoor Council 2009, U.S Fish & Wildlife Service 2010a.

Appendix VIII

population. Adjust siting and facility design based on the results of these studies to reduce potential impacts to sage grouse.

- Populations of sage grouse at the site should be assessed by either lek counts (a count of the maximum number of males attending a lek) or lek surveys (classification of known leks as active or inactive) during the breeding season (e.g., Connelly et al. 2000). Methods for lek counts require repeated visits to known sites and a systematic search of all suitable habitat for leks, followed by repeated visits to active leks to estimate the number of grouse using them (USFWS 2010a).
- Monitor radio-tagged sage-grouse on the proposed development site for at least two years preconstruction **outside** core sage-grouse areas.
- Suitable nesting and brood rearing habitat at the site should be mapped.

2.2.3 Construction and Operation BMPs for Sage Grouse

- All transmission lines (including high-voltage DC lines) sited within 5 miles of a grouse lek should be buried
- As practicable, do not conduct surface-use activities within crucial sage-grouse wintering areas from December 1 through March 15.

2.2.4 Monitoring BMPs for Sage Grouse

- Post construction populations of sage grouse at the site should be assessed by either lek counts or lek surveys during the breeding season (e.g., Connelly et al. 2000).
- Monitor radio-tagged sage-grouse on the site for five years post-construction in proposed sites **outside** core sage-grouse areas.

2.2.5 JUSTIFICATION FOR SAGE GROUSE BMPS

The area within five miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations (Manville 2004, Molvar 2008, USFWS 2010a). Hulet et al. (1986) found that 10 of 13 hens nested within two miles of the lek site during the first year of their southern Idaho study, and 100% of hens nested within two miles of the lek site during the second year of this study. Because lek sites are used traditionally year after year and represent selection for optimal breeding and nesting habitat, it is crucially important to protect the area surrounding lek sites from impacts.

Sage-grouse have an innate aversion to vertical structures because predators such as raptors can perch and hunt from these structures (Utah Department of Natural Resources 2010). Thus, sage grouse are through to be negatively impacted by wind energy development, not so much from the standpoint of direct mortality from collisions but from displacement from favored habitats due to behavioral avoidance of tall structures like met towers and turbines. For example at the Cotterel Mountain wind project site in Idaho, there were nine known sage grouse leks on Cotterel Mountain prior to the placement of eight meteorological towers erected to measure wind velocity for a commercial wind power feasibility study (Reynolds 2004). Overall sage grouse population estimates were 59 to 72 individuals in 2004 and 2005 (Reynolds and Hinckley 2005).

In spring 2006, after the Met towers were built, the population of sage grouse on Cotterel Mountain had declined to an estimated 16 individuals and seven of nine leks were unoccupied, while sage grouse populations elsewhere in the county exhibited steady population trends in 2004 and 2005 and only a very slight dip in 2006 (Collins and Reynolds 2006). It is instructive that the Cotterel Mountain sage grouse

Appendix VIII

population crashed following installation of anemometer towers across the crest of Cotterel Mountain. With relevance for solar installations as well, transmission towers for power lines also serve as perches for hunting raptors so can also cause abandonment of sage grouse habitats through behavioral avoidance (Molvar 2008). An unpublished study found that sage grouse habitat use increased with distance (up to 600 meters) from powerlines (Braun, unpublished data, reported in Strickland 2004).

Much of what is known about the tolerance of sage grouse to industrial development derives from studies on oil, gas, and coalbed methane development. To the extent that both wind power and solar power development also involves habitat fragmentation and loss from new construction and development, road construction and subsequent vehicle traffic, human activity and noise associated with maintenance, some of the impacts recorded in the context of oil and gas development may apply to varying degrees to wind and solar power developments (Molvar 2008). For example in a study near Pinedale, Wyoming, sage grouse from disturbed leks where gas development occurred within 3 miles of the lek site showed lower nesting rates (and hence lower reproduction), traveled farther to nest, and selected greater shrub cover than grouse from undisturbed leks (Lyon 2000). Walker et al. (2007) found that coalbed methane development within two miles of a sage grouse lek had negative effects on lek attendance. Holloran (2005) found that active drilling within 3 miles of a lek reduced breeding populations, while wells already constructed and drilled within 2 miles of the lek reduced breeding populations. Both Holloran (2005) and Walker et al. (2007) documented the extirpation of breeding populations at active leks as a result of oil and gas development in the Upper Green River Valley and Powder River Basin, respectively. Lyon and Anderson (2003) found that in habitats fragmented by natural gas development, only 26 % of hens captured on disturbed leks nested within 2 miles of the lek of capture, whereas 91 % of hens from undisturbed areas nested within the same area. Based on this evidence from the oil and gas development literature, USFWS (2010a) stated, “Based primarily on data documenting reduced fecundity (a combination of nesting, clutch size, nest success, juvenile survival, and other factors) in sage grouse populations near roads, transmissions lines, and areas of oil and gas development/production (Holloran 2005, Connelly et al. 2000), development within three to five miles (or more) of active sage grouse leks may have significant adverse impacts on the affected grouse population.”

The US Fish and Wildlife Service generally agrees with the prediction of wind power impacts on sage grouse, similar to those made in the reviews and studies above, stating in its recent 12-month finding of whether to list the sage grouse under the ESA, “wind power typically require[s] many of the same features for construction and operation as do nonrenewable energy resources. Therefore, we anticipate that potential impacts from direct habitat losses, habitat fragmentation through roads and powerlines, noise, and increased human presence...will generally be similar to those ...for nonrenewable energy development” (USFWS 2010b).

2.3 BEST MANAGEMENT PRACTICES FOR RAPTORS

The Siting, Planning/Pre-construction, Construction/Operation, and Monitoring BMPs for raptors, below, are an amalgamation of BMP’s gathered from numerous different sources.⁸⁷ Many of the BMPs in the section following this one, “Best Management Practices for All Other Birds,” also include many BMPs that are also relevant to raptors. BMP’s that overlap both categories are thus included in the Birds BMP section, not this one, to avoid redundancy.

2.3.1 Siting BMPs for Raptors for Wind Installations

⁸⁷ Sources include the Kansas Renewable Energy Working Group 2003, BLM 2005a, BLM 2005b, The Clean Energy States Alliance (2006) , California Energy Commission 2007, Molvar 2008, Oregon Natural Desert Association 2009, U.S Fish & Wildlife Service 2010a, Wyoming Outdoor Council 2010.

Appendix VIII

- Avoid placement of turbines in raptor nesting concentration areas, and also downwind of raptor nesting sites (where strong winds can carry fledglings with underdeveloped flight skills straight into turbines)
- Configure turbines so as to avoid landscape features known to attract raptors, such as cliff and rim edges, canyons, and passes in ridgelines. Turbines should be set at least 100 m. back from cliff and rim edges.
- Turbines should be clustered rather than widely spaced, and rows should be oriented parallel to known bird movements rather than perpendicular to them.
- Sites that potentially have high concentrations of prey such as prairie dog towns should be avoided, as well as high-use raptor areas identified in preconstruction surveys (see below).
- Minimize soil disturbance in areas between turbines

2.3.2. *Planning and Pre-construction BMPs for Raptors*

- Consult with state fish and game agency to determine active raptor nesting locations, flight pathways, foraging areas, and concentration areas based on past surveys in the area.
- Pre-construction raptor surveys should follow science based, peer-reviewed protocols and comply with BLM, USFWS,⁸⁸ and state Game and Fish guidelines. For wind projects, the USFWS (2010a) guidelines recommend that raptor surveys should be done using point counts (e.g. Reynolds et al. 1980). These surveys should also collect vertical as well as horizontal data (such as flight height) to identify levels of activity within the rotor-swept zone.
- If potential impacts to breeding raptors are a concern on a project, raptor nest searches during the breeding season within the project site and within one mile of the project site are also recommended. These surveys provide information to predict risk to the local breeding population of raptors, and for micro-siting decisions.
- Nests of raptors located during surveys should have non-disturbance buffer zones delineated around them.

2.3.3 Construction and Operation BMPs for Raptors for Wind Power

- Use state-of-the art tubular, non-latticed turbines, to reduce the ability of raptors to perch on turbines.
- Avoid placing external ladders and platforms on tubular towers that can be used by birds as perches or nest sites.

2.3.4 *Monitoring BMPs for Raptors*

- Post-construction raptor surveys⁷ should be done using point counts (e.g. Reynolds et al. 1980). These surveys should also collect vertical as well as horizontal data (such as flight height) to identify levels of activity within the rotor-swept zone.
- Survey for active raptor nests within one mile of the project area. Compare with pre-construction baseline data to allow for estimation impacts and determining mitigation requirements.
- Compare post construction survey data with post construction survey data. Manage adaptively through changes in site operation (i.e operation of turbines, cut-in speeds of turbines) if monitoring indicates that raptor populations are no longer meeting pre-set goals. A technical advisory committee should be established to review monitoring results

⁸⁸ We refer readers to the USFWS (2010a) Wind Turbine Guidelines Advisory Committee Policy Recommendations and Guidelines for further guidance on designing and implementing pre and post wind facility construction monitoring plans and surveys for raptors.

Appendix VIII

and make suggestions regarding the need to adjust site operations or mitigation and monitoring requirements.

2.3.5 JUSTIFICATION FOR RAPTOR BMPS

There are indications that raptors are sensitive to wind turbines, partly because they tend to fly at heights within the blade sweep area (Kingsley and Whittam). At Tehachapi Pass in California, Anderson et al. (2004) found that red-tailed hawks, American kestrels, and great horned owls showed the greatest risk of collision of all bird species, and Osborn et al. (2008) concluded that raptors, along with waterfowl, were found to have the highest risk of turbine collision in Minnesota. Moreover, it does not appear that raptors make behavioral adjustments to wind power facilities that reduce fatality rates over time. Indeed, Smallwood and Thelander (2005) found that per-capita risk of raptor fatalities for individual birds actually increased over 15 years of study at Altamont Pass in California, even as raptor densities decreased.

Siting turbines in canyons and passes increases the risk of fatalities for migrating raptors. In Montana, Harmata et al. (2000) found that more migrating raptors passed over valleys and swales than over high points; while migrating birds tended to avoid passing over high points during headwinds, low passes received greatest use by migrating raptors overall. In general, raptors are known to concentrate along ridge tops, upwind sides of slopes, and canyons to take advantage of wind currents that are favorable for hunting and traveling, as well as for migratory flights (Barrios and Rodriguez 2004, Hoover and Morrison 2005, Manville 2009). Smallwood and Thelander (2005) found that golden eagles at the Altamont Pass facility were killed disproportionately by turbines sited in canyons. At Altamont Pass, Hoover (2002) noted that golden eagles preferred to use narrow corridors that transect large hills. Also at Altamont pass, Hoover and Morrison (2005) reported that raptor kiting behavior was most frequently observed on steep windward slopes, and selected for the tallest peaked slopes; slopes where this behavior occurred had a disproportionate amount of red-tailed hawk mortality. In the context of the Foote Creek Rim project in Wyoming, Johnson et al. (2000) also reported higher than expected raptor use of rim edge habitats. And the same was noted for raptor use at the Columbia Wind Farm #1 in Washington state (Erickson and Johnson 1999).

There is more to doing wind energy smart from the start for raptors than just siting the wind turbines properly. It is also important to ensure that ground disturbance between turbines is minimized. A disturbed ground surface can be more suitable for burrowing animals, many of which are attractive prey for raptors and other predators (NWCC 2002). It is thus possible that disturbed soils on a site can lead to luring more raptors towards the turbines than would happen otherwise.

The Altamont pass wind site in California has been intensely studied (e.g. Smallwood Thelander 2005 & 2008) and is often cited as an example of how wind turbines cause direct mortality to a variety of birds, especially raptors. However, since this wind facility was built (in the 1980's) it has largely been dismissed as a good example of how projects should be sited and built, due to its location (right in the middle of avian migratory pathways), and the types of wind turbines in operation (fast-moving blades, lattice towers, etc). Since the days of Altamont, studies in other wind resource areas have shown that bird collisions are not a critical problem at most wind development areas (NWCC 2002) and have led researchers to conclude that fatalities at the level seen at Altamont Pass may be unique (see studies by Thelander and Ruge 2000, and Anderson et al. 2002). A 2010 summary of the research on wind turbine interactions with birds (NWCC 2010) underscores this in the statement, "Studies have indicated that relatively low raptor (e.g., hawks, eagles) fatality rates exist at most wind energy developments with the exception of some facilities in parts of California."

2.3 BEST MANAGEMENT PRACTICES FOR ALL OTHER BIRDS

The Siting, Planning/Pre-construction, Construction/Operation, and Monitoring BMPs for all birds, below, are an amalgamation of BMP's gathered from numerous different sources.⁸⁹

2.4.1 *Siting BMPs for Birds*

- Avoid known avian concentration areas such as wetlands, riparian areas, roosts, nesting colonies, staging areas, and known daily movement flyways (e.g., between feeding and resting or breeding areas), as well as away from high-use areas identified in pre-construction surveys (see below).
- Avoid siting turbines in areas prone to fog, mist, low visibility, or low cloud ceilings.

2.4.2. *Planning and Pre-construction BMPs for Birds.*

- Gather information from the Natural Heritage Program database or comparable State Game and Fish database with past location information on sensitive bird species. Consultations should occur with the state fish and game agency to determine sensitive bird species nesting locations, foraging areas, and concentration areas.
- Field surveys should follow science-based, peer-reviewed protocols and comply with BLM, USFWS,⁹⁰ and state Game and Fish guidelines. Surveys should occur, if possible, in conjunction with the state fish and game agency. Sampling should either be distributed randomly or systematically throughout the area of interest.
- For wind developments, daytime and nighttime avian surveys⁹¹ during the spring and fall migration season should be conducted to determine use of the proposed project area, and daytime avian surveys during the breeding season for at least two years prior to construction.
- For wind developments, the USFWS (2010a) recommends that avian surveys include surveys that can be assumed to give indices of abundance in the area, such as weekly point-counts (e.g. Reynolds et al. 1980) or transect surveys⁹² (similar to Schaffer and Johnson, 2008). These methods are most useful for pre- and post-construction studies to quantify avian use of the project site by habitat, determine the presence of species of concern, and to provide a baseline for assessing displacement effects and habitat loss (USFWS 2010a). Standardized protocols for estimating avian abundance from these survey methods are well-established and should be consulted (e.g., Dettmers et al. 1999).
- Nests of special status bird species located during surveys should have non-disturbance buffer zones delineated around them.

⁸⁹ Sources include National Wind Coordinating Collaborative 2002, the Kansas Renewable Energy Working Group 2003, BLM 2005a, BLM 2005b, Canadian Wildlife Service 2006, the Clean Energy States Alliance (2006), California Energy Commission and California Dept of Fish and Game 2007, BLM 2008, ONDA 2009, Arizona Game and Fish Department 2010, U.S Fish & Wildlife Service 2007 and 2010a, WOC 2010, American Bird Conservancy 2011.

⁹⁰ We refer readers to the USFWS (2010a) Wind Turbine Guidelines Advisory Committee Policy Recommendations and Guidelines for further guidance on designing and implementing pre and post wind facility construction monitoring plans and surveys for birds.

⁹¹ An index of migration activity can often be obtained by diurnal counts of a nocturnal migrating species during their daily stop-over (CESA 2006).

⁹² The Clean Energy States Alliance (2006) posits that in grasslands and shrub-steppe where passerines are the primary target, belt transects may be most appropriate for estimating species occurrence and relative abundance.

Appendix VIII

2.4.3 Construction and Operation BMPs for Birds

- Avoid construction activities during mating and nesting seasons, and within (buffered) areas of active nests identified during pre-construction surveys.
- Design lighting to prevent skyward projection of lighting that may disorient night migrating birds. Sodium vapor lights, widely used for streetlights and security lighting, should never be used at energy facilities because they have been shown to attract night-flying birds.
- Bury electrical collector lines in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines can be considered in cases where burying lines would result in disturbance of significant habitat, but must be balanced with the concern for creation of additional bird perching opportunities.⁹³
- Ensure that all above-ground low and medium voltage lines, transformers, or conductors comply with Avian Power Line Interaction Committee (APLIC) standards (APLIC 2006), including the use of deterrents.
- There should be no permanently installed high intensity lighting at the facility. Site lighting should be “off” unless needed for specific tasks.
- For wind facilities, place and configure meteorological towers to minimize impacts on birds. Sonic detection and ranging should be used instead of meteorological towers if possible. If met towers are used, un-guyed met towers are preferable. Un-guyed towers should be tubular, not latticed (latticed towers attract perching and nesting birds). If un-guyed met towers cannot be used (such as on temporary met towers), guy-wires should be fitted with recommended bird-deterrent devices, such bird flight diverters, or other high visibility marking devices.
- For wind facilities, for turbines that require lights for aviation safety, use a minimal number of simultaneously flashing white or red lights, unless otherwise requested by the FAA. Lights with short flash durations that emit no light during the “off phase” should be used—those that have the minimum number of flashes per minute and the briefest flash duration allowable.
- For wind facilities, make sure that wind turbine arrays are built with the tops of blades positioned lower than nearby ridgetops. Birds usually maintain altitude after crossing ridgetops (Mabee et al. 2006), suggesting that ensuring that arrays are lower than ridgetops could result in lower rates of mortality for migratory birds.
- For wind facilities, use tubular, non-latticed turbines to reduce the ability birds to perch on turbines.
- For wind facilities, spacing between turbines should be greater than 200 meters.

2.4.4 Monitoring BMPs for Birds for Wind Facilities

- For wind facilities, conduct surveys⁹⁴ to determine fatality rates of birds, including carcass searches and associated scavenger removal trials (to determine how many dead birds are removed from the site by scavengers) and searcher efficiency trials (to determine the proportion of dead birds actually found by searchers). These trials are important for adjusting fatality estimates.
- For wind facilities, surveys should be conducted during the spring and fall migration periods and during the breeding season for at least two to three years post-construction.
- Compare post construction survey data with post construction survey data. Manage adaptively through changes in site operation (i.e operation of turbines, cut-in speeds of turbines) if monitoring indicates that bird populations are no longer meeting pre-set

⁹³ The USFWS (2010a) states that “Overhead lines may be acceptable if sited away from high bird crossing locations...such as between roosting and feeding areas or between lakes, rivers, prairie grouse and sage grouse leks, and nesting habitats. Overhead lines may be used when the lines parallel tree lines, employ bird flight diverters, or are otherwise screened so that collision risk is reduced.

⁹⁴ Another good source for designing scientifically rigorous post construction avian monitoring studies is “Studying wind energy/bird interactions: a guidance document” (NWCC 1999).

Appendix VIII

goals. A technical advisory committee should be established to review monitoring results and make suggestions regarding the need to adjust site operations or mitigation and monitoring requirements.

2.4.5 JUSTIFICATION FOR BIRD BMPS

Both solar and wind installations have the potential to impact a variety of avian species through a number of means. These include direct mortality from collisions, loss of habitat from construction activities; habitat alteration as a result of soil erosion and/or introduction of non-native vegetation; destruction of the nests of ground-nesting birds; increased predation by providing additional perches for raptors; and indirect effects as a result of increased human presence, noise, or motion of operating wind turbines (NWCC 2010). Some of these habitat alteration effects and other indirect effects can lead to avoidance or abandonment of certain habitats, reduced nesting/breeding density, loss of refugia, habitat unsuitability, and behavioral effects (Stewart et al. 2004, 2007). There are some cases where the impacts of habitat disturbance at a wind farm may actually be more egregious than the impacts of the turbine blades, such as the case of the Stateline Wind Resource Area, where impacts on grassland nesting passerines may have been largely due to the direct reduction of habitat from turbine pads and roads and the temporary disturbance of habitat between turbines and road shoulders, rather than due to collisions with turbines (Erickson et al. 2003b).

Principal sources of noise during construction activities for large scale solar and wind facilities includes truck traffic, operation of heavy machinery, and occasionally blasting (i.e. to level or place foundations). The most adverse impacts associated with construction noise could occur if critical avian life-cycle activities are disrupted (e.g., mating and nesting, NWCC 2002). If birds are disturbed sufficiently during the nesting season to cause displacement, then nest or brood abandonment might occur, and the eggs and young of displaced birds would be more susceptible to cold or predators (BLM 2005b). Much of the research on wildlife-related noise effects has focused on birds, and has shown that noise may affect territory selection, territorial defense, dispersal, foraging success, fledging success, and song learning (e.g., Reijnen and Foppen 1994; Foppen and Reijnen 1994; Larkin 1996).

Wind turbine arrays have the potential to be major sources of bird mortality.⁹⁵ The National Wind Coordinating Collaborative estimated that on average, a typical wind turbine kills about two birds per year (NWCC 2002). Erickson et al. (2001) reported that in a California study, 78% of mortalities were songbirds protected by the Migratory Bird Treaty Act, while only 3.3% of bird mortalities were unprotected, such as non-native species like pigeons or starlings. At Wyoming's Foote Creek Rim wind facility, 92% of bird mortality between 1998 and 2002 was comprised of passerines, as opposed to raptors or waterfowl (Young et al. 2003).

⁹⁵ The Altamont pass wind site in California has been intensely studied (e.g. Smallwood Thelander 2005 & 2008) and is often cited as an example of how wind turbines cause direct mortality to a variety of birds. However, since this wind facility was built (in the 1980's) it has largely been dismissed as a good example of how projects should be sited, due to its location (right in the middle of avian migratory pathways), and the types of wind turbines in operation (fast-moving blades, lattice towers, etc). Since the days of Altamont, studies in other wind resource areas have shown that bird collisions are not a critical problem at most wind development areas (NWCC 2002) and have led researchers to conclude that fatalities at the level seen at Altamont Pass may be unique (see studies by Thelander and Rugge 2000, and Anderson et al. 2002, NWC 2010).

Appendix VIII

Fatality rates for birds due to direct impact with turbines vary. Birds have relatively poor hearing. To make a comparison, human ears can detect wind turbines at roughly twice the distance as birds can (Dooling 2002). Both resident and migratory birds are involved in collisions, although resident birds may have a higher probability of colliding with turbines than migrants, given that residents tend to fly lower and spend more time in an area than migrants (Janss 2000). Birds typically migrate at altitudes of 500 to 2,500 feet, well above the top of turbine blades in most locations (NWCC 2002, NWCC 2010). Therefore, collisions with wind turbines during actual migratory flights should be, and appear in actuality to be, rare. However, studies have shown that songbirds are vulnerable to colliding with wind turbines during poor weather conditions that force them to lower altitudes (Erickson et al. 2001; Johnson et al. 2002; Manville 2009). And, Osbourne et al. (1998) noted that 75% of the bird mortality at the Buffalo Ridge Wind Resource Area occurs during migration periods.

The USFWS (2010a) points out that collision risk to individual birds at a particular wind energy facility may be the result of complex interactions among species distribution, relative abundance, behavior, weather conditions (e.g., wind, temperature) and site characteristics. Put simply, the relative abundance of a bird species does not predict the relative frequency of fatalities per species (Thelander and Rugge 2000). For example, collision risk for an individual may be low regardless of abundance if its behavior does not place it within the rotor-swept zone. If individuals frequently occupy the rotor-swept zone but effectively avoid collisions, they are also at low risk of collision with a turbine (e.g. ravens). Alternatively, if the behavior of individuals frequently places them in the rotor-swept zone, and they do not actively avoid turbine blade strikes, they are at higher risk of collisions with turbines regardless of abundance. For a given species, increased abundance increases the likelihood that individuals will be killed by turbine strikes, although the risk to individuals will remain about the same. The risk to a population increases as the proportion of individuals in the population at risk to collision increases (USFWS 2010a). However, to date, the only known concern regarding population effects of wind energy on birds has arisen in the Altamont Pass wind development project, where poor siting of turbines resulted in greater than normal fatality of birds (NWCC 2002, NWCC 2010). It is also noteworthy that the number of birds killed in wind developments is substantially lower relative to estimated annual bird casualty rates from a variety of other anthropogenic factors including vehicles, buildings and windows, power transmission lines, communication towers, toxic chemicals including pesticides, and feral and domestic cats (Erickson et al. 2001; NAS 2007; Manville 2009).

Lattice rather than tubular turbine designs has been shown to be detrimental to birds, because Lattice support towers offer many more perching sites for raptors than do monopole towers, and hence may encourage high raptor occupancy in the immediate vicinity, or rotor swept area, of wind turbines (Orloff and Flannery 1992; NAS 2007). At Altamont pass, lattice turbine types were associated with a higher mortality rate than all other turbine types combined (Orloff and Flannery 1992). These same findings at multiple sites have led many researchers to call for tubular rather than latticed designs for turbines at wind farms.

Reduced visibility because of fog, clouds, rain, and darkness may be a contributing factor in collisions of birds with wind turbines. For example as many as 51 of the 55 collision fatalities (93%) in a study at the Buffalo Ridge Wind Resource Area (WRA) may have occurred in association with inclement weather such as thunderstorms, fog, and gusty winds (Johnson et al. 2002). Sometimes birds experience reduced ability to detect moving blades because of motion smear. Howell et al. (1991) found that increasing turbine blade visibility (alternating patterns of red and white) appeared to reduce the number of avian collisions.

Interestingly, birds are also susceptible to collisions with mirrored heliostats at solar generation facilities. At the 10-MW Solar One pilot power tower facility located in the Mojave Desert, 70 bird fatalities involving 26 species were documented during a 40-week study. 81% of the birds died from colliding

Appendix VIII

with mirrored heliostats, while the rest died from burns received by flying through standby points. The rate of mortality was estimated to be 1.9 to 2.2 birds per week. It was estimated that this represented 0.6 to 0.7% of the local population present at any given time. While this loss was considered minimal, it was concluded that larger facilities could produce nonlinear increases in the rate of avian mortality and, when coupled with the removal of large tracts of land from biological production, could be of concern with regard to the ecological effects of a solar energy project (McCrary et al. 1986).

In terms of meteorological towers, studies have shown guy-wired towers can cause four times more bird mortality than towers without guy wires (Young et al. 2003), and in fact guyed towers may be more dangerous to birds than wind turbines (BLM 2005b, Wyoming Outdoor Council 2010). The Nine Canyon wind project in Washington used an unguyed meteorological tower, which resulted in no recorded bird or bat fatalities (Erickson et al. 2003a).

Often individual turbine lights span an entire wind farm. While recent studies have concluded that there is no difference in avian mortality rates between a wind farm with flashing lights vs. no lights, the International Dark Sky Association still feels that there could be an issue with nocturnal environment disruption. Non-flashing red lights have been shown to attract night-migrating birds (BLM 2005b). Quickly flashing white strobes appear to be less attractive to birds (Ugoretz 2001). The presence of lighting on some turbines might attract birds to the area and increase the potential for collision mortality at both the lit and unlit turbines (Johnson et al. 2002).

Overall, impacts of wind facilities to bats are one of the more well-studied aspects of wind energy. Reviews on the topic have been written by Erickson et al. (2001), Kunz et al. (2007a) and the National Wind Coordinating Collaborative (2010).

2.5 BEST MANAGEMENT PRACTICES FOR BATS

The Siting, Planning/Pre-construction, Construction/Operation, and Monitoring BMPs for bats, below, are an amalgamation of BMP's gathered from numerous different sources.⁹⁶

2.5.1 Siting BMPs for Bats for Wind Projects

- Avoid siting turbines near bat hibernacula, breeding colonies and maternity roosts.
- Avoid siting turbines within migration corridors and flight paths among and between colonies and feeding areas
- Site turbines away from wetlands, riparian areas, and woodlands to reduce potential bat collisions
- Site turbines away from high-use bat areas identified in pre-construction surveys (see below).

2.5.2. Planning and Pre-construction BMPs for Bats for wind projects

- Conduct daytime and nighttime bat surveys during the spring and fall migration season to determine use of the proposed project area, and conduct nighttime bat surveys during the breeding season.

⁹⁶ Sources include Kuenzi and Morrison 1998, O'Farrell et al. 1999, BLM 2005a, BLM 2005b, CESA 2006, BLM 2008, Molvar 2008, ONDA 2009, Arizona Game and Fish Department 2010, NWCC 2010, U.S Fish & Wildlife Service 2010a, WOC 2010.

Appendix VIII

- Surveys should follow science-based, peer-reviewed protocols,⁹⁷ and can include acoustic, radar, and/or thermal imaging surveys to determine relative abundances and occupied habitats for bats in and near the project area prior to site selection, and foraging habitats and migration pathways used by these species.
- If acoustic surveys are done, the USFWS (2010a) recommends placing acoustic detectors on existing met towers, approximately every two kilometers across the site where turbines are expected to be sited. The Clean Energy States Alliance also recommends that this be done for one season (late summer-early fall) with acoustic detectors mounted on existing met towers at varying heights, with an attempt made to mount detectors within the proposed rotor swept area.
- Monitoring for a full year is recommended in areas where there is year round bat activity.
- Data on environmental variables such as temperature and wind speed should be collected concurrently with acoustic monitoring so these weather data can be used in the analysis of bat activity levels.
- Mistnetting is best used in combination with acoustic monitoring to inventory the species of bats present at a site, especially to detect the presence of threatened or endangered species. Efforts should concentrate on potential commuting, foraging, drinking, and roosting sites.
- Pre-construction survey efforts may be recommended to determine whether known or likely bat roosts in mines, caves, bridges, buildings, or other potential roost sites occur within the project vicinity, and to confirm whether known or likely bat roosts are occupied by bats.

2.5.3 Construction and Operation BMPs for Bats for Wind facilities

- Use no lighting on turbines unless required by Federal Aviation Administration regulations.
- For turbines that require lights for aviation safety consider "on-demand" lighting systems for turbines and met towers, such as those which use radar-based technology to allow the FAA strobe lights on wind farms to remain off at all times - unless an aircraft is detected. Alternatively, use a minimal number of simultaneously flashing white or red lights, unless otherwise requested by the FAA.
- For lighting for operation and maintenance facilities and substations, lights should be hooded downward and directed to minimize horizontal and skyward illumination. Minimize use of high-intensity lighting, steady-burning, or bright lights such as sodium vapor, quartz, halogen, or other bright spotlights
- If turbines are sited across migration routes or between roosting and feeding areas, then these turbines should have seasonal shutdowns during the migration season(s) or periods.
- Turbines should be set to have a minimum 'cut-in' speed of 6 meters per second to avoid the increased mortality risk to bats at slow turbine speeds.
- Focus most construction activities in either summer or winter, if possible.
- Because some studies have demonstrated that bat fatalities occur primarily on nights with low wind speed and typically increase immediately before and after the passage of storm fronts, consider shutting down some turbines during these weather conditions.

2.5.4 *Monitoring BMPs for Bats for Wind Facilities*

⁹⁷ We refer readers to the USFWS (2010a) Wind Turbine Guidelines Advisory Committee Policy Recommendations and Guidelines for further guidance on designing and implementing pre and post wind facility construction monitoring plans and surveys for bats.

Appendix VIII

- For wind facilities, conduct weekly surveys to determine fatality rates of bats.⁹⁸ Fatality studies should also conduct carcass removal and searcher efficiency trials using accepted methods (Anderson 1999, Morrison et al. 2001, Kunz et al. 2007a, Arnett et al. 2007, NRC 2007).
- For wind facilities, bat surveys should be conducted during the spring and fall migration periods and during the breeding season for at least two to three years post-construction.
- Compare post construction survey data with post construction survey data. Manage adaptively through changes in site operation (i.e cut-in speeds of turbines, operation of turbines during low wind nights when it is predicted to have higher bat mortality) if monitoring indicates that bat populations are no longer meeting pre-set goals. A technical advisory committee should be established to review monitoring results and make suggestions regarding the need to adjust site operations or mitigation and monitoring requirements.

2.5.5 JUSTIFICATION FOR BAT BMPS

Bats sustain potentially fatal injuries not only from turbine strikes but also from potentially deadly decompression associated with air pressure gradients caused by spinning turbines (Arnett et al. 2008, Baerwald et al. 2008). Kunz et al. (2007a) reported that bat fatalities at wind power facilities ranged from 0.8 to 53.3 bats per megawatt per year, with the highest mortality rates in forested areas. At some projects, bat fatalities are higher than bird fatalities, but the exposure risk of bats at these facilities is not fully understood (National Research Council 2007). In their literature review on patterns of bat fatalities at wind energy facilities in North America, Arnett et al. 2008 noted that none of the studies they reviewed reported bat fatalities associated with meteorological towers. These findings support the contention that bats collide with spinning turbine blades and that they do not strike stationary blades or towers (Arnett 2005). Across North America, taller towers with greater rotor-swept area induce greater bat mortality rates than smaller and shorter wind turbines (Arnett et al. 2008). As the trend within the industry is toward taller wind turbines with larger propellers, it is expected that risk to bats will increase further over time.

Almost 75% of all bats killed by wind turbines nationwide are made up of three species⁹⁹ of tree-roosting, migratory Lasiurids: the foliage-roosting eastern red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), and tree cavity-dwelling silver-haired bat (*Lasionycteris noctivagans*) (NAS 2007, Kunz et al. 2007b, Arnett et al. 2008). All three of these species have spring and fall migration periods (NatureServe 2011). Many researchers have concluded that migrating bats are at most risk of turbine collision and that resident, breeding, or foraging bats have a lower risk of collision mortality (Erickson et al. 2003, Johnson et al. 2003, Johnson and Strickland 2004, Johnson et al. 2004). The National Wind Coordinating Collaborative (2010) stated that, “all studies of bat impacts have demonstrated that fatalities peak in late summer and early fall, coinciding with the migration of many species (referencing Johnson 2005; Kunz et al. 2007a; Arnett et al. 2008).

Jain et al. (2007) suggested that turbines located closer to wetlands may kill more bats. One thing that has been found by many researchers is that wind projects planned in or near woodlands have a greater

⁹⁸ Alternatively, Arnett (2005) recommends daily carcass searches rotating through a subset of the turbines, so that there are some carcass data coming in each day. Also, the Clean Energy States Alliance (2006) posits that initial post-construction bat mortality surveys can be done at a modest level of intensity (e.g., weekly or biweekly at a sample of turbines during the migration period) to determine a general level of bat mortality. However, if the monitoring indicates larger than expected bat fatalities, additional monitoring will be needed

⁹⁹ Arnett et al. (2008) and Miller (2008) report that the Brazilian Free-tailed Bat comprised a large proportion (41–86%) of the bats killed at developments within this species’ range.

Appendix VIII

likelihood of high bat mortality rates. Some of the highest levels of bat mortality have been recorded at the Mountaineer wind power facility in the forested mountains of West Virginia, where an estimated 21 bats per night were struck (Horn et al. 2008). Fiedler (2004) reported that bat fatalities in 2004 at a wind power facility in mixed hardwood forest in eastern Tennessee were an order of magnitude greater than at 8 other facilities in the region, and blamed siting on a prominent ridgeline surrounded by forests with rocky outcrops for the higher bat mortality at this site and the Mountaineer wind farm. Johnson et al. (2004) found that turbines located near woodlands also experienced higher levels of bat activity at the Buffalo Ridge facility in southwestern Minnesota. Arnett et al. (2005) found that forested ridges pose especially high fatality risks to bats at wind facilities. In their literature review on patterns of bat fatalities at wind energy facilities in North America, Arnett et al. 2008 noted that estimates of bat fatalities were highest at wind energy facilities in the eastern United States (which are often located on forested ridges), and lowest in the Rocky Mountain and Pacific Northwest regions.

Bats may be more vulnerable to mortality at wind power facilities than birds because bats seem to be attracted to operating turbines. It is possible that migrating tree-roosting species perceive turbines as possible roost trees and investigate them upon encounter (Arnett 2005, Kunz et al. 2007b, Horn et al. 2008). Others (Cryan and Brown 2007) have put forth the “mating hypothesis” in which bats will be generally attracted to the tallest prominent features in a landscape where they can meet along their migratory routes and breed. This also might explain why so many bats are killed by bars in the fall, due to these aggregation type of mating behaviors (Arnett et al. 2008). Arnett (2005) hypothesized that hoary bats may confuse turbine movements for flying insects and be drawn toward operating turbine blades. The attraction of bats to wind turbines during feeding was validated experimentally by Horn et al. (2008), who videoed foraging bats approaching and pursuing moving turbine blades and then being trapped by their vortices of air. Horn et al. hypothesized that bats investigate moving blades simply out of curiosity, because movement is mistaken as evidence of prey, or because of attractive sounds. Similarly, Kunz et al. (2007b) produced thermal images of bats attempting to land or actually landing on stationary blades. Other researchers have also noted that many turbines are located on ridge top sites where there are often elevated numbers of insect prey (Horn et al. 2008).

Some studies demonstrate that bat fatalities occur primarily on nights with low wind speed and typically increase immediately before and after the passage of storm fronts. Weather patterns therefore may be a predictor of bat activity and fatalities, and mitigation efforts that focus on these high risk periods may reduce bat fatalities substantially (Arnett et al. 2008). Scientists have hypothesized that bat fatalities could be lowered substantially by reducing the amount of turbine operating hours during low wind periods when bats are most active. This can be done by increasing the minimum wind speed, known as the “cut-in” speed, at which the turbine’s blades begin rotating to produce electricity. Some researchers (Arnett et al. 2009, Baerwald et al. 2009) have tested whether or not increasing the minimum turbine cut-in speed reduces bat fatalities, and demonstrated that bat fatalities were reduced by 50 to 87%.

Overall, impacts of wind facilities to bats are one of the more well-studied aspects of wind energy. Reviews on the topic have been written by Johnson (2005), Kunz et al. (2007a), Arnett et al. (2008), and the National Wind Coordinating Collaborative (2010).

2.6 BEST MANAGEMENT PRACTICES FOR SITE HYDROLOGY (INCLUDING SOILS AND VEGETATION)

Appendix VIII

The Siting, Planning/Pre-construction, Construction/Operation, and Monitoring BMPs below are an amalgamation of BMP's gathered from numerous different sources.¹⁰⁰

2.6.1 Siting BMPs for Soils, Vegetation and Hydrology

- If location is on BLM lands, note that BLM will prohibit the disturbance of any population of federally listed plant species.
- All structures related to the solar or wind energy facility should be sited in locations that minimize impacts on surface water bodies, ephemeral washes, playas, and natural drainage areas (including groundwater recharge areas). Siting within 100-year floodplains should be avoided
- For solar installations, ensure that there are adequate and readily available local water supplies needed for cooling. In particular, wet-cooling technology is not recommended because of the large amounts of water that is required.
- For wind facilities, locate turbines in an area that does not disrupt sand transport processes nor removes some or all of a sand source relative to nearby sand dune systems harboring listed or otherwise sensitive plant species. Projects should not armor sand sources for nearby dune systems.

2.6.2 Planning and pre-construction BMPs for Soils, Vegetation and Hydrology

- Natural Heritage Program data should be consulted to identify rare plants of state (S1, S2), and global (G1, G2, G3) rankings known to or suspected to occur on the site.
- Surveys should be done for threatened and endangered plants suspected to be at the site.
- Provide a complete site grading plan, and drainage, erosion, and sediment control plan with applications to applicable lead agencies.
- For solar facilities, conduct soil surveys to identify soil types and the typical silt content of soils in many locations, to estimate soil erosion hazard.
- For solar facilities, project developers should conduct a preliminary hydrologic study of the project area in order to identify surface watersheds and groundwater basins potentially directly affected and connected to the location of the project site. The study should include the relationship of the project site hydrologic basin to the other basins in the region; identification of all surface water bodies (including ephemeral washes/drainages, playas and floodplains); identification of all applicable groundwater aquifers; the connectivity of surface water and groundwater, and the regional climate (seasonal and long term).
- For solar facilities, project developers should plan to implement water conservation measures related to solar energy technology water needs in order to reduce project water requirements. Developers should minimize the consumptive use of fresh water for power plant cooling by, for example, using dry cooling, using recycled or impaired water, or selecting solar energy technologies that do not require cooling water.
- The capability of local surface water or groundwater supplies to provide adequate water for the operation of proposed solar facilities should be considered early in the project siting and design.

2.6.3 Construction and Operation BMPs for Soils, Vegetation and Hydrology

- Minimize project disturbance area as much as possible, including minimizing lay-down areas and borrow areas.
- Build wind and solar facilities and access routes away from steep slopes (greater than 20 degrees).

¹⁰⁰ Sources include BLM 2005a, BLM 2005b, , California Energy Commission 2007, NWCC 2007, BLM 2008, Molvar 2008, The Nature Conservancy 2008, ONDA 2009, Arizona Game and Fish Department 2010, BLM 2010a U.S Fish & Wildlife Service 2010a, WOC 2010.

Appendix VIII

- Do not build facilities on unstable slopes, alluvial fans or areas with high erosion potential. Identify local factors that can cause slope instability (groundwater conditions, precipitation, seismic activity, slope angles, and geologic structure).
- Ensure that all temporary use areas during construction are restored. Reclaim areas disturbed during construction by spreading excess excavated soil to match surrounding topography, and reclaim as soon as possible with native seedings/vegetation and locally sourced topsoil.
- If new access roads and ways are needed, avoid gravel roads if possible and instead rely on dirt tracks and jeep trails constructed by cross country travel.
- If a paved road is absolutely necessary use standard BLM road construction BMPs (such as outlined in BLM Manual 9113) for all road construction.
- Make sure that any access roads that are built avoid stream crossings, wetlands and drainages. Where access roads must cross a dry wash, the road gradient should be 0% to avoid diverting surface waters from the channel.
- Minimize natural vegetation removal and considering cutting or mowing vegetation rather than total removal whenever possible.
- Take actions to prevent spread of weeds. Thoroughly wash all surfaces and undercarriages of vehicles and equipment before moving to the project site to remove any noxious or non-native plant seeds. Use certified weed-free straw or hay bales for sediment barrier installations, and certified weed-free mulch if mulching is needed on the site.
- If a weed problem persists on the site during construction, limit herbicide use to non-persistent, immobile herbicides. All herbicides should be applied in accordance with guidance provided in the Final PEIS on vegetation treatments using herbicides (BLM 2007).
- Avoid using fresh ground or surface water for solar power plant cooling. Instead, employ air-cooled technology or recycled/impaired water. If groundwater must be used, a comprehensive analysis of the groundwater basin must be conducted and any potential impacts thoroughly evaluated.
- Develop and follow a dust abatement plan for the site. This should include the use of dust abatement techniques on unpaved, unvegetated surfaces to minimize airborne dust; 25 mph speed limits on, and to and from, the site; covered construction materials and stockpiled soils; and dust abatement techniques that are used before and during surface clearing, excavation, or blasting activities.
- For solar facilities, minimize the amount of area of impervious surfaces, and consider the use of permeable pavement for areas that must be paved.

2.6.4. Monitoring BMPs for Soils, Vegetation and Hydrology

- Develop and abide by a storm water management plan to ensure compliance with state and federal regulations and prevent off-site migration of contaminated storm water or increased soil erosion.
- Monitor for the spread of invasive plant species post construction, and take action to prevent further spread of invasive weeds away from the site.¹⁰¹
- Regularly monitor rights-of-way (ROWs), access roads, and other project areas for indications of erosion.

¹⁰¹ The BLM (2010a) recommends that integrated pest management, including biological controls, should be used to prevent the spread of invasive species, per the “Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States”, and the National Invasive Species Management Plan, 2009.

Appendix VIII

- For revegetation and reclamation sites, keep livestock out of reclaimed areas until vegetation cover resembles the Potential Natural Community described in the NRCS Range Site Type description or Ecological Site Description.
- For solar facilities using groundwater and surface water for cooling operations, they should develop and implement a Water Resources Monitoring and Mitigation Plan, which includes monitoring the effects of groundwater and surface water withdrawal for project uses. The use of water should not contribute to the significant long-term decline of groundwater levels or surface water flows and volumes.

2.6.5 JUSTIFICATION FOR SOIL, VEGETATION AND HYDROLOGY BMPS

In terms of siting issues, development in areas of actively migrating sand dunes has the potential to slow or alter wind patterns, resulting in the conversion of open dune habitats to dunes stabilized by vegetation. Keith et al. (2004) reported that large amounts of wind power can extract kinetic energy and alter turbulent transport in the atmospheric boundary layer, with the result of slower wind speeds and greater turbulence near the surface. Roy et al. (2004) modeled the effects of wind farms in the Great Plains region and found that wind farms can significantly slow down the wind at the turbine hub-height level, and that turbulence generated by rotors creates eddies downwind of turbine arrays. In order to ensure that a reduction in wind velocity does not result in the stabilization of actively migrating dunes and the loss of open dune habitats, wind power projects should not be sited in or immediately upwind of areas of actively migrating dunes.

A number of construction-associated activities may adversely impact vegetation at a renewable energy development site. These activities include the clearing and grading of vegetated areas, and the introduction of invasive vegetation into disturbed areas of the immediate project site, and possibly into surrounding areas (BLM 2005b, BLM 2010a). Additional impacts on vegetation communities could occur from soil compaction (which can have even worse impacts in very arid environments such as salt desert, BLM 2008), loss of topsoil, and removal of or reductions in the seed bank during site clearing activities. Fugitive dust during construction activities can also potentially impact the plant community by coating the leaves of plants and potentially reducing photosynthesis rates (Thompson et al. 1984, Hirano et al. 1995), and increasing water loss (Eveling and Bataille 1984). These sorts of impacts that result from basic land clearing exercises are more common for solar facilities (than for wind farms), where current, typical rates are about nine acres of land cleared per megawatt of solar power generated (BLM 2010a).

A solar parabolic trough installation or solar power tower site requires flat land, and grading is the industry norm. The site is typically cleared of all vegetation to allow access to the installed equipment and to prevent fires. Herbicides may be sprayed or vegetation mowed to maintain cleared zones under and around the solar fields. Because some native plant species in our western deserts and arid landscapes may take decades or even centuries to recolonize after disturbance, development of this type has long-term consequences that cannot be undone, even if all of the installed equipment is removed and restoration attempts are made (Randall et al. 2010). The disturbance to fragile soil biological crusts can destabilize soils (Belnap and Herrick 2006), leading to increased particulate air pollution as soils are displaced by strong desert winds. In total, the surface disturbance at a solar facility is similar in intensity to large-scale commercial facilities, with an additional downside: the great expanse of exposed, disturbed soils found onsite and on associated roads is susceptible to invasion by non-native invasive plants which are known to thrive in areas of surface disturbance, and can serve as a reservoir of invasive species, furthering their dispersal into nearby natural lands which could result in long-term impacts to the native plant community (BLM 2010a, Randall et al. 2010).

Appendix VIII

When either solar or wind developments create large areas of disturbance, soil and groundwater and surface water resources can be impacted. In particular, the large, cleared, impervious surface areas created can block or reroute surface flows (Arizona Game and Fish Department 2010). This in turn can lead to and exacerbate soil erosion, weathering of newly exposed soils leading to leaching and oxidation which release chemicals into groundwater, discharges of waste or sanitary water, presence of dissolved salts from untreated groundwater used to control dust, and herbicide or pesticide applications (AGFD 2010, BLM 2010a). Soil erosion at a site can be particularly problematic as it can remove soil, decrease its productivity and damage biological resources. Further, if uncontrolled runoff from construction sites causes short-term increases in turbidity in nearby watercourses, this can exacerbate flooding and also lead to increases in sedimentation and siltation which degrades water quality (AGFD 2010).

Most solar facilities need relatively small amounts of water for periodic cleaning of their mirrors, but some solar-thermal facilities also require large amounts of water for cooling. Depending on how much water is needed at a given solar generation site, there can be a locally large impact on water resources (Randall et al. 2010), with possible concomitant effects on local springs and seeps (Patten et al. 2008). While photovoltaic installations require no water to generate electricity, water is required to wash panels. Solar power companies have indicated that between two and 10 acre-feet of water per 100 megawatt (MW) per year might be needed for this purpose (TNC 2008). Parabolic trough and solar technologies heat a transfer fluid that is in turn used to heat water to create steam and turn the turbines to generate electricity. Water is also required for the steam circuit and washing mirrors. In addition, if a plant uses wet-cooling of the exhaust steam from its turbines, industry standards indicate that up to 600 acre-feet of water per 100 MW per year may be required.¹⁰² Often, the proposed sources of water for many currently proposed solar facilities are unclear. The BLM's recent Draft Programmatic Environmental Impact Statement for solar development stated that in most areas where solar projects are proposed, groundwater would likely be withdrawn from local aquifers to meet the project's water needs (BLM 2010a). Other options include water purchased through a water district and pumped to the site (Randall et al. 2010), though this is not usually an economically viable activity out in remote locations in our western deserts where most large scale solar facilities are planned.

2.7. SPECIAL BMP SECTION ON ADDRESSING LAND USE PLANNING AND RENEWABLES

The following Best Management Practices ensure that the basic, guiding principles of planning are followed in a land use plan's consideration for renewable energy. These should be followed by the land management agency that is amending a land use plan to incorporate renewable energy development. These BMPs should thus be solid guidance for those commenting on a land use plan that is being amended in an area that will incorporate new renewable energy:

- Describe planning issues in a way such that a remedy can clearly be seen to address the issue.
- Design the land use plan around goals and measurable objectives that capture important ecological factors.
- Design monitoring to measure ecological factors.
- Based on habitat and wildlife population conditions, establish ecological objectives for the renewable energy site and surrounding watershed that lead to restoration where needed for maintenance of healthy habitat.

¹⁰² For more information on how to reduce water consumption with CSP technologies, please refer to the U.S. Department of Energy report entitled, "Concentrating Solar Power Commercial Application Study: Reducing Water Consumption of Concentrating Solar Power Electricity Generation" <http://www.nrel.gov/csp/publications.html>.

Appendix VIII

- For areas within the project site that need restoration or wildlife recovery, develop in the land use plan (or amendment) the actions needed to achieve wildlife and/or habitat recovery.
- Threats or stressors that either have led to degraded conditions in the planning area or threaten habitat in the future should be identified and the means to address those stressors developed.
- The plan should present the required sequence of actions that are needed for the siting and construction of renewable energy facilities that lead to achieving ecological objectives for the planning area. Construction and operation approval for renewable energy needs to be contingent on reaching and maintaining these goals.
- The land use plan should describe the resources available to implement the plan and assesses whether they are adequate in order to achieve ecological objectives.
- Monitoring should begin well in advance of construction. Background information on ecological goals is required in order to have a starting place to assess the impacts of the renewable energy site. Ecological reference areas should be established for comparison and long term monitoring.
- The land use plan should present how adaptive management will be used to incorporate renewable energy in the planning area. Adaptive management based on ecological goals uses monitoring data to determine whether renewable energy facility construction and operation are meeting goals, and this triggers responses in management to ensure goals are met.

2.8 IMPORTANCE OF ADAPTIVE MANAGEMENT AND BMPS

One important component of responsible and environmentally sustainable planning for and operation of large scale renewable energy sites is adaptive management. While we do not specifically link the guidances and suggested BMPs in this document to specific recommendations for adaptive management, this should be a part of all renewable energy monitoring. For the purposes of these BMPs, adaptive management can be thought of as a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs (Nyberg 1998).

With ecological adaptive management, ecological goals are expressed in terms of measurable objectives that can be determined through monitoring. Monitoring, in turn, assesses indicators of wildlife viability and habitat function as well as human use. This monitoring is then linked to analysis that determines whether the occurring human use (in this case, renewable energy production) is consistent or not with the ecological goals for the site. This analysis in turn has thresholds that, when reached, call for management changes that will lead to meeting ecological objectives. Post construction monitoring efforts at wind and solar facilities should always be designed and carried out with an eye to adaptive management at the facility.

BLM Wind Programmatic Environmental Impact Statement Record of Decision has this to say about the use of adaptive management:

“The BLM’s Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available. At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish

Appendix VIII

metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations. The BLM has the right to reassess mitigation measures if monitoring shows they are not succeeding/achieved or if new science supports the use of different or additional mitigation measures.”

All wind facilities should incorporate this type of adaptive management into their site operation plans. If post-construction surveys indicate unacceptable levels of avian or bat fatalities, actions to mitigate these impacts should be taken. For example, wind facilities can be shut down temporarily at night during peak migration periods to reduce collisions. Alternatively, individual turbines that appear to be particularly dangerous to birds and bats can be shut down temporarily. To avoid bat fatalities, wind turbines also may be programmed to begin operating at higher minimum wind speeds during bat migration periods. Research has shown that temporarily stopping wind turbines during low-wind conditions can dramatically reduce the number of bats killed at wind plants with a minimum loss of power output.

3.0 Research Needs

We have found very few studies that investigate the impacts of wind energy development on big game. There is some anecdotal information that pronghorn and even elk may continue to use the Foote Creek Rim wind power site in Wyoming, but this area has not been subjected to rigorous scientific study (Molvar 2008). As such, we would recommend that the first wind projects to be constructed within big game crucial ranges or migration corridors should be accompanied by rigorous scientific studies to determine the level of tolerance of big game for wind power facilities. These studies should describe the area of avoidance if displacement occurs; test the same hypothesis for operation activities as is tested for development; determine population levels effects, if any; and determine how long it takes for animals to resume using the wind power facility site. Such studies should use Before-After-Control formats for maximum scientific rigor. If these studies indicate that displacement of big game by wind power development from a type of sensitive range or migration corridor is negligible, then other wind power projects should be free to proceed in that type of range or migration corridor.

In terms of needed avian research, further research is needed to determine whether wind turbines adversely affect local sage-grouse populations. Also, it is unclear whether a high density of wind turbines increases or decreases raptor mortalities (Anderson et al. 2004, Smallwood and Thelander 2005). More study is needed to determine whether advantages can be gained by altering the density of turbine arrays.

Kunz et al, 2007b, Horn et al. (2008) and Cryan (2008) hypothesize that bats are attracted to turbines, which, if true, would further complicate estimation of exposure. Reasons for apparent attraction may include sounds produced by turbines, a concentration of insects near turbines, and bats attempting to find roost locations (NWCC 2010). Further research is required to determine if bats are attracted to turbines and if so, whether this increased individual risk translates into higher population-level impacts for bats. Also on the bat research front, there is a need to better relate bat fatalities among wind facilities to landscape characteristics (e.g., geology, topography, habitat types, proximity of facilities to features such as mountain ranges or riparian systems). Relating fatalities to features within the immediate area of a turbine (e.g., proximity to water or forest edge) will help with designing future facilities and locating

Appendix VIII

turbines to avoid higher risk areas within a site. (Kunz et al. 2007b; Kuvlesky et al. 2007; NAS 2007; Arnett et al. 2008). In their literature review on patterns of bat fatalities at wind energy facilities in North America, Arnett et al. (2008) also noted that more research is needed to elucidating patterns of fatality associated with weather conditions (e.g., wind speed, barometric pressure) and technical parameters (e.g., turbine size and ht, linear array of turbines vs. scattered individual turbine locations) of different facilities.

Arnett et al. (2008) also go on to say that since a large proportion of bat fatalities occur during fall migration, particularly on nights with low winds and relatively low levels of power production, curtailment of operations during predictable nights or periods of high bat kills could reduce fatalities considerably, potentially with modest reduction in power production (referencing Kunz et al. 2007). Thus, Arnett et al. propose that manipulative experiments be implemented at wind facilities across different regions to test various curtailment treatments with regard to the effect on reducing bat fatalities and economic costs of those treatments.

4.0 Conclusion

This peer-reviewed document has presented a set of BMPs, which, if followed, should help ensure that potentially adverse impacts to most species of concern and their habitats present at renewable energy project sites would be reduced. However, we stress that, like all other science-informed management directions, the use and implementation of these BMPs must include adaptive management.

These BMP's and guidance document will evolve over time as additional experience, monitoring and research becomes available on how to best minimize wildlife and habitat impacts from wind and solar energy projects. As such, we plan to continue work with industry, developers, the conservation community and other stakeholders and states to evaluate, revise and update these BMPs and guidance document on a periodic basis.

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Appendix IX

California Desert & Renewable Energy Working Group

c/o Resources Legacy Fund
555 Capitol Mall, Suite 675
Sacramento, CA 95814

December 22, 2010

The Honorable Ken Salazar
Secretary
United States Department of the Interior
1849 C Street, NW
Washington D.C. 20241

Dear Secretary Salazar:

Thank you for participating in our meeting in San Francisco this fall and for inviting us to submit the enclosed detailed recommendations on ways to improve planning and permitting for the next generation of solar energy projects on public lands in the California desert.

As you know, the California Desert & Renewable Energy Working Group (CDREWG)—a dialogue between representatives of the solar and wind energy industry, the electric utility sector, and the environmental community—seeks to protect ecosystems, landscapes, and species while supporting the timely development of renewable energy resources in the California desert.

The recommendations we offer herewith are based on our extensive experiences as renewable energy industry and environmental stakeholders in the fast track process, and are the result of hours of thoughtful discussion within our group about ways the planning and permitting process could be improved in 2011.

To facilitate coming to agreement on these recommendations, we focused our comments on ways to improve planning and permitting for large-scale solar energy projects on BLM lands here in California. That being said, we realize that many of these recommendations may also apply to other states and to other technologies, and encourage you and your team to think of them in a broader context.

As discussed with Steve Black and Janea Scott on October 13, and since, we would like an opportunity to discuss these recommendations with your senior team at their convenience, either in Washington or here in California. The recommendations represent a whole-hearted effort on our part to help you facilitate the permitting of well-planned and sited renewable energy projects in 2011—projects that will both help our nation reduce our greenhouse gas emissions and protect the unique ecosystems and places that define us as Americans.

Lucy Blake, the facilitator and coordinator of our group, will contact Steve Black and Janea Scott immediately to explore the best time and location for a follow-up meeting

Interior Secretary Ken Salazar
December 22, 2010
Page 2 of 3

with your senior team. We look forward to a very productive dialogue on these issues, as soon as it can be arranged.

Sincerely,



Lisa Belenky
Center for Biological Diversity



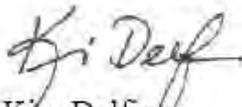
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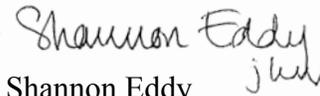
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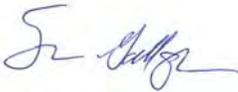
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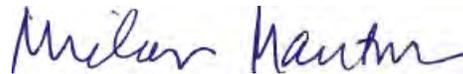
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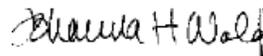
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Interior Secretary Ken Salazar
December 22, 2010
Page 3 of 3

Enclosure

cc: Tom Strickland
Steve Black
Janea Scott
Bob Abbey
Will Shafroth
Jim Abbott

**Recommendations to Secretary of the Interior Ken Salazar
on Ways to Improve Planning and Permitting
for the Next Generation of Solar Energy Projects
on BLM Land in the California Desert**

**California Desert & Renewable Energy Working Group
December 22, 2010**

Signatories

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Table of Contents

- I. Reduce speculation in solar ROW applications
- II. Apply screening criteria guidance
- III. Ensure early and ongoing input from stakeholders
- IV. Improve the quality and consistency of environmental reviews
- V. Standardize and clarify mitigation procedures
- VI. Standardize requirements for scientific monitoring
- VII. Improve interagency cooperation

I. Reduce Speculation in Solar ROW Applications¹

Issue: The Bureau has made significant progress in reducing speculative applications for solar development in California. As a result of the Bureau’s enforcement of its Plan of Development (“POD”) policies in California, the total quantity of applications and acreage has declined substantially. The Bureau’s adoption of enhanced guidance, such as the October 7, 2010, Instruction Memorandum (the “Oct. 2010 IM”),² promises further improvement. However, speculative applications remain, both in terms of applications that may not be technically and economically feasible, and in terms of the size of applications relative to the reasonably likely size of facilities (even accounting for additional acreage reserved to allow for reconfiguration, which we support).

Solution: To ensure that the most suitable lands for solar development are used appropriately, and that real solar development is not displaced from those lands onto other lands that may be less suitable, the Right-of-Way (“ROW”) application process requires further reform. It will be particularly important to avoid unduly oversized ROW applications, relative to actual project size, in Solar Energy Study Areas/Zones, as these are intended to be the place for focused, large-scale, solar development. If areas in those zones are taken up with speculative applications, the purpose of the Solar Energy Study Areas/Zones will be frustrated, and real solar development will be diverted elsewhere.

To that end, the California BLM office should resume its enforcement of the existing POD policy, and other state BLM offices should follow California’s example. In addition, the Bureau should build on the concepts in its Oct. 2010 IM, and on its existing regulations, to provide for earlier screening to eliminate speculative applications. This process should focus on objectively-determined assessments of site development progress.

¹ Although these recommendations are intended for implementation in California, the Bureau may wish to consider how they may apply to other states

² IM 2010-003 (Oct, 2010) , available at

http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-003.html

2011 Q1 Progress Assessments

The Bureau can act to focus its resources on the most viable 2011 projects, and reduce speculation, through assessments of the projects' progress in achieving the milestones discussed below. These milestones address aspects of financial and technical viability but do not address other aspects of project viability, including the appropriateness of the site for solar energy development, as discussed in Section II of these recommendations.

A. Enforcing Plan of Development Standards

As noted above, the California state office has made substantial progress in reducing speculative applications by requiring Plans of Development that meet the Bureau's standards. Resuming enforcement of this requirement will undoubtedly continue to provide good results. As part of this effort, the Bureau should ensure that the size of the applications is reasonably related to the size of the project described in the Plan of Development, with flexibility to allow for reconfiguration to avoid or minimize environmental, cultural or other impacts.

B. Applying Financial Viability Screens

The Oct. 2010 IM provides for assessment of financial viability, providing a presumption of viability for entities that have successfully owned, developed, or managed similarly-sized electric generation projects, and allowing individual demonstrations for others, which may be evaluated jointly with the Department of Energy. Projects proposed for potential approval in 2011 should be evaluated in the first quarter of 2011. To ease administrative burdens, avoid duplicative governmental efforts, and make use of reasonable market-based indicators of financial viability that can be objectively ascertained, the Bureau should expand its presumptions of financial viability to include projects that have (i) a conditional commitment for a DOE loan guarantee; (ii) a power purchase agreement that has been approved by the California Public Utilities Commission or municipal power authority; or (iii) an engineering, procurement and construction ("EPC") contract with an entity that has successfully constructed electric generation projects of similar capacity within the last five years. As provided in the Oct. 2010 IM, projects that do not meet these presumptive tests should be allowed to make individual demonstrations of financial viability to the Bureau.

C. Applying Technical Viability Screens

Technical viability should be presumed, similar to financial viability, if (i) the DOE has provided a conditional commitment for a loan guarantee; (ii) the basic technology to be deployed has been demonstrated for at least one year in a commercial or demonstration plant; or (iii) the key components of the technology have been demonstrated, and the applicant has supply contracts with credible third-party vendors for the manufacture and/or supply of those demonstrated, key components. These technical viability tests would not apply to demonstration projects.

D. Evaluating Site Development Progress

To ensure sites are being actively evaluated for approval and development, and not held speculatively, developers should demonstrate that they are undertaking the necessary assessments. For 2011 projects, site-specific technical assessments, including meteorological and geotechnical data collection and evaluation, as well as biological surveys, should either already have been completed or should be planned. All applicants should be required to provide a schedule for conducting remaining technical assessments needed to complete timely NEPA analyses, consistent with completing the permitting process in 2011. Applicants should be required to demonstrate diligent progress on the schedule through regular reports.

E. Assessing Permitting & Transmission Viability

All solar development projects require state and/or local government permitting for construction and operation, as well as approval to interconnect their facility with transmission. As with technical assessments, solar development applicants should provide the Bureau with a schedule for applying for all necessary permits, as well as for interconnection with transmission. The timetable should demonstrate that the necessary permits will be obtained to allow timely construction commencement and completion, consistent with the deadlines provided in the Oct. 2010 IM. The Bureau may wish to consult with the California ISO or other appropriate permitting or transmission oversight entities to determine whether proposed schedules are reasonable. Applicants should be required to demonstrate diligent progress on the schedule through regular reports.

II. Apply Screening Criteria for California Desert Solar Projects on BLM Land

Issue: BLM has limited resources to apply to the review of proposed renewable energy projects in the California Desert in 2011. The agency should focus first on those projects with the greatest technical and financial viability and the fewest environmental conflicts.

Solution: BLM should adopt criteria to help ensure that it moves forward expeditiously to prioritize those projects that have the highest likelihood of permit approval by the end of 2011 – i.e., likely to be permitted and built with a minimum of time and controversy. Priority projects include those in low conflict areas and those with potentially resolvable conflicts where attention is paid to resolving the conflicts.

Ground rules: The criteria set out below are designed only for allocation of BLM resources in 2011 for solar projects on BLM land in the California desert.³ Moreover, they are not comprehensive criteria for BLM: there are other important criteria such as cultural and historic criteria that are not addressed here, because our group does not include representatives of those interests

³ To be clear, we did not develop these criteria for use outside of the California desert, by other agencies, other than in 2011, or for technologies other than solar.

The criteria should be applied on the basis of currently available data by multi-disciplinary teams that include biologists and botanists familiar with the California Desert. In addition, they should be applied to projects concurrently with the technical and financial viability screens that are also part of our suggested guidance. Projects should be placed in one of the three proposed categories if they meet some or all of the criteria provided for that category. The number of criteria for a given category that a project meets will be highly relevant. For example, in the case of the criteria designed to help identify “low conflict areas,” the more of those criteria that a project appears to meet, the better.

Projects identified by DOI as potentially able to meet 2010 ARRA deadlines, and listed in Appendix A would be exempt from these screening criteria.⁴

Recommended Guidance for use in prioritizing 2011 projects:

Low Conflict Areas: timely or expedited permitting/probable permit approval

As indicated above, projects should be placed in this category if they fit some or all of the following criteria. In addition, they should be included here if it appears that they can be revised or modified relatively easily in order to address conflicts identified in the categories below. That being the case, it is entirely possible that once additional data are obtained from site-level surveys, BLM may find that sites that initially appear to meet these criteria may nonetheless present conflicts.

- Mechanically disturbed lands such as fallowed agricultural lands.⁵
- Brownfields, idle or underutilized industrial areas.
- Locations adjacent to urbanized areas⁶ and/or load centers where edge effects⁷ can be minimized.
- Locations that minimize the need to build new roads and that meet the one or more of the following transmission sub-criteria: transmission with existing capacity and substations is already available; minimal additional infrastructure

⁴ However, even for those projects, these screening criteria may provide useful information regarding potential high conflict sites and, accordingly, the BLM should ensure that developers are aware of these criteria.

⁵ This criterion covers lands that have been “type-converted” from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use). Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

⁶ Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for the economic survival.

⁷ The edge effect in ecology is the effect of the juxtaposition or placing side by side of contrasting environments on an ecosystem. This term is commonly used in conjunction with the boundary between natural habitats and disturbed or developed land. Edge effects are especially pronounced in small habitat fragments where they may extend throughout the patch. See Harris, Larry D., “*Edge Effects and Conservation of Biotic Diversity*,” Conservation Biology, Vol. 2, No. 4 (December 1988).

Appendix IX

would be necessary, such as incremental transmission re-conductoring or upgrades, and development of substations; if a new line is needed, the line has already been permitted and is not the subject of pending litigation.

- Proposed Solar Zones that will be published in the BLM's draft Solar PEIS with the exception of the proposed Iron Mountain and Pisgah zones⁸
- Areas in the West Mojave that have been run through the criteria above and previously identified for BLM by environmental groups as potentially appropriate for development.⁹

Areas with Potentially Resolvable Conflicts: more difficult permitting process unless conflicts are resolved

- Wetlands, riparian areas, and areas required to protect the integrity of seeps, springs, washes, streams or wetlands that have been previously identified by the BLM, the Army Corps of Engineers, or other relevant state or federal agencies.¹⁰
- Lands that have been formally identified as including plant communities that are both unique and rare by the BLM, California Department of Fish and Game (CDFG) or USFWS, including areas containing or designated Unique Plant Assemblages (UPAs), Stands, or Vegetation Alliances that are limited in distribution or that support sensitive or endemic species.¹¹
- Dunes and the sand transport systems and corridors that support them.¹²
- Locations within one mile of National or State Park units.
- Landscape-level biological linkage areas that have been identified in reports listed in Appendix C as key connectivity references for the desert; or by state or federal agencies as necessary and required for the continued functioning of biological and ecological processes (e.g., connectivity); and that have been mapped by, contracted for, or used in state or federal agency maps provided in land management plans and proposed plans. For these areas closer scrutiny of the broad-scale maps and reports will be necessary.

⁸ This is not a consensus position of the CDREWG. However, the environmental organizations that are members of the group are on record stating that both the Iron Mountain and Pisgah Solar Energy Study Areas are inappropriate for development and should be deleted.

⁹ A map of these areas is attached and explanatory material is included in Appendix B.

¹⁰ These areas may include the upland habitat as well as groundwater resources that are proposed to be used. The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts. Aquatic and riparian species may be highly sensitive to changes in groundwater levels.

¹¹ These areas are identified in the California Desert Conservation Area Plan of 1980, in the California Department of Fish and Game's List of California vegetation alliances (2009), and in NatureServe's Community Heritage Program, which is internationally recognized as the Natural Communities Conservation Ranking system.

¹² The USGS document Muhs et al 2003 "Eolian sand transport pathways in the southwestern United States: importance of the Colorado River and local sources" will be helpful in identifying these areas.

High Conflict Areas: very difficult permitting process

Members of this group agree that the following areas are high conflict areas:

- Designated critical habitat for federally threatened and/or endangered species.
- Designated special management areas such as Areas of Critical Environmental Concern (ACECs), Desert Wildlife Management Areas and Wildlife Habitat Management Areas.¹³
- Lands that have been formally proposed by federal agencies for designation as wilderness, or proposed for a national monument or wilderness designation in S.2921 (111th Congress).
- Lands that were originally part of a renewable energy right of way application and were eliminated from a ROW application by BLM or the applicant due to resource conflicts.¹⁴ For example, where the final project represents a smaller or different footprint to avoid wildlife habitat, rare vegetation or desert washes, the excluded portion of the right of way should no longer be available for development.¹⁵
- Lands that have conservation value and were purchased with federal, state or private funds, and donated or transferred to the BLM for conservation purposes.
- Lands purchased with federal, state or private funds, and donated or transferred to the BLM expressly as mitigation for project impacts.

The group also agrees that projects that propose to use wet cooling will likely face additional controversy in the permitting process.

The environmental groups signatory to this document believe that there are other factors that will be controversial within their community, as noted below.¹⁶

¹³ ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The California Desert Conservation Area Plan has designated specific Wildlife Habitat Management Areas (WHMAs) to conserve habitat for species such as the Mojave ground squirrel and bighorn sheep and to preserve connectivity. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

¹⁴ This category also includes the projects in the West Mojave that were rejected by BLM solely because they were located in areas subject to a 1% development cap. This group continues to believe that the agency should develop guidance regarding how that cap will be applied to subject areas, but development in these areas will likely remain controversial.

¹⁵ We urge the BLM to develop and maintain a publicly accessible database of lands that have been eliminated from ROW applications due to resource conflicts.

¹⁶ These factors include the following:

- Lands that have been designated or are undergoing a formal review process by Bureau of Land Management (BLM) or the U.S. Fish and Wildlife Service (USFWS) for designation for protection of federally-listed, state-listed or candidate species in any past or present recovery plan as of November 19, 2010, in any past or present critical habitat proposal or in any areas formerly designated as critical habitat as of November 19, 2010, or in any past or present ACEC proposal by BLM as of November 19, 2010. In addition, lands that have been formally identified by CDFG, BLM, or USFWS as critical to the survival and/or recovery of federal or state listed or candidate species as of November 19,

III. Ensure early and ongoing input from stakeholders

Issue: The public had little input into the selection of the initial BLM “fast-track” projects in 2009, and few opportunities to provide input into alternative project configurations or ROW footprints. Lack of early public input can result in significant investments of time and money by companies with little opportunity to obtain clear signals on potential conflicts and controversies associated with their proposals prior to committing resources.

Solution: Provide guidance to the BLM to establish a process to facilitate early and ongoing input and coordination with interested stakeholders, per the Oct. 2010 IM, including project developers, regulators, conservation groups and other members of the public, while ensuring a workable process:

- Provide opportunity for early input in connection with initial agency review of projects. This could include, for example, sponsoring preliminary public workshops prior to official scoping.
- Provide, and encourage developers to participate in, forum(s) where the public can interact with them, regulators and other interested parties, including tribes, to ensure early (i.e., prior to NEPA) as well as ongoing input into:
 - project configuration and potential modifications to minimize environmental impacts,
 - disclosure and analysis of likely mitigation requirements, and
 - identification of appropriate alternatives.

Any project modifications made prior to NEPA review that reduce potential project impacts should be recognized in the agency’s NEPA document.

- Ensure stakeholders can provide early and ongoing input to inter -governmental entities that are established to coordinate renewable energy development (such as those established under MOUs with states, like the REPG and REAT in California), and that applicants are made aware of the substance of suggested project modifications in a timely fashion.

2010 should be included in this category. Lastly, lands identified as “ecologically core” and “ecologically intact” by The Nature Conservancy in its October 2010 Mojave Desert report.

- Lands that have been: inventoried by trained citizen groups, conservationists and/or agency personnel using BLM protocols; found to meet Congress’ definition of “wilderness characteristics;” and publicly identified as of November 19, 2010. Maps of these lands in California (and other western states) as of November 19, 2010 can be found at <http://www.nrdc.org/land/sitingrenewables/default.asp>.

Appendix IX

- Ensure that all forums for public involvement, including workshops and public meetings, are, to the maximum extent possible, designed to provide effective and meaningful opportunities for interested stakeholders to provide their views about proposed projects. Examples include but are not limited to: group question and answer sessions following presentations, ways to submit questions both during presentations and online, site visits with agency and company representatives, etc.

IV. Improve the quality and consistency of environmental reviews

Issue: The environmental reviews for the first set of fast track projects have varied widely in quality and thoroughness across BLM districts and states.

Solution: Through specific, clear guidance to BLM managers, ensure that moving forward, NEPA reviews are internally consistent, thorough, and reflect strong data-based analysis of the likely impacts from proposed projects. The overall NEPA review process should also be designed to identify, and facilitate, modifications that will result in improved projects. Not only will this inspire public and stakeholder confidence in the Bureau's management of the new program, it will likely insulate well-sited, designed and analyzed projects from legal challenge.

The Interior Secretary should direct the BLM to issue guidance to project managers, supervisors, and state directors that clearly spells out the following elements of strong NEPA reviews and recommended practices:

- Provide opportunities for early public involvement in the process, before investments are irrevocably committed to a specific design within a right of way (ROW), to diminish unacceptable impacts of renewable energy projects, identify potential improvements, and increase public support.
- A consistent structure for environmental documents, to ease public review and help avoid missing elements.
- Purpose and need statements must include broader objectives, rather than solely responding to an application for a ROW; for example, the purpose and need statement should incorporate a phrase similar to the following: "To consider the proposed siting of a (large scale solar) project on public land consistent with national and state renewable energy and climate goals while protecting important natural values and environmental and cultural resources." This broader purpose and need objective would logically lead to a broader range of alternatives than project/no project.
- Analysis of a full range of alternatives is one of the most important aspects of NEPA. In the case of renewable energy projects, such a range may include, in addition to the proposed project and no action alternatives, alternative sites on public land as well as private land or "conjunctive use" involving both private and public land where appropriate, projects of reduced size and configuration, and

Appendix IX

alternatives that include phasing the project based on successfully meeting specific benchmarks before proceeding from one phase to the next.

- A strong evaluation of impacts must be based on adequate site-specific data that stakeholders can fully evaluate, with specific requirements for data adequacy including appropriate protocol wildlife and plant surveys. Depending on the site and the likely species, this may require multiple surveys at different times of the year. Surveys of reasonable areas beyond the project footprint, should be conducted so that different configurations may be fully analyzed. Where surveys indicate changes in configuration would reduce impacts, BLM should expressly allow the applicant to expand or change the area(s) subject to the project application.
- A robust cumulative impacts analysis will ensure sufficient review of the project, focusing on quantitative assessments to the extent practicable, including all past, present and reasonably anticipated future projects within the relevant area, considering the resources at issue. In contrast, the direct and indirect impacts of connected actions (such as any additional transmission lines or substations that are required to serve a proposed project) should be fully evaluated as part of the proposed project, as well as reasonably anticipated additional projects within the relevant area, considering the resources at issue.
- The substance of important NEPA-related reports and plans (for example, a desert tortoise translocation plan, an avian protection plan, and mitigation plans) should be provided in time to allow for public review and comment in the Draft EIS. While we understand that it may be difficult to provide completed reports and plans at Draft EIS stage, any reports and plans that have been drafted or completed should be provided in the Final EIS and all final plans and reports should be issued at the time the ROD is released, along with the USFWS biological opinion.
- Project design changes that reduce environmental or other undesirable impacts are positive results of the NEPA process and such changes should not cause undue delays; however, major changes that have not been proposed or analyzed previously may require supplemental analysis.
- BLM should develop and apply consistent guidance to address issues that apply to several types of projects, and work with the U.S. FWS to develop such guidance in areas of their jurisdiction, such as desert tortoise translocation protocols. Such issues should be addressed in a standard manner across different projects, where practical, and where the standard approach is in the best interest of the impacted resources.
- Where project approval contemplates a plan amendment as well as issuance of a ROW, and information collected through the NEPA process suggests part of the ROW applied for is important for conservation and incompatible with

development, the plan amendment approved contemporaneously with the ROW should also designate the excluded areas within the original ROW application as unavailable for future such development.

- If a plan amendment is not contemplated as part of project approval, and areas within the ROW application have been identified as incompatible with development, BLM should initiate a separate plan amendment process to designate such areas as unavailable for future development.

V. Standardize and clarify mitigation procedures

Issue: While renewable energy at scale provides benefits for forestalling climate change impacts to species and habitat, large-scale solar projects also generally require large-scale mitigation. The current approach of project-by-project mitigation has resulted in a piecemeal and inefficient process for assessing and carrying-out mitigation, and fails to make the best use of mitigation resources to provide more comprehensive, coordinated benefits for affected species and their habitat.

Solution: Better defined, more uniform, and more coordinated approaches should be taken to address mitigation associated with these projects. The fast-track renewable projects have provided a number of important lessons in how to do mitigation, for the benefit of both the project proponents and the impacted natural resources. We believe that mitigation can be done with better coordination, greater efficiency, and strategic investment resulting in an improved conservation result on the ground, while retaining the beneficial aspects of large-scale solar projects.

We recommend that DOI adopt the following principles in directing its agencies on how to improve mitigation for renewable energy projects approved in 2011:

1. **Strategic & Effective Investment:** DOI and state agencies should develop a regional strategic mitigation process founded on habitat conservation planning principles that generates more robust and effective mitigation than can be achieved on a project-by-project basis. This effort can be informed by endangered species recovery plans and other long-term land and wildlife conservation plans. Strategic mitigation planning must address the following:
 - a. Incorporation of biodiversity sustainability/viability indicators, including long term surface and groundwater supplies
 - b. Designation of regions, based on biological integrity and ecosystem functions
 - c. Designation of target mitigation acquisition lands and public land actions within each region that will maximize habitat, maintain and protect migration corridors, and maximize species survival and recovery.
 - d. Allocation of pooled mitigation funds and activities for larger scale land acquisitions of designated property and mitigation measures.
 - e. Long term stewardship and funding of stewardship of mitigation lands

- f. Mechanisms to ensure mitigation investments are enduring and mitigation investment decisions are science-based
2. **Improved Coordination:** Mitigation measures should be formulated as a comprehensive package, in which all jurisdictional agencies coordinate their requirements and review, and in which other state, federal and local resource agencies with relevant expertise and information are consulted to the maximum extent possible. The comprehensive package for any individual project should, to the maximum extent possible, contribute along with measures taken for other projects to provide coordinated and increased benefits to impacted species, habitat and corridors. Federal and state agencies should also consult with local land agencies, land trusts, and other local experts.
 3. **Consistency in Mitigation Approaches:** Project proponents and conservation NGOs believe that it is important to apply basic mitigation principles of how and when to assess mitigation in a uniform manner, so that all parties have a clear understanding of what is expected by the DOI agencies. The following are recommended mitigation principles to ensure consistency across projects:
 - a. **Mitigation Hierarchy:** Mitigation must follow the hierarchy of avoid first, then minimize, then restore, then offset. The first step (“avoid”) refers to measures taken (e.g., siting decisions) to preclude significant impacts from the outset, in order to completely eliminate such impacts on certain components of biodiversity or to meet specific conservation goals. The second step (“minimization”) refers to changes (e.g., to project design or operations) that reduce site-specific impacts.
 - b. **Specific Mitigation Requirements:** Mitigation measures for individual projects should be clearly justified, specific to the impact, and enduring. They should also be formulated to clearly link the impact to be mitigated to one or more specific mitigation measures. For example, tortoise fencing requirements should first explain how the tortoise fencing contributes to compensating for unavoidable harm, and should prescribe how many miles must be fenced, where the fencing is to be placed, and who will maintain it. Finally, specific alternative mitigation measures of equivalent mitigation value should be identified, in the event a specified mitigation measure proves to be infeasible or impracticable.
 - c. **Mitigate Appropriate Level and Scale of Impacts:** Mitigation must be required for significant impacts resulting from the renewable project, whether direct, indirect or cumulative, including significant impacts resulting from the scale of the project. Mitigation of cumulative impacts should be developed for areas and resources impacted by multiple renewable energy projects and should address impacts to habitat quality (e.g., connectivity), ground and surface water resources, and air quality.

Appendix IX

- d. Address Climate Change Impacts: In determining appropriate mitigation, DOI agencies should consider changes in habitat, corridors, and species needs as the climate changes.
4. **Compensatory Mitigation Principles**: Compensatory mitigation for individual projects should include:
 - a. As a first preference, acquisition, restoration and long-term management of private lands, providing replacement habitat of at least equivalent size and function (“compensation lands”), provided that:
 - i. Compensation lands are managed as conservation lands. If compensation lands are to be transferred to agencies, they should be legally protected and held solely for conservation purposes. For example, any compensation lands transferred to BLM should be permanently segregated or withdrawn from all non-conservation use under the mining, grazing and other land use laws, using legally effective means (e.g., deed restrictions with enforcement rights held by third parties).
 - ii. Mitigation value of compensation lands may be increased by enhancements and/or restoration to improve habitat value, in the same fashion as provided below with respect to public lands;
 - b. As a second preference, enhanced conservation management and/or restoration of specified public lands that would not have otherwise been conducted by the agency using public funds. For example, lands should be permanently segregated or withdrawn from all non-conservation use under the mining, grazing and other land use laws, and BLM should consider mitigation mechanisms identified in the CDCA Plan as amended, including construction and maintenance of fencing near roads, buy-outs and retirement of grazing allotment permits, route closure, and re-vegetation of closed routes, etc.
 - c. Compensation lands, whether owned or managed by public or private entities, must be accompanied by assurance of adequate long-term conservation management. For example, this assurance could be addressed through a committed, non-wasting fund adequate to provide long-term conservation management to enhance and maintain the required resource values, or other enduring measures.

VI. Standardize requirements for scientific monitoring

Issue: BLM’s “use authorization” process does not currently have in place a standardized set of requirements for scientific monitoring. Thus, when BLM issues use authorizations, the requirements for scientific monitoring are inconsistent across BLM offices and personnel. This inconsistency wastes time and money, and interferes with the collection of information that could be used by the agencies, project developers and other

Appendix IX

stakeholders to improve planning, review, management, and decision-making for renewable energy and other desert resources.

Solution: Building on the Instruction Memorandum guidance issued on October 7, 2010, BLM should identify a comprehensive set of monitoring requirements to be used in all future use authorizations. Clear and consistent criteria will have multiple benefits, including increased cost-effectiveness for BLM, taxpayers, and project developers, and the creation of a “level playing field” for solar project developers and the utility customers who buy the solar electricity. In addition, the adoption of clear, consistent monitoring criteria will help to improve scientific understanding of desert resources, including desert wildlife species, their habitats and their needs, and the effects of large scale projects, information which can be used to improve environmental reviews, design better mitigation plans, and support the development of projects with fewer impacts. Such information can also be used to inform larger scale analyses of eco-regions, species and other key indicators, and be shared with other agencies working to improve resource management.

BLM’s guidance should establish clear and consistent criteria for gathering the biological and other resource data needed to establish the appropriate “baseline”, and to monitor these resources over the life of the “use authorization” at both individual project sites and across multiple project sites. Such standardized criteria shall specify:

- The type of scientific data needed, including the identification of control sites;
- Responsibility for each kind of data collection and monitoring;
- The timing and frequency of data collection and monitoring;
- Protocols for collecting and modeling the data;
- Protocols for managing the data collected;
- Protocols for analyzing the data collected;
- Limits of acceptable change in resource conditions, and actions to be taken if those limits are exceeded;
- “Fallback” measures to be put into effect in the event that specified monitoring activities are not carried out;
- The need to make all monitoring data available for public review and evaluation; and
- The need to finalize a detailed monitoring plan, and commitment to fund the plan, prior to initiating project construction.

VII. Improve coordination within and between agencies and departments

Issue: Experience with the “fast-track” projects has shown that coordination within and between federal agencies, as well as with appropriate state agencies, is critical to a timely and efficient permitting process. The approach to federal-state coordination taken in California (where there is a separate state permitting process for solar thermal projects through the California Energy Commission) ultimately worked well. This approach may also be helpful in other states. However, coordination between federal agencies is in serious need of improvement.

Appendix IX

Solution: In specific and clear guidance, adopt an improved process for coordination within and between federal agencies as outlined below. Such guidance should also capture the essence of the approach to federal-state coordination taken in California. In this way, the Department can ensure that key federal agencies work together efficiently and effectively, and that the benefits of the California approach can be exported to other states. We provide these recommendations to help facilitate a robust and timely permitting process for appropriately sited projects.

Guidance should be issued that directs the following:

1. At the national level:

- Establish a coordinating council within DOI that includes representatives of the Secretary’s office, Assistant Secretary of the Interior for Lands and Minerals, BLM, FWS, NPS, the Solicitor’s office and other relevant agencies (BIA) to review status of project reviews and related policy development, including the solar PEIS, and identify barriers to realization of the Administration’s and the Secretary’s goals. Council to meet at least monthly (preferably every 2 weeks).
- Convene an inter-agency group composed of relevant agencies outside of DOI – i.e., DOD, EPA, ACOE, FAA, Forest Service, and DOE – on a regular basis to discuss cross-cutting issues relating to planning and permitting.
- Designate a single lead official whose full-time job is to coordinate and facilitate project reviews over the next 18 months and to oversee the building of the framework for a more efficient, effective and coordinated “long-term” policy.

2. Establish a similar structure at the state level, led by each BLM state office, to identify issues, barriers and problems for resolution. These groups should meet every two weeks and should report on these issues etc. to the federal coordinator on a regular basis. Identify key contacts within all federal agencies from the top offices to the district level.

3. Encourage state governments to enter into MOUs with DOI that will create parallel structures in each state to interact with the federal representatives. The groups established in California, i.e., the REPG and REAT, have been instrumental in ensuring improved communication and coordination. Ensure all key contacts are identified as in #2 above and seek to identify effective ways to include counties as appropriate.

4. Establish a process, goals and timeline for project reviews during the “transition period” between the fast track projects and the Solar PEIS (i.e., next 18 months) and for completion of the long-term policy.

Appendix IX

5. Require state teams and the federal government to establish goals and a workplan to achieve those goals that identifies resource needs and deficiencies.
6. Work through the above DOI processes to complete the solar PEIS and to review existing policies re: wind and geothermal development.
7. Use the above DOI processes to evaluate whether a dispute resolution-like process could assist in resolving conflicts earlier between agencies, developers and the public.
8. At the same time, encourage CEQ to provide a forum for interdepartmental coordination and cooperation between agencies (including FERC, Treasury and Energy) and tribal governments to discuss policy and other issues essential to achieve Administration's clean energy strategy/goals.

Appendix A

List of Solar Fast Track Projects on Public Lands in CA as of October 16, 2009

CA Tessera, Imperial Valley
Bright Source, Ivanpah
First Solar, Desert Sunlight
Solar Millennium, Palen
Solar Millennium, Blythe
Solar Millennium, Ridgecrest
Tessera, Calico
Nextera Genesis, Ford Dry Lake
Chevron, Lucerne Valley

Appendix B

Additional Solar Energy Development Study Areas in the Western Mojave Explanatory Narrative (8/18/2010)

Background: Several prominent national environmental organizations¹⁷ are actively participating in identifying issues and seeking appropriate opportunities for renewable energy development in the California Desert by developing recommended siting criteria that would potentially allow for development of projects in the an environmentally sustainable manner.

In April 2009 these organizations identified draft recommended solar energy development study areas consistent with their recommended siting criteria. These 2009 draft study areas were comprised of 53,400 acres of public land administered by the Bureau of Land Management and 242,200 acres of adjacent private lands. Subsequently these organizations sought to identify additional Western Mojave areas.

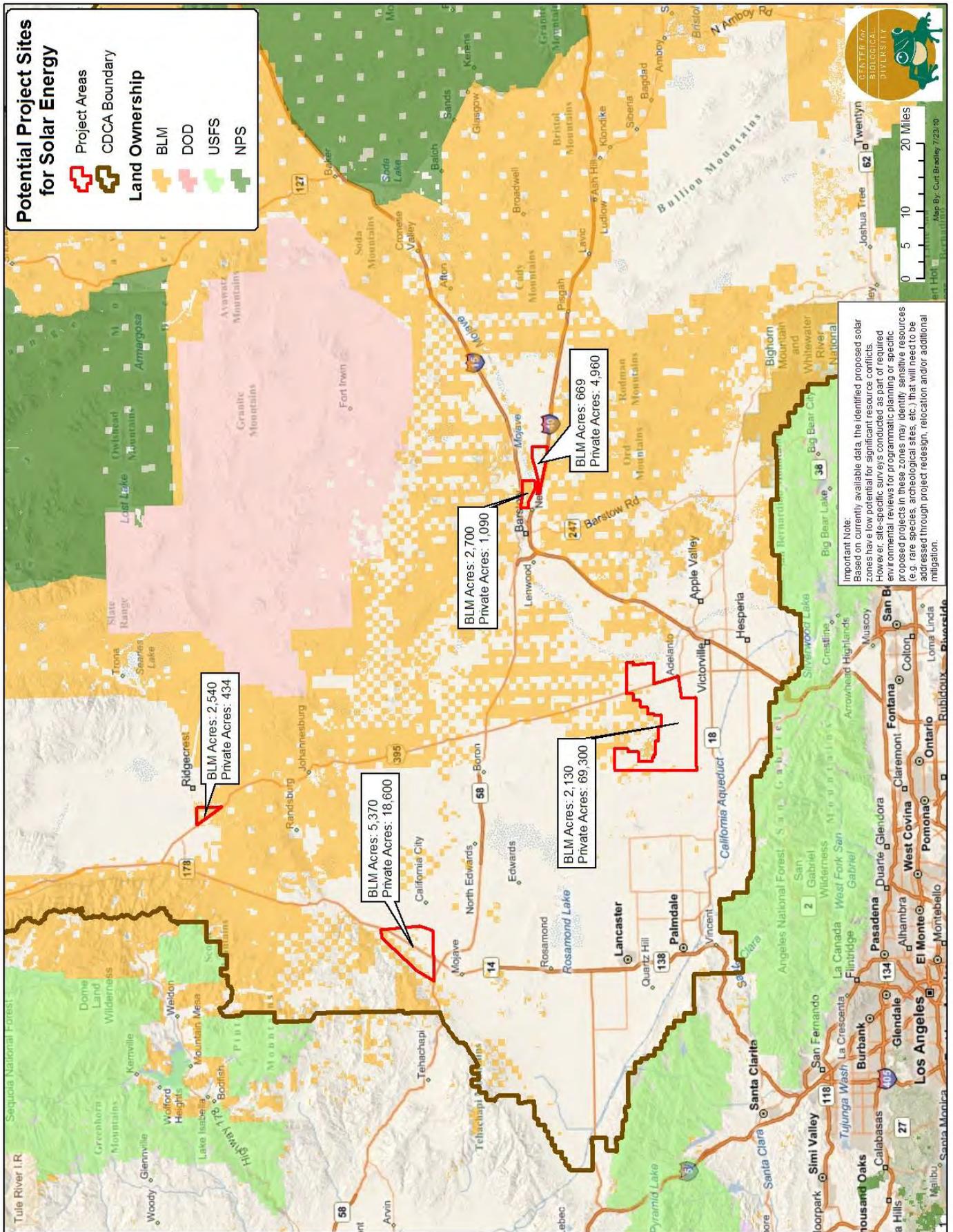
In recognition of the interest in the western Mojave region of California for solar energy development by industry, and the need to direct any such development to locations that are consistent with the siting criteria of the environmental organizations, additional potential solar study areas have been identified, as shown in the following table and on the attached map which consolidates the original study areas from 2009 with newly identified ones in the western Mojave desert.

Area Name	Acres		Total Acres	MW Potential ¹⁸	
	Public (BLM)	Private		Public	Private
Ridgecrest	2,540	434	2,974	318	54
Mojave	5,370	18,600	23,970	671	2,325
Yermo	2,700	1,090	3,790	338	136
Newberry	669	4,960	5,629	84	6,200
Adelanto	2,130	69,300	71,430	266	8,662
Total	13,409	94,384	107,793	1,677	17,377

These potential study areas were selected based on a cursory analysis of slope, proximity to existing development and transmission infrastructure, and the same criteria used to select the original study areas in 2009. These additional locations are likely to have fewer biological values for conservation than other areas of the western Mojave desert due to existing disturbance, fragmentation of habitat and proximity to existing development. All of these areas include substantial private lands, because private lands tend to have sustained more disturbance and fragmentation as well as often being close to existing energy infrastructure

¹⁷ Center for Biological Diversity, Defenders of Wildlife, Natural Resources Defense Council, Sierra Club, The Wilderness Society, Western Watersheds Project

¹⁸ Assuming average of 8 acres/MW



Appendix C

Reference list for landscape-level biological linkage areas

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A strategy for conserving a connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. February. (Spencer et al. 2010)

Beier, P., K. Penrod, C. Luke, W. Spencer, and C. Cabanero. 2006. South Coast Missing Linkages: restoring connectivity to wildlands in the largest metropolitan area in the United States. Pages 555-586 in: K. Crooks and M. Sanjayan (eds.). Connectivity Conservation. Cambridge University Press. (Beier et al. 2006)

Penrod, K., C.R. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, and C. Paulman. 2008. A linkage design for the Joshua Tree-Twenty-nine Palms connection. South Coast Wildlands, Fair Oaks, CA. www.scwildlands.org. (South Coast Wildlands 2008)
(http://www.scwildlands.org/reports/JT_TP_Connection.pdf)

Epps, C.W., J.D. Wehausen, V.C. Bleich, S.G. Torres, and J.S. Brashares. 2007. Optimizing dispersal and corridor models using landscape genetics. *Journal of Applied Ecology* 44:714-724. (Epps et al. 2007)

Thank you for your comment, Zachary DeVoe.

The comment tracking number that has been assigned to your comment is SolarD10002.

Comment Date: December 17, 2010 16:52:27PM
Solar Energy Development PEIS
Comment ID: SolarD10002

First Name: Zachary
Middle Initial: T
Last Name: DeVoe
Organization:
Address:
Address 2:
Address 3:
City: Hollister
State: CA
Zip: 95023
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It all seems so simple. That is until you get involved with the decision making processes that the American Government. It seems to me that if you offered every home owner the chance to have a solar panel placed on the roof of their house, give them the power needed to run the house, take the excess power generated into the grid for powering buildings with no roof space, and everybody would be happy. It really seems so simple and that is why it will never get brought to the table.

Thank you for your comment, Calvin Rittenhouse.

The comment tracking number that has been assigned to your comment is SolarD10003.

Comment Date: December 17, 2010 17:55:28PM
Solar Energy Development PEIS
Comment ID: SolarD10003

First Name: Calvin
Middle Initial: J
Last Name: Rittenhouse
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I certainly applaud DOI's effort to support renewable energy. However, large-scale operations must be sited and designed very cautiously. While desert and arid environments have obvious advantages in terms of sunshine, they are also very delicate environments. When you "study intensively" the 1000 square miles of area, please take enough time to assure that you are not simply creating another disaster in the name of satisfying Americans' insatiable appetite for energy.

I would also encourage you to study locations optimized for other priorities in addition to sunny days. The leading nation in solar energy is Germany, and no part of Germany has optimal sunny days. Logically, absolute maximum sunshine may not be necessary for solar power to be practical.

I have no financial interest in any given form of energy. I favor dispersed, decentralized forms of renewable energy, partly because siting equipment on lawns or rooftops creates far less risk to the environment.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10004.

Comment Date: December 18, 2010 05:15:42AM
Solar Energy Development PEIS
Comment ID: SolarD10004

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Concerns: If a dump that is proposed on Eagle Mountain goes ahead there is going to be alot of smoke from burning and bugs from garbage which will cause more birds which will rest on top of the solar panels and may cause alot of fece problems. So before this solar panel project near the Eagle Mountain proposed dump goes thru someone should investigage the impact on the air quality when and if a dump goes ahead. Smog in 120 C during the summer and smoke will hover in the valley.

Second thing: Not a great idea to put solar panels on top of APN 807660012 APN 807660013 APN 807660023 APN 807660024 due to the fact this is an underground stream and people use this water. I don't think the farmer's will be happy if you change the flow of there water. Also a fault line runs throw/near 807142001 also not a great area for a solar panel. The company should stick to the initial map and not encroach on Kaiser Road because it's too close to kids with guns partying and could cause damage. Much like the existing stop signs with bullet holes that I have seen. Keep the solar panels away from the Kaiser Road. Future trees could be grown along Kaiser Road and this to beautiful the area much like palm springs when the area becomes developed in the future, instead of seeing ugly panels scattered in the desert. Not a nice site when a family comes from the city to enjoy the beauty of the desert.

Thank you for your comment, Thomas Picking.

The comment tracking number that has been assigned to your comment is SolarD10005.

Comment Date: December 18, 2010 12:35:44PM
Solar Energy Development PEIS
Comment ID: SolarD10005

First Name: Thomas
Middle Initial: R
Last Name: Picking
Organization:
Address: 7720 W. State Hwy 96
Address 2:
Address 3:
City: Pueblo
State: CO
Zip: 810059781
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Rather than build a 100 megawatt installation and then have to build transmission lines to support it, provide stronger tax credit incentives to private home owners to install 10000 10 KWH systems on their homes. The home owners (like me) will be glad to provide part of the cost and the up front money to get it installed. The home owner will directly benefit from the installation and no new transmission lines will be required. The power will be generated where it is needed instead of on some remote location requiring transmission and distribution. The home owner will provide maintenance and upkeep. Also, no impact statement and its related costs would be required.

We recently installed a 4.5 KW system and if the incentives were increased beyond the current 30 percent tax credit, I would increase the size of my installation until I ran out of roof space.

Please comment on my suggestion.

Thank you for your comment, John Cordes.

The comment tracking number that has been assigned to your comment is SolarD10006.

Comment Date: December 18, 2010 20:20:29PM
Solar Energy Development PEIS
Comment ID: SolarD10006

First Name: John
Middle Initial: G
Last Name: Cordes
Organization: Sierra Club
Address: 550 E. Arbor Ave
Address 2:
Address 3:
City: Sunnyvale
State: CA
Zip: 94085
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Federal Government needs to do more to encourage local distributed solar installations instead of massive public utility scale project on federal land. Local distributed installations minimize the need for new transmission, make better use of existing infrastructure and protect open spaces from large scale energy development.

Thank you for your comment, Sherry Childers.

The comment tracking number that has been assigned to your comment is SolarD10007.

Comment Date: December 20, 2010 11:49:59AM

Solar Energy Development PEIS

Comment ID: SolarD10007

First Name: Sherry

Middle Initial: L

Last Name: Childers

Organization: Utah State Energy Program

Address: 1594 W. North Temple

Address 2:

Address 3:

City: SLC

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

I'm excited to hear about the prospect of adding large scale solar and wind renewables in the desert of Utah - I would, however, appreciate the power generated to benefit the people of Utah, not the people of overpopulated areas of other states. Thank you.

Thank you for your comment, Lowell Chandler.

The comment tracking number that has been assigned to your comment is SolarD10008.

Comment Date: December 21, 2010 00:34:33AM

Solar Energy Development PEIS

Comment ID: SolarD10008

First Name: Lowell

Middle Initial: J

Last Name: Chandler

Organization:

Address:

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold address from public record

Attachment:

Comment Submitted:

The BLM's Solar Energy Development Programmatic Environmental Impact Statement for the proposed sites should aim to minimize the affect that a solar energy site has on wildlife movement corridors. Without preserving wildlife corridors, biodiversity within ecosystems is depleted. Preserving biodiversity is vital in the fight against climate change, as well as extinction of wildlife. A biological diverse ecosystem can more easily adapt to a changing climate. Without adaptable ecosystems, the ecosystem services that humans benefit greatly from would no longer be available. Being a government agency, the BLM should look to choose solar energy sites that are specific and appropriate. Sites that have the absolute least environmental effect. Sites should be extremely concentrated as well.

Thank you for your comment, Jeff Daudert.

The comment tracking number that has been assigned to your comment is SolarD10009.

Comment Date: December 21, 2010 09:14:02AM
Solar Energy Development PEIS
Comment ID: SolarD10009

First Name: Jeff
Middle Initial: M
Last Name: Daudert
Organization: Nextek Power Systems, Inc
Address: 461 Burroughs Street
Address 2:
Address 3:
City: Detroit
State: MI
Zip: 48202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Nextek Power Systems, Inc. is a pioneer in direct current (DC) power networks for buildings. The Nextek Direct Coupling® power distribution platform delivers superior efficiency, flexibility, and reliability to interior electrical circuits and on-site power generation. Our technology:

- Lowers overall power consumption
- Boosts on-site power generation efficiency by 10% to 50%
- Improves use of on-site stored power by 20% to 30%
- Adapts to changing interiors at zero change over cost
- Renders electrical circuits uninterruptible at low cost

Nextek delivers Direct Coupling® power server solutions in sizes ranging from a 200 watt PC power supply to an 80 kilowatt industrial unit with partners like Armstrong, Johnson Controls, and OSRAM Sylvania.

Nextek promotes the establishment of a DC power standard with global leaders in building products, lighting, and controls as a founding member of the Emerge Alliance®. Nextek is contracted by the US Department of Energy and the Department of Defense to deliver Direct Coupling® DC power innovations for Solar Energy Grid Integration Systems and Vehicle to Grid systems. Nextek collaborates with the Electrical Power Research Institute, Lawrence Berkeley National Lab, and Sandia National Lab on DC Power projects.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10010.

Comment Date: December 22, 2010 15:51:42PM
Solar Energy Development PEIS
Comment ID: SolarD10010

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The farmer is the only man in our economy who buys everything at retail, sells everything at wholesale, and pays the freight both ways. John F. Kennedy

A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people. Franklin D. Roosevelt

THE AMERICAN REVOLUTION was one of the most remarkable periods in history, not so much for the military battles that were fought but for the ideas and principles that were expressed during that time. Foremost among the documents expressing those ideas and principles are the Declaration of Independence and the Constitution, which are inexorably intertwined.

Throughout history, people have viewed the relationship between government and citizen as one of master and servant. It was always assumed that man's rights came from government and, therefore, that it was entirely legitimate for government to regulate or even take away the "rights" that had been given the citizenry.

If the king, for example, decided to confiscate a farmer's crops, there was nothing the farmer could do but obey, because the farmer held his land and grew his crops through the good graces of the king. If the king imposed a maximum price that could be charged for the farmer's crops, the citizen obeyed because the king, as sovereign, was ultimately the owner of everything.

If the king granted monopolies to selected people to produce or sell certain items, such as royal playing cards, no one would dare to disobey the order, for a person's livelihood was unconditionally subject to the dictates of his ruler. Or if the king ordered a citizen to leave his family to do battle in behalf of the kingdom, the citizen would rarely think of questioning the order.

Thus, the situation was such that people were beholden to the king for whatever degree of "liberty" he would permit them. Sometimes the king was good and would allow his people a significant amount of "liberty." Other times he was not so good and would allow them less "liberty." But what everyone clearly understood was that it was the king who had the legitimate power to make this determination.

Then along came the Declaration of Independence and totally inverted the traditional relationship between government and citizen. The Declaration is truly the most radical document in political history. Its ideas and principles continue to threaten governments and political rulers 225 years after it was written.

The Declaration pointed out that man's rights do not come from government. Instead, rights exist independently of government. If government ceases to exist in a society, people's rights do not cease to exist, because their rights preexist government.

Where then do government's powers come from? The powers come from the people because it is the people who bring government into existence. Government does not preexist the citizenry (and their rights); instead, the government exists by favor of the citizenry. Thus, whenever the people wish to dismantle or abolish government, it is their right to do so, since the existence of government depends on the will of those who bring it into existence — that is, the people.

Those ideas are expressed in the Declaration: Men are endowed by their Creator (not by government) with certain unalienable rights, and whenever government becomes destructive of these rights, it is the right of the people to alter or abolish it and form new government.

It is impossible to overstate the truly radical and revolutionary nature of this central idea expressed in the Declaration. Remember that for eons, the commonly accepted belief among people was that their government could rightfully do whatever it wanted to the citizenry and that the citizenry were duty bound to obey. Then along came Thomas Jefferson, the author of the Declaration, and said, No, it is government that is the servant and that takes orders from the citizenry, not the other way around.

What were the rights to which the Declaration referred? Among them (not all were listed) are life, liberty, and the pursuit of happiness. Jefferson had taken the phraseology from the English philosopher John Locke, who had referred to “life, liberty, and property.”

It’s obviously important to delve into the meaning of these preexisting rights.

Life, liberty, and property

Each person is born different from every other person. Fingerprints. Hair texture. Skin color. Voice. Everything about one person is different from everything about every other person who has ever lived. Each person has his own talents, abilities, handicaps, and disabilities. In order to survive, he uses his abilities to produce goods or services that either sustain his life or enable him to trade with others for things that he needs to sustain his life.

The fruits of these economic exchanges are “income” or “property.” The higher the value that others place on one’s goods or services, the more property he acquires.

Let’s consider an example — Placido Domingo. Here is a person who was born with a voice that is different from everyone else’s. It is such a good voice that thousands of people are willing to exchange a large amount of money to listen to it. As Domingo performs in an increasing number of opera productions, his income or property increase. And he uses this property to pursue happiness in his own way, either through saving it, spending it, donating it, investing it, or some combination thereof.

Obviously, government officials are not responsible for Domingo’s voice or the fact that others place a high value on listening to it. What then is the role of government with respect to Domingo? To punish any person who inflicts violence against him, either in the form of a personal assault or in the form of a theft of the property that he has justly acquired through mutual trades.

This is what Jefferson was referring to when he wrote in the Declaration that to secure these rights, governments are instituted among men. It is the process of engaging in economic enterprise, trading with others, and accumulating wealth that we call “economic liberty.” Of course, there are other aspects of human liberty besides the economic one, such as intellectual, religious, and procedural (due process of law), but the overall principle is the same: rights such as life, liberty, property, and the pursuit of happiness preexist government and it is the duty of government to protect their exercise.

It is interesting to note that Adam Smith published his monumental work, *An Inquiry into the Nature and Causes of the Wealth of Nations*, in the same year — 1776 — that the Declaration of Independence was written. In that work, Smith argued that economic liberty was the key to rising standards of living, especially for those on the bottom rungs of the economic ladder.

The Constitution

Eleven years later — 1787 — the people of the United States brought into existence the Constitution, which in turn brought into existence the federal government. Therefore, there is no question, at least here in the United States, that the federal government is entirely a creation of the people, that the people preexist the government, and that the people have the right to dismantle it, abolish it, reform it, or limit its powers in any way they see fit.

And this was exactly what the Constitution was — an express limitation on the powers of government. After all, the people could have called into existence a government whose powers were total and absolute.

The Constitution established the federal government but, by its express terms and its express nature, it also limited its powers to those enumerated in the document. If the intention had been to establish a government of unlimited powers, there obviously would have been no need to enumerate powers or expressly restrict powers. The fact that powers were enumerated and restricted conclusively establishes that our Founding Fathers were not establishing a government with unlimited powers.

Even though the powers of government were expressly limited (for example, in Article 1, Section 8), the American people were still very distrustful of the new government. They knew the history of government and its proclivity for omnipotent and tyrannical control over the lives, liberties, and fortunes of the people. And they had had first-hand experience with such a government. Thus,

to avoid any misunderstanding, they demanded express restrictions on the power of government to interfere with the fundamental, preexisting rights of man.

Thus, the first 10 amendments to the Constitution were enacted. Today these are known as the Bill of Rights, but actually that is a big misnomer. The Bill of Rights does not grant rights at all. A careful reading reflects that these amendments are either restrictions on the governmental power to interfere with rights that preexist government or procedural protections relating to government's ability to punish lawbreakers (e.g., the right to trial by jury).

The result of this confluence of ideas and principles — the Declaration, The Wealth of Nations, and the Constitution — was the most unusual society in history: little or no taxation, regulation, licensing laws, immigration controls, trade restrictions, public schooling, welfare, Medicare, Medicaid, Social Security, drug laws, gun control, conscription, or involvement in foreign wars.

This is what Americans in 1890 celebrated as freedom. Moreover, they viewed government as a mere servant, whose purpose was to protect, not regulate or destroy, this freedom.

All of that, of course, is long gone. In the 20th century, Americans returned to the age-old idea that rights come from government. This is why such phrases as “your constitutional rights” have become such a big part of the common parlance. It is also why we must now suffer under the burden of such governmental programs as income taxation, regulations, public schooling, gun control, the drug war, Medicare, Medicaid, Social Security, immigration controls, trade restrictions, draft registration, foreign empire-building, and more federal bureaucrats than one could ever hope to count.

Today, most Americans honestly believe that their rights come from government and, therefore, that they can be regulated or taken away at the whim of government officials. That is why hardly anyone questions the power of government to take any percentage of people's income it desires and to exercise virtually unlimited power in its quest to “take care” of people. No one can deny that the advent of the welfare state in America brought with it the destruction of economic liberty and the elimination of almost all limitations on government power, at least with respect to the economic aspects of human liberty.

Our quest, then, as libertarians is to recapture the principles of liberty on which our nation was founded and to restore the proper relationship between government and citizen, a relationship in which government officials are once again servants and the citizenry are their masters. Our job is to make the ideas of the Declaration of Independence and the Constitution popularly accepted once again in the context of modern society, with the ultimate goal of restoring liberty to our land.

In closing we must ask one question. Did you talk to the farmer?

Credit given to The Declaration and the Constitution
by Jacob G. Hornberger, May 2001

Thank you for your comment, David Sweetman.

The comment tracking number that has been assigned to your comment is SolarD10011.

Comment Date: December 22, 2010 16:54:19PM
Solar Energy Development PEIS
Comment ID: SolarD10011

First Name: David
Middle Initial:
Last Name: Sweetman
Organization: Esmeralda County Land Use Advisory Committee
Address: P.O. Box 189
Address 2: Mile Post 7, NV-264
Address 3:
City: Dyer
State: NV
Zip: 89010
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The proposal clearly did not involve inputs from Esmeralda County, NV; the location of two proposed sites in NV. The county has a draft Public Land Policy Plan, with map, that identifies suitable locations for renewable energy projects.

I could not transmit the Plan (1.18 MB) over this connection and the map file is too large for transmission.

Please contact me or the Esmeralda County Commissioners to get the proper and appropriate inputs.

Thank you for your comment, Sarah Stratton.

The comment tracking number that has been assigned to your comment is SolarD10013.

Comment Date: December 25, 2010 18:06:15PM
Solar Energy Development PEIS
Comment ID: SolarD10013

First Name: Sarah
Middle Initial: R
Last Name: Stratton
Organization:
Address: PO Box 262
Address 2:
Address 3:
City: Springdale
State: UT
Zip: 84767
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I support alternative energy, it seems wasteful to use land that is pristine in ecosystems. I would like to see other solar projects planned for areas that are already altered ecosystems, such as farmland in the California Central and South Central Valleys and other areas that are less "un-touched".

It seems like a project this size would damage a functioning ecosystem, so I am encouraging solar energy development, but please lets not sacrafice pristine areas because it is the "easiest" or "cheapest" to build on, rather than reclaimed land.

Thank you for your comment, Matt Knepper.

The comment tracking number that has been assigned to your comment is SolarD10014.

Comment Date: December 26, 2010 17:59:04PM
Solar Energy Development PEIS
Comment ID: SolarD10014

First Name: Matt
Middle Initial: I
Last Name: Knepper
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Address 2:
Address 3:
City: Las Vegas
State: NV
Zip: 89143
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Using UEPA.docx

Comment Submitted:

The attached document is the product of my directed research at William S. Boyd School of Law at UNLV. Essentially, the paper discusses recent statutory developments in Nevada's Utility Environmental Protection Act ("UEPA") which among other things, exempt 70 MW renewable energy facilities from state level environmental review.

Moreover, since UEPA was streamlined in 2001, practitioners in Nevada believe that the streamlining measures may be saving as much as 6 months in environmental contracting costs. This reduction has likely further led to significant savings in costs of capital with respect to perceptions of risk from the capital markets.

The paper concludes that the streamlining measures of UEPA may be preserved where local permitting entities are involved, while nevertheless exempting SESA projects from state level environmental review.

One final note: this paper was originally written in August of this year. In its segmentation analysis of the 50 MW Nextlight facilities seeking exemption from UEPA review, its conclusions were consistent with the PUCN's ultimate determination in favor of granting Nextlight the exemption. Therefore, I have left it in its original form.

Using UEPA

The Key to Fast-tracking Solar Energy Development on Western Lands Located in Nevada

12/26/2010

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Juris Doctorate Candidate 2012

William S. Boyd School of Law

University Nevada Las Vegas

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Matt Knepper: Directed Research Project
August 13, 2010

Table of Contents

I. Introduction.....	1
II. NEPA.....	5
III. The Nevada Utility Environmental Protection Act.....	8
a. Gremlins in the Works: the Alturas Intertie Problem.....	10
b. Streamlining UEPA: the 2001 Amendments.....	13
1. Take Six: How Moving to a Concurrent Permitting Process Could Save Six Months in State Level Environmental Review Process.....	15
2. Grease for the Wheels: How Conditional Permitting Keeps the Concurrent Process Moving.....	17
IV. Achieving Exemption from UEPA Review.....	19
a. Exclusion from UEPA May Reduce Uncertainty and Risk Perception from the Capital Markets, thus Reducing the Cost of Capital for Solar Projects on the Solar Energy Study Areas.....	21
b. The NextLight Solar Facilities Problem: Exploring the Bounds of Permissible Segmentation.....	22
1. The CEQ’s NEPA Regulations and Other Factors Considered by Agencies and Courts in Making the Segmentation Determination.....	27
i. Determining the Role of Geography.....	28
ii. Determining the Degree of Permissible Connected and Cumulative Actions.....	30
V. Conclusion.....	34
Appendix A.....	A-1

I. Introduction

In Executive Order 13212, President Bush ordered executive departments and agencies to take appropriate actions “to expedite projects that will increase the production, transmission or conservation of energy.”¹ Title II, Sec. 211 of the Energy Policy Act of 2005 (EPAAct 2005) directs the Secretary of the Interior to “seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity” within ten years of the signing of the EPAAct 2005 into law.² Consistent with this mandate, Secretary of the Interior Ken Salazar announced a program aimed at fast tracking solar energy development in six western states.³ Both the Department of Energy (DOE), and the Bureau of Land Management (BLM) (*collectively*: the Agencies) have identified solar energy development as a critical component in meeting the executive mandate.⁴

Specifically, the Agencies are considering the development and implementation of agency-specific programs that would establish expedited environmental policies and mitigation strategies for utility-scale solar energy development.⁵ These policies and strategies would apply to the deployment of DOE supported solar energy projects on BLM-administered lands.⁶ The DOE *Solar Energy Technologies Program* currently addresses environmental concerns for solar

¹ Exec. Order No. 13212, 66 Fed. Reg. 28357 (May 22, 2001).

² Pub. L. No. 109-58, 119 Stat. 660 (2005).

³ *Fast Track Initiatives for Solar Energy Development on Western Lands*, (Dept. of Interior/Press Release), June 29, 2009; available at: http://www.blm.gov/or/news/files/DOI_Energy_Development_Press_Release_6-2009.pdf (last visited June 4, 2010).

⁴ Notice of Intent to Prepare a Programmatic Environmental Impact Statement to Evaluate Solar Energy Development, Develop and Implement Agency-Specific Programs, 73 Fed. Reg. 30908 (proposed May 29, 2008) [hereinafter *NOI*].

⁵ *Id.*

⁶ *Id.* at 30910.

projects it sponsors through grants on a case-by-case basis.⁷ Meanwhile, the BLM seeks to establish its own environmental policies and mitigation strategies to use when considering whether to issue rights-of-way (ROW) for utility-scale solar energy development projects on public lands administered by the BLM.⁸ The BLM currently processes solar energy ROW applications for lands under its *Solar Energy Development Policy*.⁹

The Agencies' program (Solar PEIS) primarily aims to identify and prioritize specific locations best suited for utility-scale production of solar energy.¹⁰ The Agencies have listed five goals for the Solar PEIS: (1) facilitate near-term utility scale solar energy on public lands; (2) provide the solar industry flexibility in proposing and developing solar energy projects; (3) optimize existing transmission corridors; (4) minimize potential environmental impacts; and (5) standardize the authorization process for solar development on BLM-administered lands.¹¹

The BLM has identified 24 tracts of land in six western states for in-depth environmental analysis.¹² The analysis of these solar energy study areas (SESAs) aims at determining whether the Agencies should designate such areas as Solar Energy Zones—specific locations best suited for utility-scale production of solar energy.¹³ The Solar PEIS includes Nevada. The BLM has

⁷ *Id.*; see generally: *Solar Energy Technologies Program: Multi Year Program Plan 2008-2012*, (U.S. Dep't of Energy April 15, 2008) [hereinafter *DOE Solar Policy*]; available at: http://www1.eere.energy.gov/solar/pdfs/solar_program_mypp_2008-2012.pdf (last visited June 22, 2010).

⁸ 73 Fed. Reg. at 30910.

⁹ *Id.*; see generally *Solar Energy Development Policy*, Instruction Memorandum No. 2007-097 (BLM April 4, 2007) [hereinafter *SEDP*].

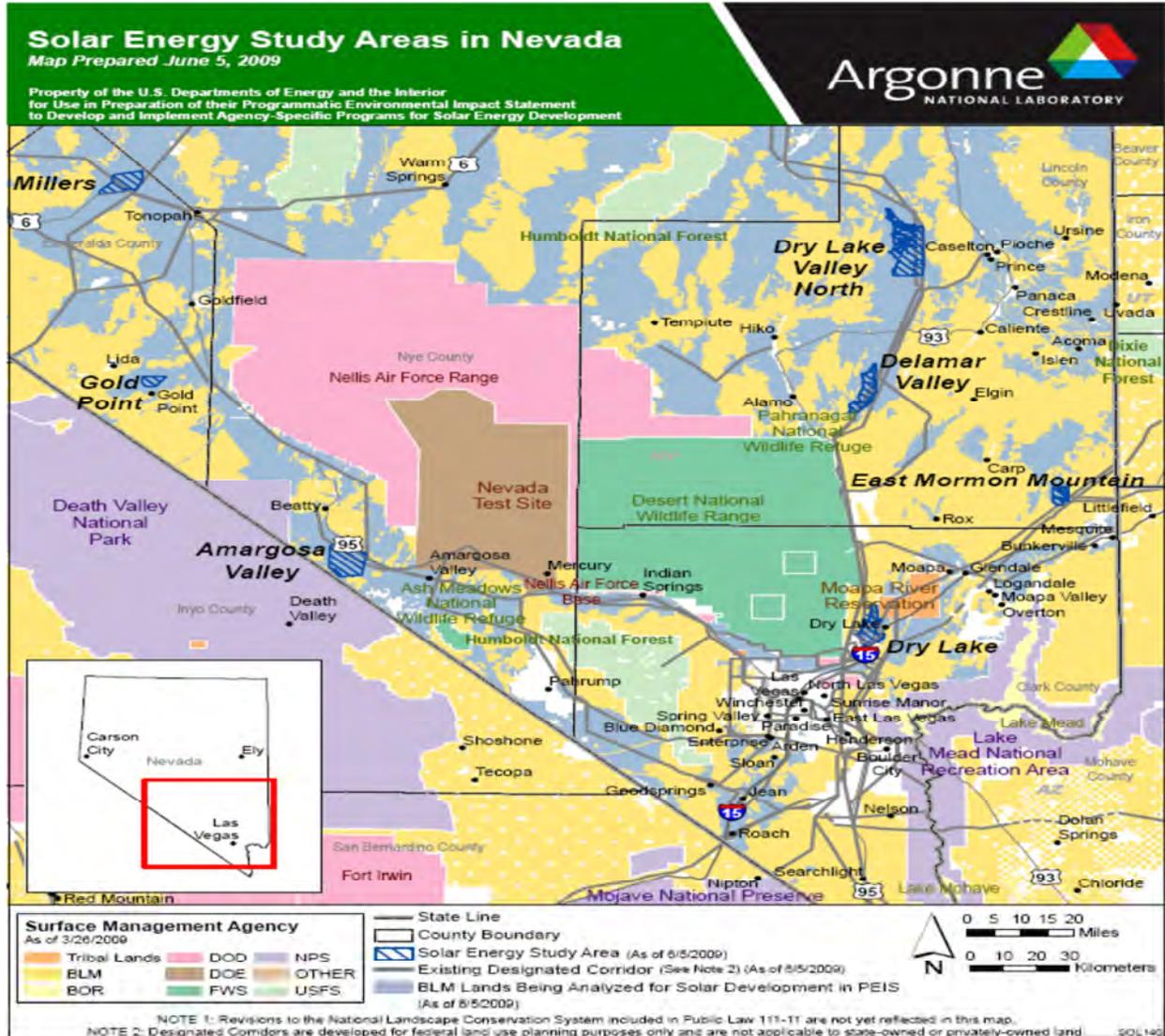
¹⁰ Notice of Availability of Maps and Additional Public Scoping for Programmatic Environmental Impact Statement to Develop and Implement Agency-Specific Programs for Solar Energy Development, 74 Fed. Reg. 31307 (proposed Mar. 11, 2009) [hereinafter *Maps*].

¹¹ *Id.* at 31308.

¹² *Id.*

¹³ *Id.*

identified seven SESAs in the state.¹⁴ The map below depicts the sites of the Nevada SESAs.¹⁵



In making their determinations, the Agencies are preparing a programmatic environmental impact statement (PEIS) to evaluate, develop, and implement policy that will expedite utility-scale solar projects. The Solar PEIS will not eliminate the need for site-specific

¹⁴ Specifically, they are: (1) Amargosa Valley/BLM Ely Field Office; (2) Delmar Valley/BLM Ely Field Office; (3) Dry Lake/BLM Ely Field Office; (4) Dry Lake Valley North/BLM Ely Field Office; (5) East Mormon Mtn./BLM Ely Field Office; (6) Gold Point/BLM Battle Mountain Office; (7) Millers/BLM Battle Mountain Office. I have included the respective BLM Field Offices as they are assigned to administer their respective solar energy study areas under the program merely for the sake of orientation.

¹⁵ Available at: <http://solareis.anl.gov> (last visited June 6, 2010).

environmental review for individual utility-scale solar energy development proposals.¹⁶ Rather, the Agencies expect site-specific environmental reviews to be tiered¹⁷ to the Solar PEIS.¹⁸ The policy the BLM seeks to replace is its *Solar Energy Development Policy*, which expired September 30, 2009.¹⁹ Applications received after June 30, 2009 for lands inside the SESAs will be subject to the Record of Decision for the Solar PEIS.²⁰

The analysis that follows will consider three predominant areas of relevant Federal and Nevada law driving the environmental review process. First, the discussion will develop a general understanding of the National Environmental Policy Act²¹ (NEPA), and discuss streamlining measures developed to create a more efficient review process. Next, the analysis will turn to Nevada's version of NEPA, the Utility Environmental Protection Act²² (UEPA). Here the analysis will consider how UEPA has transformed since its inception to become an effective tool for expediting the state level review. Using UEPA as the lens for informing the BLM's policy, I will argue that there are several ways that the Nevada SESAs may truly expedite solar energy development on Western Lands.

¹⁶ *NOI*, *supra* note 4, at 30910.

¹⁷ 40 C.F.R. § 1508.28 (1978) (*describing* 'tiering' as a referent to the coverage of general matters in broader impacts statements [such as the Solar PEIS], with subsequent narrower statements or environmental analyses [such as site specific reviews on the SESAs]).

¹⁸ *Id.*

¹⁹ *SEDP*, *supra* note 9; *see also NOA: Maps*, *supra* note 10, at 31308 (stating that "[a]ny entity with an existing application for lands within the solar energy study areas received by the BLM prior to June 30, 2009 will continue to be processed under the BLM's current procedures).

²⁰ *NOA: Maps*, *supra* note 4, at 31308.

²¹ 42 U.S.C. §§ 4321-4375.

²² *See generally* Nev. Rev. Stat. §§ 704.820-704.900.

II. NEPA

In 1969, Congress enacted NEPA, and on January 1, 1970, President Nixon signed it into law. NEPA has received mixed reviews over the years since its inception. Some have referred to it as “the Environmental Bill of Rights,”²³ contending that it has changed agency decision-making procedures and made administrators more accessible and accountable.²⁴ While others argue the time needed to comply with various environmental laws requires congressional action to expedite or streamline the environmental review process dictated by NEPA.²⁵

Streamlining describes a process or procedures intended to accelerate decision making, especially when input of multiple federal, state, tribal, or local agencies is required to comply with multiple environmental laws, regulations, or executive orders.²⁶ Streamlining efforts at the agency level may involve one or more of the following categories: (1) designating a specific agency as the lead agency responsible for ensuring compliance with applicable requirements, (2) directing the lead agency to develop a coordinated review process, (3) specifying certain lead agency authority,²⁷ (4) codifying existing regulations, (5) delegating specific federal authority to states, (6) designating specific activities as being categorically excluded or exempt from certain elements of NEPA, and (7) establishing limits on judicial review.²⁸

²³ Jeffery L. Carmichael, Note, *The Indiana Environmental Policy Act: Casting a New Role for a Forgotten Statute*, 70 Ind. L.J. 613, 616 (1995) (citing Eva H. Hanks & John L. Hanks, *An Environmental Bill of Rights: The Citizen Suit and the National Environmental Policy Act of 1969*, 24 Rutgers L. Rev. 230, 269 (1970). “In form, the National Environmental Policy Act is a statute; in spirit a constitution....”) *Id.* at 245.

²⁴ Carmichael, *supra* note 23, at 616.

²⁵ Linda Luther, *The National Environmental Policy Act: Streamlining NEPA*, Congressional Research Service, 2 (Jan. 9, 2007); available at <http://www.nationalaglawcenter.org/assets/crs/RL33267.pdf> (last visited June 22, 2010) [hereinafter *Luther*].

²⁶ *Id.* at 7.

²⁷ E.g. to establish project deadlines or develop dispute resolution procedures.

²⁸ Luther, *supra* note 25, at 2.

Delays attributed to the NEPA process generally fall into two categories: (1) those related to the time needed to complete required documentation (primarily EISs), and (2) delays resulting from NEPA-related litigation.²⁹ Critics of the documentation required under NEPA argue that NEPA creates a complicated array of regulations and logistical delays that stall agency action.³⁰ Moreover, where document preparation under NEPA occurs concurrently with other stages of a project such as preliminary project design, NEPA analysis and documentation may require additional work as the project's specifications undergo any subsequent changes.³¹ Also, a project that triggers NEPA review is likely to require compliance with other environmental laws.³² In this case, regulators may lack guidance on how to integrate the complicated requirements of state and federal environmental laws and regulations successfully. For this reason, regulators tend to be cautious about integrating the requirements of different laws unless they can define all possible regulatory and technical impacts. Taken together, these factors can act to extend the NEPA process while also triggering environmental review from other federal or state agencies whose jurisdiction is under separate statutory authority.³³

NEPA-related litigation also causes significant delays to project development.³⁴ The disposition on this aspect of NEPA implementation cuts two ways. On the one hand, fear of litigation causes agencies to adhere closely to NEPA's requirements.³⁵ On the other hand, the threat of litigation may lead to unnecessary documentation and analysis that slows the process without contributing actual value to an agency's final decision.³⁶ Charged with developing

²⁹ *Id.* at 13.

³⁰ *Id.* at 2.

³¹ *Id.* at 13

³² *Id.*

³³ *Id.*

³⁴ *Id.* at 14.

³⁵ *Id.*

³⁶ *Id.*

NEPA regulations,³⁷ the Council on Environmental Quality (CEQ) suggests that agencies creating unnecessary documentation and analysis to avoid litigation miss the point when they treat the EIS as an end in itself.³⁸ Consequently, the EIS process becomes one of producing documents, but to no specific end.³⁹

On the other hand, proponents of the NEPA process argue that it is an essential tool to help agencies plan and manage federal actions in a responsible way because it requires policy makers and project sponsors to consider the environmental implications of their actions before deciding to go forward.⁴⁰ Thus, NEPA gives agencies a structured, analytical framework within which to make decisions integrating environmental, social, and economic factors.⁴¹ NEPA also serves an important function in providing the public with an opportunity to be involved in agency planning efforts.⁴² Proponents of NEPA further argue that where NEPA related litigation occurs, the agency has failed to follow its own NEPA guidelines, and thus opened itself up to the litigation.^{43 44} To this end, proponents argue that the fear of litigation causes agencies to be more mindful of adhering to NEPA's requirements.

Given the entrenched positions on both sides of NEPA regulation, and given the likely national push back on agency efforts to further streamline NEPA for accelerated development on the SESAs, the Agencies would do well to consider expediting the process at the state level. The

³⁷ 42 U.S.C. § 4343 (1982).

³⁸ *The National Environmental Policy Act: A Study of Its Effectiveness After Twenty-five Years*, Forward, Council on Environmental Quality (Jan. 1997) [hereinafter *NEPA at 25*], available at <http://ceq.hss.doe.gov/nepa/nepa25fn.pdf>.

³⁹ *Id.*

⁴⁰ *Luther*, *supra* note 25, at 2.

⁴¹ *NEPA at 25*, *supra* note 38, at 10.

⁴² *Luther*, *supra* note 24, at 2.

⁴³ *Id.* at 10. Two primary reasons for filing a NEPA-related lawsuit are: (1) required documentation is inadequate such as insufficient analysis of all project alternatives, failure to consider all 'reasonable' project alternatives, and failure to adequately analyze the cumulative or indirect impacts of an action; and (2) and Environmental Assessment was prepared when it should have been and Environmental Impact Statement.

⁴⁴ Agencies do enjoy some autonomy in developing NEPA procedures that are specific to classes of actions typical to a particular agency's undertakings (*see generally* 40 C.F.R. Part 1507).

discussion that follows in Sections III and IV will illuminate a path for expedited development on the Nevada SESAs through UEPA's statutory provisions. Based on UEPA's genesis over the last 10 years, the discussion will take a chronological approach to explaining the pertinent regulatory structure of UEPA, while illustrating how that structure will benefit the Agencies' effort to expedite solar projects on the Nevada SESAs.

Collectively, Section III and IV argue that the Agencies' should adopt a four-prong approach to employing UEPA for expediting solar energy project development. Based on the Legislature's 2009 amendment to UEPA's definition of a 'utility facility,'⁴⁵ the Agencies should limit the nameplate capacity of SESA projects to no more than 70 megawatts (MW). Second, the Agencies should lobby this session of the Nevada Legislature to delegate to the PUCN the authority and requirement that they have a formal rulemaking on the scope of permissible project segmentation relative to the 70 MW exemption. Provided the PUCN has a rulemaking, the Agencies should argue that the PUCN adopt the Ninth Circuit's 'independent utility' test for determinations of proper project segmentation. Third, based on the Legislature's 2001 amendments to UEPA, which created concurrent review processes and timelines for state and local permitting entities, the Agencies should seek Memorandums of Understanding holding those entities to the effects of the 2001 amendments, the UEPA exemptions notwithstanding.

III. The Nevada Utility Environmental Protection Act.

Any solar development in the Nevada SESAs would ultimately tie into Nevada state and county land. This is implicated where the energy produced by the solar projects ultimately sited on the SESAs will connect with transmission and distribution lines that would carry their

⁴⁵ Nev. Rev. Stat. § 704.860(1) (2009) (exempting from UEPA review those "electric generating plants and their associated facilities which use or will use renewable energy, . . . , as their primary source of energy to generate electricity and which have or will have a nameplate capacity of not more than 70 megawatts. . . .")

production to load centers. For this reason, the BLM's proposed standardization of the authorization process would tie into UEPA.⁴⁶ Because the Agencies are considering new policy guidelines for project approval, and because this policy is to be narrowly crafted to utility scale solar energy projects, this section weighs whether the BLM should consider integrating components of UEPA into its new policy where the Nevada SEPA's are concerned.

Only two years after Congress passed NEPA, Nevada's legislature passed its own variant of NEPA: the Utility Environmental Protection Act (UEPA).⁴⁷ UEPA's drafters designed it to apply narrowly to applications for permits to construct utility facilities.⁴⁸ More than any other provision under UEPA, the legislature has amended the definition of a utility facility nine times.⁴⁹ Of course, this is among the most critical of UEPA's provisions, as it serves to exclude certain facilities from state environmental review. However, even those facilities exempt from state review are subject still to county and municipal regulation—as authority over zoning, subdivisions, and related entitlements in Nevada—are delegated by statute to counties and municipalities.⁵⁰ UEPA contemplates these local permitting entities in its definitional sections as 'other permitting entities.'⁵¹ That definition was added by a significant set of amendments to UEPA passed in 2001.⁵²

The 2001 amendments are significant in that no other legislative session since UEPA's inception rivals the legislature's overhaul of UEPA like that of 2001.⁵³ The 'Alturas Intertie Problem,' along with the Western States' energy crisis of 2000-2001, drove the 2001

⁴⁶ Nev. Rev. Stat. §§704.820-704.900.

⁴⁷ Nev. Rev. Stat. §§ 704.820-.900 (2009).

⁴⁸ Nev. Rev. Stat. § 704.825(2) (1997).

⁴⁹ Nev. Rev. Stat. § 704.860 (2009) (amended in 1979, 1985, 1991, 1997, 2001, 2005, twice in 2007, and 2009).

⁵⁰ Nev. Rev. Stat. § 278.020 (1995).

⁵¹ Nev. Rev. Stat. § 704.848 (2001).

⁵² 2001 Nev. Stat. Ch. 584.

⁵³ For example, prior to 2001, UEPA had only 15 sections. The 2001 amendments added seven new sections, and amended eight existing sections.

amendments to UEPA.⁵⁴ In Subsection ‘a’, the analysis will first discuss UEPA through the lens of the ‘Alturas Intertie Problem.’ The Alturas-to-Reno Intertie Project illustrates the difficulties of getting transmission projects built, and by analogy, utility facility projects in general.

Consequently, it exposed weaknesses in UEPA prior to the 2001 amendments. In Subsection ‘b’, the analysis will discuss how the streamlining measures of the 2001 amendments aimed directly at preventing local permitting entities from ‘being the tail that wagged the EIS dog.’⁵⁵

a. Gremlins in the Works: the Alturas Intertie Problem.

“It took you as long to go 15 miles in the state of Nevada as it did to go the 100-plus miles in California.”⁵⁶

The Alturas Intertie is roughly 170 miles long and runs between Alturas, California, and Reno, Nevada.⁵⁷ A little more than 15 miles of the line are sited in Nevada, with the balance in northern California.⁵⁸ The Sierra Pacific Power Co. needed the line primarily to support the reliability of electricity in the fast-growing area around Reno, and to enable Sierra Pacific to gain access to low-cost hydro-power from the Pacific Northwest for the benefit of retail customers in both Nevada and California.⁵⁹

The most significant problems for the Alturas Intertie project occurred on Nevada’s end of the line. These problems occurred at both the federal and local levels. The BLM was the lead

⁵⁴ See generally Nev. S. Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001).

⁵⁵ Comments of Kathleen M. Drakulich, Renewable Energy Symposium, University of Las Vegas (Aug. 11, 2009). Ms. Drakulich was a drafter of the 2001 amendments, and as Assoc. General Council for Sierra Pacific Power and Nevada Power Company during the permitting and construction phases of the Alturas-to-Reno Intertie Project, was intimately familiar with the difficulties imposed on the project during the local permitting process.

⁵⁶ Comments of Nevada State Senator Randolph J. Townsend, Chairman of the Senate Committee on Commerce and Labor, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001) [hereinafter *Townsend*].

⁵⁷ Comments of Duane Nelson, Director of Transmission and Business Development, Nevada Power, and Sierra Pacific Power Company, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001) [hereinafter *Nelson*].

⁵⁸ Exhibit G, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 26 (Feb. 8, 2001).

⁵⁹ *Nelson, supra* note 57, at 26.

agency for purposes of preparing the environmental impact statement because it had the most affected acreage.⁶⁰ The problem at the federal level occurred after the BLM issued its final EIS in November 1995, and the California Public Utilities Commission had approved its portion of the line in January of 1996.⁶¹

The problem was that the U.S. Forest Service had two affected areas, three miles in the Modoc National Forest in California, and eight miles in the Humboldt-Toiyabe National Forest in Nevada.⁶² In February 1996, the manager of the Humboldt-Toiyabe Forest issued a “no-action” decision, and argued that the EIS was flawed because it had not addressed a sufficiently wide range of alternatives—including the alternative of skirting the Humboldt-Toiyabe National Forest entirely.⁶³ After an unsuccessful appeals process that added several months and hundreds of pages of documents required by the process, Sierra Pacific found that the continuing uncertainty over the Humboldt-Toiyabe route was not worth additional time and expense.⁶⁴ Instead, the company opted for an alternative route that while roughly the same length as the initial route, was more costly. This was due to the need to deploy significantly more expensive towers in several locations than would have been required on the Humboldt-Toiyabe route.⁶⁵ Moreover, the alternative route required Sierra Pacific to site the line on private land, thus subjecting it to local permitting processes, and with that, the second aspect of the Alturas Intertie Problem became apparent.⁶⁶

⁶⁰ David H. Meyer & Richard Sedano, National Transmission Grid Study: *Transmission Siting and Permitting*, E-39 (2002), available at http://www.raonline.org/docs/EPR_Meyer_TransmissionSitingAndPermitting.pdf.

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *Id.* at 40.

Tactics employed by critics of the project's private land alternative in Nevada used the sequential permitting process that was UAPA prior to 2001 in an attempt to kill the project.⁶⁷ Largely due to the local permitting process, the project was delayed by a couple of years.⁶⁸ Among other tactics, the project's opponents used a number of local forums with public hearings, where they could continually question the need for, and the location of the project.⁶⁹ Senator Randolph J. Townsend, Chairman of Nevada's Senate Committee on Commerce and Labor, recalled the meetings this way:

Every time someone in Nevada went to a hearing, they said, "Well just move it over here, about a block." Well, "ching, ching [cash register drawer sound]," then the other guy would say, "Well, then I can see it, so just move it another block," or, "move it over here." And then we are doing those visual drawings where the computer will put it into the actual photo; we started doing those. So, if a guy is on his roof standing on his tiptoes, "Ah, I can see it, I do not want it near me." Well, pretty soon the line got to the point that every time you moved that 15-mile line, it was going to end up costing the ratepayer the same as the 100-plus-mile line. ... Then they said, "Well just stick it underground." O.K, "ching, ching." I mean, we have to understand that we need to balance these interests, if you want power in an urban center, you do not drive to the border and plug in. It has to come to your house or your business.⁷⁰

Due to the sequential nature of the permitting process, each of the permitting entities was able to wait until the others had issued their permits—essentially wanting to be the last to issue a permit and thus forestall local political fallout.⁷¹ In order to combat this, the drafters of the 2001

⁶⁷ *Nelson, supra* note 57, at 27.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Townsend, supra* note 56, at 28.

⁷¹ Interview with Kathleen M. Drakulich, Partner, Energy, Environment & Natural Resources Practice Group, McDonald, Carano & Wilson LLP. (July 21, 2010).

amendments sought to give the PUCN control over the local process to the extent that the local and state processes would be parallel.⁷²

b. Streamlining UEPA: the 2001 Amendments⁷³

In utility project development, stretching the permitting step of the process from several months to a year or more could increase the cost by a factor of several times.⁷⁴ The delay in bringing any new plant on-line means additional months of foregone power sales.⁷⁵ Ultimately, the combined financial impact of these two factors can change the economic feasibility of a project.⁷⁶ While the Alturas Intertie did come on-line in 1998, the truth in Congresswoman Titus' above statements was painfully evident to future project sponsors and to the legislature. To resolve these issues, the drafters recognized several goals the 2001 amendments would need to address. First, S.B. 362 required that the various application processes occurred concurrently rather than sequentially.⁷⁷ In the instance of federal agency involvement, that agency would go first and all the local and state agencies would have the benefit of that document when it was completed.⁷⁸ Second, the bill provided for improved coordination among different levels of government such that the various permitting entities could: (1) get involved early in the process, and (2) be informed of that was happening at the other levels of the process.⁷⁹

⁷² *Nelson, supra* note 57, at 28.

⁷³ S.B. 362: Public Utilities—Construction of Utilities—License Applications, Ch. 584, 2001 Nev. Stat. 1 (codified as amended in scattered sections of Nev. Rev. Stat. §§ 704.820-.900) [hereinafter *2001 Nev. Stat.*].

⁷⁴ Comments of Nevada State Senator Dina Titus, Nevada Assembly Committee on Commerce and Labor Hearing, 71st Session, 20 (May 21, 2001) [hereinafter *Titus 5-21*].

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ Comments of Kathleen M. Drakulich, Nevada Senate Committee on Commerce and Labor Hearing, 71st Session, 20 (Mar. 22, 2001) [hereinafter *Drakulich 3-22*].

⁷⁹ *Titus 5-21, supra* note 74, at 20.

Finally, the drafters intended the amendments would heighten the responsibility of the applicant for those permits.⁸⁰ Thus, the revised process required the applicant to file notice with both the PUCN, and any affected local agency that a project was coming forward so they could participate in the review of the project even while any affected federal agency was reviewing it. At the same time, they could provide input and comments and do their formal review for the benefit of the final EA or EIS the federal agency was preparing. Then the state and local agencies would proceed simultaneously.⁸¹

In the subsections that follow, the analysis will center on the streamlining sections of the 2001 amendments that will most benefit the Agencies' program for fast-tracking solar energy development. Subsection 1 will focus on Nev. Rev. Stat. § 704.8905, which set the stage for concurrent review from all affected state and local permitting agencies by setting timelines for approval or denial within 150 or 120 days depending on whether federal review is required. Subsection 2 analyzes the role of granting permits conditioned either on: (1) permits that are yet to be granted by other affected agencies, or (2) on conditions subsequent to, and specified by the agency granting the conditional permit. Ultimately, it is the concurrent review provisions and conditional permitting language under UEPA that the Agencies should seek to have locked in place with the local permitting entities in the event SESA projects are exempt under UEPA review.

⁸⁰ Comments of Kathleen M. Drakulich, Nevada Assembly Committee on Energy, 71st Session, 20 (May 21, 2001) [hereinafter *Drakulich 5-21*].

⁸¹ *Id.*

1. Take Six: How Moving to a Concurrent Permitting Process Could Save Six Months in State Level Environmental Review Process.

A primary driver of the process of a transmission project is the geography in which the project would be located.⁸² On the one hand, where there is no federal land involved, the review of the project would be the responsibility of local and state agencies.⁸³ On the other hand, if the project is located on federal land, a project may require an environmental review prior to a federal agency's issuance of a necessary right of way.⁸⁴ Accordingly, the 2001 amendments established a new approach to Nev. Rev. Stat. § 704.870(1) where no federal review is required, or alternatively, §704.870(2) where federal review is required.⁸⁵

The key Section prescribing the concurrent review process was new Nev. Rev. Stat. § 704.8905.⁸⁶ Subsection (1) establishes the concurrent timelines for review when a facility is wholly located on private property, and thus would not require federal review.⁸⁷ Essentially, this Subsection requires both the PUCN and 'other permitting entities'⁸⁸ to grant or deny an application to construct a utility facility within 150 days from the date the applicant filed its application with the PUCN.⁸⁹ For projects that involve federal review, §704.870 imposes a 120-

⁸² Comments of John Owens, Project Engineer, Sierra Pacific Power, Nevada Assembly Committee on Energy Hearing, 71st Session, 6-7 (May 21, 2001).

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *See generally* 2001 Nev. Stat. Ch. 584 §§ 8 & 11 (codified at Nev. Rev. Stat. §§ 704.8905 (2001) & 704.870 (amended 2009), respectively).

⁸⁶ Codified at Nev. Rev. Stat. § 704.8905 (2001). §8 of the amendments was a new addition entirely and has remained unaltered since its adoption in 2001.

⁸⁷ Nev. Rev. Stat. § 704.8905(1)(a) (2001).

⁸⁸ 'Other Permitting Entity' is defined by § 4 as: "any state or local entity: (a) That is responsible for the enforcement of environmental laws and whose approval is required for the construction of a utility facility...; or (b) Whose approval is required for granting any variance, special use permit, conditional use permit or other special exception [under their statutorily delegated authority to do so]..." (codified at Nev. Rev. Stat. § 704.848(1)-(2) (2001)).

⁸⁹ Nev. Rev. Stat. § 704.8905(1)(a) (2001).

day limit for decisions on permits.⁹⁰ This time line is shorter because the state and local reviews have the benefit of the 12 to 24-month federal process that would precede the 120-day requirement.⁹¹

This Section also puts tremendous emphasis on the applicant's responsibility in the process. This is because §704.8905 only holds other permitting entities to this timeline if the applicant has filed their application with the other permitting entities on or before the date on which the applicant filed with the PUCN.⁹² Alternatively, where federal review is involved, the applicant must file with the PUCN and all other permitting entities "not later than the date on which the person files [its application to construct] with the appropriate federal agency."⁹³

One final aspect of the timeline filing requirements for the applicant would be instructive here. §704.870(2)(b) requires that no later than 30 days after the affected federal agency issues a final EA or EIS, the applicant must file an amended application with: (1) the PUCN;⁹⁴ and (2) each other permitting entity for permit, license or other approval for the construction of the facility.⁹⁵

Thus, so long as all the other permitting entities know well in advance that the project is coming forward, they can both inform the process and produce their formal review for the benefit of the environmental review the lead agency is preparing. See Appendix A for an exhibit used by the drafters of the 2001 amendments to illustrate what the timelines looked like under

⁹⁰ Nev. Rev. Stat. § 704.8905(1)(b) (2001).

⁹¹ *Drakulich 5-21*, *supra* note 80, at 21.

⁹² Nev. Rev. Stat. § 704.8905(1)(a)(2) (2001).

⁹³ Nev. Rev. Stat. § 704.870(2)(a) (2001). While § 704.8905 prescribes the time lines for agency decisions, it requires that it be read with § 704.870(1) or (2) which prescribe the requirements for filing an application when: (1) no federal agency approval is involved, or (2) when federal approval is involved, respectively.

⁹⁴ Nev. Rev. Stat. § 704.870(2)(b)(1) (2001).

⁹⁵ Nev. Rev. Stat. § 704.870(2)(b)(2) (2001).

sequential versus concurrent review processes.⁹⁶ Of course, there may be issues along the way that a particular agency will require the applicant to remedy before that agency will grant approval. Where this is the case, the drafters did not want that particular agency's approval to prevent the other permitting agencies from issuing their approvals. To remedy this issue, they devised conditional permitting, which is the subject of the section that follows.

2. Grease for the Wheels: How Conditional Permitting Keeps the Concurrent Process Moving.

There are two aspects of conditional permitting the 2001 amendments put in place. On the one hand, §13 of the 2001 amendments created Nev. Rev. Stat. § 704.890(2), which allows the PUCN to issue the UEPA permit conditioned upon obtaining permits from other permitting agencies that are outstanding.⁹⁷ In this regard, a particular permitting entity's issue with an aspect of the project does not hold up the global process. Furthermore, because §704.890 holds the state and local permitting agencies to the 150/120-day timelines, a project sponsor can be certain that they will receive timely notice of problems particular to a permitting agency upon whose approval the UEPA permit is conditioned.

On the other hand, §704.8905(2) prescribes that the PUCN or other permitting entity may attach terms, modifications or conditions to the construction, operation, or maintenance of the utility facility within their jurisdiction, as the PUCN or other permitting entity deems appropriate.⁹⁸ In contrast to the conditional permit under §704.890(2), the Section §704.8905(2) conditional permit limits the condition to performance of a requirement placed on the project by

⁹⁶ Exhibit 'E', Nev. S. Comm. Min., 1823 (Mar. 22, 2001).

⁹⁷ Codified at Nev. Rev. Stat. § 704.890(2) (2001). Like § 8 (codified at Nev. Rev. Stat. § 704.8905 (2001)), Section 13 was an entirely new addition to UEPA and has remained unaltered since its adoption in 2001.

⁹⁸ Nev. Rev. Stat. § 704.8905(2) (2001).

the permitting entity granting the conditional permit. For example, a permitting agency may require vegetation around a substation of a utility facility.

Taken together, these conditional permitting methods allow the Section 8 timelines to continue moving the various permitting entities forward. Recall that in the Alturas Intertie Problem, the permitting entities had no such time constraint, and could therefore compete with each other to be the entity to go last. Instead, permitting entities that fall under UEPA jurisdiction must issue the permit with or without conditions, subject to the amended application time lines. Otherwise, they must make their issue with the proposed project known such that the project sponsor may remedy it. Thus, under the 2001 Amendments, the permitting entities can no longer be the tail that wagged the EIS dog.

The next section explains how renewable projects less than 70 MW may be exempt from UEPA review. While this may be beneficial to projects from the standpoint of a reduction in uncertainty and risk, it would also remove the concurrent and conditional review process requirements UEPA places on local permitting entities. In order to avoid another Alturas Intertie Problem from the SESA projects, the Agencies should seek Memorandums of Understanding (MOUs) with the local permitting entities that would hold those entities to their obligations under UEPA. Ideally, all the local jurisdictions affected by the SESAs will sign on to the MOUs. However, if they do not, then risk adverse project sponsors and developers will know which SESAs will be more favorable to develop.

IV. Achieving Exemption from UEPA Review.

The 2009 legislature amended UEPA's definition of a 'utility facility.'⁹⁹ Prior to 2009, the term 'utility facility' essentially applied to generating plants and their facilities, unless those facilities would be located within the boundaries of Washoe and Clark Counties.¹⁰⁰ This is important because only projects qualifying under UEPA's definition of a utility facility will be subject to UEPA review.¹⁰¹ However, §4 of S.B 395 (2009 Amendments) altered the §704.860 definition of a utility facility. Now the exemption only applies to facilities: (1) using renewable energy¹⁰² as their primary source of energy to generate electricity; (2) have or will have a nameplate capacity of not more than 70 megawatts; and that may have (3) a net metering system.

103 104

Recall that the drafters of the 2001 amendments used the graphic in Appendix A to illustrate the 2001 amendments' anticipated effect on the process.¹⁰⁵ They essentially argued that they would save as much as six months by going from a process that was sequential in nature, to one that would be concurrent under the amendments, would save as much as six months. I use

⁹⁹ Nev. Rev. Stat. § 704.860 (1) (Amended by S.B. 395 § 4 (2009)).

¹⁰⁰ Nev. Rev. Stat. § 704.860 (1) (2007) (amended 2009) read:

“Utility facility” means:

“1. Electric generating plants and their associated facilities, except:

(a) Electric generating plants and their associated facilities that are or will be located entirely within the boundaries of a county whose population is 100,000 or more [meaning Clark and Washoe]; or

(b) Electric generating plants and their associated facilities which use or will use renewable energy, as defined in NRS 704.7811, as their primary source of energy to generate electricity and which have or will have a generating capacity of not more than 35 megawatts....”

¹⁰¹ See generally Nev. Rev. Stat. § 704.870 (2009).

¹⁰² Defined by Nev. Rev. Stat. § 704.7811 1(a)-(e) (2003) as derived from: (a) Biomass; (b) Geothermal energy; (c) Solar Energy; (d) Waterpower; and (e) Wind.

¹⁰³ Nev. Rev. Stat. § 704.860(1) (2009).

¹⁰⁴ Defined by Nev. Rev. Stat. § 704.771 1(a)-(e) (2007) as “a facility or energy system for the generation of electricity that: (a) uses renewable energy as its primary source of energy to generate electricity; (b) has a generating capacity of not more than 1 megawatt; (c) is located on the customer-generator's premises; (d) operates in parallel with the utility's transmission and distribution facilities; and (e) is intended primarily to offset part or all of the customer-generator's requirements for electricity.”

¹⁰⁵ Exhibit 'E,' *supra* note 96.

this to illustrate that a project requiring federal environmental review would likely be subjected to concomitant environmental review under UEPA, and that—under the assumptions of the drafters of the 2001 amended process—could still add 6 months to the back-end of the federal process. Thus, if renewable solar projects under 70 MW were to be adopted in the Agencies’ Solar Energy Study Areas (SESAs), they would likely be exempted from UEPA review altogether—as they do not qualify under the statutory definition.¹⁰⁶ In his statement to the Senate Committee on Energy, Infrastructure and Transportation regarding the 2009 Amendments, Governor Gibbons said “[t]he bill proposes to increase renewable-energy nameplate capacity from 35 MW to 70 MW so that projects of less than 70 MW do not need to go through the [PUCN’s UEPA] permit process. This will reduce the permitting time by at least six months.”¹⁰⁷ Later in the same hearing, Dr. Hatice Gecol, Director of Nevada’s Office of Energy, reiterated, “...the Governor proposes to increase the renewables’ nameplate capacity from 35 MW to 70 MW to reduce the permitting process by at least six months.”¹⁰⁸

These statements are perhaps a bit optimistic regarding the reduction in time for the permitting process. Recall that the PUCN is not the only permitting agency involved in the back-end of federal review. The state process was not the basis for the Alturas Intertie Problem. Rather, that sprang from issues related to the local permitting process. Removing the PUCN’s UEPA review may remove a layer from the review process. Furthermore, it may give capital markets a sense that they have less regulatory ‘red-tape’ to be concerned about, thus reducing capital costs that would otherwise be associated with the uncertainty and risk. However, the 2001

¹⁰⁶ Nev. Rev. Stat. § 704.860 (1) (2009).

¹⁰⁷ *Minutes of the Senate Committee on Energy, Infrastructure and Transportation*, 2009 Leg., 75th Sess. 3-4 (Mar. 31, 2009) (statement of Jim Gibbons, Governor, State of Nevada) [hereinafter *Gibbons 3-09*].

¹⁰⁸ *Id.* at 8 (statement of Hatice Gecol, Ph.D., Director, Nevada State Office of Energy). In response to a question from Senator Cegavske on the asserted six month reduction in length of the permitting process, Dr. Gecol responded that “The six month reduction ... is the PUCN’S UEPA permit process.” *Id.* at 16.

amendments created a concurrent review process, and local permitting will still be required; and with that, according to the charts in Appendix A, the process may still take up to six months.

The following subsections will make three points. First, in Subsection a., I will argue that exclusion from UEPA review could produce a good outcome. Even with the effectiveness of the 2001 streamlining measures, there is still a roughly six-month UEPA process on the back end of the federal review. Exclusion from UEPA could truncate that. Then, in Subsection b., the analysis will turn to litigation issues that may arise if project opponents claim that project sponsors and the PUCN have improperly segmented a larger project to avoid environmental review.

a. Exclusion from UEPA May Reduce Uncertainty and Risk Perception from the Capital Markets, thus Reducing the Cost of Capital for Solar Projects on the Solar Energy Study Areas.

To put the size requirements of a 70MW solar project in perspective, I offer the following illustration. NextLight Renewable Power, LLC., has filed a UEPA application for a 150 MW solar photovoltaic (PV) generating facility near Bolder City.¹⁰⁹ That project proposes to locate on approximately 1,130 acres of land.¹¹⁰ Assuming that a solar PV project requires 7.5 acres per MW, then a 2,000-acre plot could feasibly support 266 MW.¹¹¹ Understand that this is a very crude calculation, and several factors determine the MW per acre calculation. Nevertheless, based on this crude calculation, I will illustrate my point.

¹⁰⁹ Application of NextLight Renewable Power, LLC for authority under the provisions of the Utility Environmental Protection Act for a permit to construct the Boulder City Solar Project, Docket # 10-05018, Public Utilities Commission of Nevada (May 20, 2010). Available at: <http://pucweb1.state.nv.us/pucn/DktInfo.aspx?Util=Renewable>. (last visited July 17, 2010).

¹¹⁰ *Id.*

¹¹¹ The math here is $1,130 \text{ acres} / 150 \text{ MW} = \sim 7.5 \text{ acres/MW}$. Then working from that assumption: $2,000 \text{ acres} / 7.5 = \sim 266 \text{ MW}$. A very crude calculation indeed!

Assuming a 2,000-acre SESA,¹¹² I propose that three 70 MW projects could be placed on each 2,000 acre SESA. Assuming just four of the seven Nevada SESAs receives solar projects—that could total 12 projects on the low end of potential projects per SESA. Multiply 12 projects by 6 months of UEPA exemption per project due to its 70 MW size, and the total could be as high as 72 months saved in collective environmental contracting costs and uncertainty.

Therefore, if the Agencies' tier the SESA projects to the UEPA size-exemption, they would likely assist those projects in reducing upfront capital cost significantly. However, as the following case will illustrate, the Agencies will need to seek clarification on the PUCN's position regarding the extent to which it may segment proposed projects on a SESA, thus qualifying as exempt from UEPA review. Moreover, the PUCN is clearly keeping the transmission issue on the table for UEPA review.

b. The NextLight Solar Facilities Problem: Exploring the Bounds of Permissible Segmentation.

Impermissible project segmentation occurs when an agency defines a project too narrowly for purposes of evading environmental analysis.¹¹³ Neither the UEPA statutes, nor their regulations directly address segmentation. Furthermore, Nevada's courts have not ruled on a segmentation case under UEPA or any other state cause of action. However, as the NextLight Solar Facilities problem noted below illustrates, the §704.860(1) exemption could lead to litigation under a theory of impermissible segmentation.¹¹⁴ One aspect of the solution lies in legislative delegation of authority to the PUCN to define the scope of permissible project

¹¹² This is the minimum SESA size per 74 FR 31307.

¹¹³ William H. Rodgers Jr., *Handbook on Environmental Law*, 787 (2nd ed. 1994)

¹¹⁴ PUCN General Counsel, Memorandum to the Commissioners, 4, Docket # 10-04023 (June 30, 2010) [hereinafter *GC Memo*].

segmentation. Based on the PUCN's rulemaking on segmentation, the BLM could then tier SESA projects to conform to the regulations, and thus avoid pitfalls due to uncertainty. However, the NextLight problem will illustrate, the PUCN is poised to adjudicatively define threshold determinations they will likely apply to future §704.860(1) cases. Moreover, because segmentation can be a very fact specific determination, the PUCN's order in the NextLight case may not offer adequate assurances and clear guidance to those who hope it otherwise will. Clear guidance on how to proceed with multiple projects on a single SESA while still achieving the UEPA exemption will likely follow from a formal rulemaking on the matter.

NextLight has just completed a Draft Environmental Impact Statement (DEIS) for the Silver State Solar Energy Project.¹¹⁵ Accordingly, NextLight filed a UEPA application¹¹⁶ for a 400 MW generating facility near Primm, Nevada. On February 16, 2010, the company signed a power purchase agreement (PPA) with NV Energy for the output of a 50 MW generating facility to be located at the same site.¹¹⁷ For this facility, they sought a declaratory order from the PUCN that exempts the 50 MW facility from UEPA review.¹¹⁸ On May 7, 2010, the PUCN issued an order for further proceedings with respect to the exemptions and NextLight's petition.¹¹⁹

Essentially, NextLight sought clarification on two aspects of the 50 MW project. The first was whether the 50 MW facility would be exempt from UEPA review under Nev. Rev. Stat. §

¹¹⁵ Draft Environmental Impact Statement for the Silver State Solar Energy Project, NVN-085077 (Bureau of Land Management, April 2010) [hereinafter *DEIS*].

¹¹⁶ *Application of NextLight Renewable Power, LLC, for authority under the provisions of the Utility Environmental Protection Act for a permit to construct the Silver State Project*, Docket # 09-08019, PUCN (Sept. 16, 2009).

¹¹⁷ However, while the DEIS contemplates the PPA with NV Energy, it does not contemplate the 50 MW facility specifically.

¹¹⁸ *Petition of NextLight Renewable Power...for a declaratory order as to whether a 50 MW photovoltaic solar electric generating facility and associated bus tie is exempt from the Utility Environmental Protection Act permitting requirements*, Order, Granting in Part, Setting Further Proceedings, 2, Docket # 10-04023, Public Utilities Commission of Nevada (July 2, 2010) [hereinafter *Declaratory Order*].

¹¹⁹ *See generally Petition of NextLight Renewable Power...for a declaratory order as to whether a 50 MW photovoltaic solar electric generating facility and associated bus tie is exempt from the Utility Environmental Protection Act permitting requirements*, Docket # 10-04023, Public Utilities Commission of Nevada (PUCN) (May 7, 2010) [hereinafter *Declaratory Petition*].

704.860(1). Specifically, NextLight wanted the exemption to apply despite the fact that a second, much larger facility would “one day be constructed on contiguous land by the same developer, with an aggregate power output of the two facilities of more than 70 MW for the two projects.”¹²⁰ To support their position, NextLight emphasized that the 50 MW facility was dedicated solely to supplying the NV Energy PPA.¹²¹ Further, they argued that it should be exempt because they were separately financing it as a standalone project, and as a result, all of the assets necessary to construct and operate the facility would be separately owned and operated from any subsequent facility.¹²² Included among those assets are: (1) an interconnection agreement with NV Energy; (2) a transmission line pursuant to the interconnection agreement; (3) a separate agreement granting all the real estate rights specifically required for the facility; and (4) a separate water supply agreement.¹²³ On this point the Commission conceded that pursuant to §704.860(1),¹²⁴ the 50 MW facility is not a “utility facility” within the meaning of UEPA, and is therefore not required to obtain a UEPA permit for its construction.¹²⁵

However, prior to issuing a declaratory order on the matter, the Commission’s General Counsel’s Office (GC) recommended that the Commission set the matter for further proceedings.¹²⁶ The GC’s main concern was that the federal EIS should match the contemplated construction of the proposed facility.¹²⁷ They emphasized that if the environmental review is for generating facilities in excess of 70 MW, the Commission should reconsider the exemption.¹²⁸ They reasoned that “if the Commission did not hold NextLight to the EIS, projects like this one

¹²⁰ *Id.*

¹²¹ *Id.* at 3.

¹²² *Id.*

¹²³ *Id.* at 4.

¹²⁴ Nev. Rev. Stat. § 704.860(1) (2009).

¹²⁵ *Declaratory Order, supra* note 118, at 4.

¹²⁶ *GC Memo, supra* note 114, at 1.

¹²⁷ *Id.* at 4.

¹²⁸ *Id.*

could be [improperly segmented] through contracts even though the total nameplate capacity would exceed the exemption limits.”¹²⁹ Thus, parties could simply contract around the legislative intent to exempt only renewable projects capped at a specific size.¹³⁰

The Commission adopted the GC’s position and stated that because the federal EIS should match the proposed construction of utility facilities, future proceedings on the matter will center on the parameters of the BLM’s environmental review.¹³¹ The DEIS conducted with the BLM does not mention the 50 MW generating plant. However, the DEIS does contemplate the 50 MW PPA.¹³²

The second aspect NextLight sought clarification on was the 230 kV transmission line that would connect the 50 MW generating station to the Bighorn Substation.¹³³ NextLight argued that this was merely an “associated facility” pursuant to §704.860(1), and was thus exempt from UEPA review as well.¹³⁴ To support their argument, they reasoned that a different interpretation of §704.860, “exempting the 70MW generating facility but requiring a UEPA permit for a bus tie which exceeds 200 KV for that same facility” would render meaningless the UEPA exemption for the generating facility.¹³⁵

To this point, the Commission applied §704.860(2)(a), which defines electric transmission lines and transmission substations that are designed to operate at 200 kV or more as “utility facilit[ies].”¹³⁶ Under this definition, the transmission line is subject to UEPA review.

The Commission was solely focused on the capacity of the line, not its length (about a half a

¹²⁹ *Id.*

¹³⁰ *Id.*

¹³¹ *Declaratory Order, supra* note 114, at 5.

¹³² *DEIS, supra* note 115, at 3-57.

¹³³ *Declaratory Order, supra* note 118, at 4.

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.*

mile), nor the term (“bus tie” versus “transmission line”) in making its determination.¹³⁷ The Commission further reasoned that the absence of any exemption in §704.860(2) for high voltage transmission lines clearly indicated that the legislature had no intent to move with haste on the issue of transmission without careful consideration of its environmental costs.¹³⁸

The GC’s opinion signals two areas of environmental review; both are issues of first impression in Nevada’s courts: segmentation and cumulative actions. The first issue turns on the permissible degree of segmentation of a larger project into its parts without requiring UEPA review. The second issue turns on whether the cumulative environmental impact of multiple, less than 70 MW projects, should be considered under one EIS.

The PUCN’s determination will no doubt speak directly to the facts in the NextLight case. This will likely offer inadequate guidance to SESA project sponsors seeking UEPA exemption status on the SESAs. In this event, the Agencies would benefit from lobbying this session of the Nevada Legislature on both issues. Specifically, the Agencies should seek a legislative mandate delegating full authority over the matter to the PUCN. This is preferable because under the highly deferential arbitrary and capricious standard,¹³⁹ Nevada’s courts will be less likely to overturn the PUCN’s rulemaking or orders there under. In turn, Capital markets may perceive less risk in SESA project investment, thus reducing capital costs.

¹³⁷ *Id.*

¹³⁸ *Id.* at 5.

¹³⁹ Nev. Rev. Stat. § 703.373(6)(f) (1983); Nev. Rev. Stat. § 704.895(2)(d) (2001).

1. The CEQ's NEPA Regulations and Other Factors Considered by Agencies and Courts in Making the Segmentation Determination.

The CEQ's NEPA regulations require that multiple projects be considered together in the same EA or EIS if they are connected actions,¹⁴⁰ cumulative actions,¹⁴¹ or similar actions.¹⁴² Connected actions “automatically trigger other actions which may require [EISs]..., [c]annot or will not proceed unless other actions are taken previously or simultaneously..., or [a]re interdependent parts of a larger action and depend on the larger action for their justification.”¹⁴³ Segmentation cases fall under the ‘connected actions’ definition. Cumulative actions are actions that, “when viewed with other proposed actions, have cumulatively significant impacts.”¹⁴⁴ Finally, when viewed with other reasonably foreseeable or proposed actions, cases involving similar actions turn on whether those actions provide a basis for evaluating their environmental consequences together in a single EA or EIS.¹⁴⁵ One such basis for similarity is shared geography. Taken together, these three actions serve as the basis for segmentation determinations.

Because a fundamental understanding of the mechanics of segmentation and cumulative action would inform the Agencies’ lobbying efforts, the following analysis will brief those issues in greater detail. Thus, the discussion begins by arguing that the ‘similar actions’ basis of common geography should be determined by the PUCN. Then the discussion will turn to the CEQ’s guidelines for making segmentation and cumulative action determinations. Next, the discussion will track the 9th Circuit’s jurisprudence in reviewing agency decisions under the

¹⁴⁰ 40 C.F.R. § 1508.25(a)(1) (1978).

¹⁴¹ 40 C.F.R. § 1508.25(a)(2) (1978).

¹⁴² 40 C.F.R. § 1508.25(a)(3) (1978).

¹⁴³ 40 C.F.R. § 1508.25(a)(1)(i), (ii), (iii) (1978).

¹⁴⁴ 40 C.F.R. § 1508.25(a)(2) (1978).

¹⁴⁵ 40 C.F.R. § 1508.25(a)(3) (1978).

connected and cumulative action issues. This Section then concludes by applying the 9th Circuit's jurisprudence and the facts of the NextLight problem to the BLM's SESAs.

i. Determining the Role of Geography.

An agency has a degree of discretion regarding whether to analyze 'similar actions' in the same impact statement.¹⁴⁶ To be sure, an agency "*should* [analyze similar actions in the same impact statement] when the *best* way to adequately assess the combined impacts of similar action...is to treat them in the same impact statement."¹⁴⁷ In any legislative delegation to the PUCN regarding rulemaking, the legislation must specify that in its discretion, the PUCN has the authority to define the best way to adequately assess the combined impacts of a similar action. This discretion would include the authority not to assess combined impacts whatsoever.

One way the PUCN may be certain that one project is properly segmented from another, is by establishing permissible geographical border minima between projects. Contemplate this notion as along a continuum. At one extreme, a project would have no geographic boundary separating it from any other project that may be located adjacent to it. In this sense, there would only be a contractual boundary separating one facility from the next. NextLight's 400 MW facility would likely be on this end of the continuum. At the other extreme, the project is divided by miles such that the 350 MW facility would be located in Primm, while the 50 MW facility would be located 90 miles northwest in the Amargosa Valley. While intellectually less challenging, the later extreme when applied to the SESAs, would entirely defeat the purpose of locating several less than 70 MW projects on a single SESA.

¹⁴⁶ 40 C.F.R. § 1508.25(a)(3) ("An agency *may wish* to analyze these actions in the same impact statement.") (emphasis added).

¹⁴⁷ 40 C.F.R. § 1508.25(a)(3) (emphases added).

However, the advantages to allowing projects nearer the first extreme of the continuum to go forward are clear. The less distance a developer has between projects, the more efficient the land use. Assume two facilities, 'A' and 'B.' These two facilities are conceived as standalones. Assume further that other than sharing common municipal services such as sewage and water supply, they share no other physical facilities in common that would allow them to consolidate costs. Examples of these facilities in common would include on-site substations or collection systems that would convey electricity from the solar field to the on-site substations. A and B are separate projects, with separate federal EISs, conducted for the SESAs. Recall that the BLM intends that the Solar PEIS will not eliminate the need for site-specific environmental review for individual utility-scale solar energy development proposals.¹⁴⁸ Thus the PUCN's concern that an EIS match the proposed construction will be addressed.

Under these constraints, the PUCN would not likely perceive a problem with the geographic proximity of the two projects under two stipulations. First, because A and B have never been conceived of as segments of a larger project, the GC would likely not take issue with attempts to segment them. A second reason the PUCN would likely not take issue with either of the projects is that one is not dependent on the other for physical infrastructure. Further, the BLM would have greater liberty to site projects in a manner that optimizes the utility of the SESA. Therefore, the PUCN should not set geographical constraints merely to establish permissible segmentation of projects located on the SESAs. Instead, the PUCN's determinations of permissible segmentation should occur under the connected and cumulative actions rationale developed in the next part.

¹⁴⁸ See text accompanying footnotes 16 & 17, *supra*.

ii. Determining the Degree of Permissible Connected and Cumulative Actions.

The CEQ regulations implementing NEPA require that an agency consider ‘connected actions’ and ‘cumulative actions’ within a single EA or EIS.¹⁴⁹ Connected or cumulative actions must be considered together to prevent an agency from “dividing a project into multiple ‘actions,’ each of which individually has an insignificant environmental impact, but which collectively have a substantial impact.”¹⁵⁰ Deciding whether agency actions “are sufficiently interrelated to constitute a single ‘agency action’ for NEPA purposes will generally require a careful analysis of all the facts and circumstances surrounding the relationship.”¹⁵¹

Pursuant to the CEQ’s regulations, the 9th Circuit Court of Appeals has adopted an “independent utility” test to determine whether an agency is required to consider multiple actions in a single NEPA review.¹⁵² In *Thomas v. Peterson*, the Court addressed the issue of whether NEPA required the Forest Service to consider the environmental impacts of the building of a forest logging road in a single review process.¹⁵³ The road facilitated logging and the timber sales resulting from that logging.¹⁵⁴ The Court found the logging operations and the construction of the road were “connected actions” because “the timber sales [could not] proceed without the road, and the road would not be built but for the contemplated timber sales.”^{155 156}

Applying the same test, the Court has rejected claims “that actions were connected when each of two projects would have taken place with or without the other and thus had ‘independent

¹⁴⁹ *Wetlands Action Network v. United States Army Corps of Eng’rs*, 222 F.3d 1105, 1118 (9th Cir. 2000).

¹⁵⁰ *Id.* (quoting *Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir. 1985)).

¹⁵¹ *Id.* at 1116 (quoting *Friends of the Earth, Inc. v. Coleman*, 518 F.2d 323 (9th Cir. 1975)).

¹⁵² *Id.* at 1118.

¹⁵³ 753 F.2d 754, 759 (9th Cir. 1985).

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *See also Trout Unlimited v. Morton*, 509 F.2d 1276, 1285 (9th Cir. 1974) (finding that an EIS must cover a whole project when “[t]he dependency is such that it would be irrational, or at least unwise, to undertake the first phase if subsequent phases were not also undertaken”).

utility.”¹⁵⁷ In *Morongo Band of Mission Indians v. FAA*, the Court found that the FAA did not improperly segment NEPA review of an airport’s arrival enhancement project (AEP) from review of a larger airport expansion project for which the FAA was preparing an EIS.¹⁵⁸ Finding that each project had independent utility, the Court recognized that the expansion project would exacerbate the problems the AEP was addressing.¹⁵⁹ Nevertheless, the Court found that the AEP was an independent action because it was designed primarily to deal with existing problems, and therefore was not connected to any future expansion project.¹⁶⁰

The 9th Circuit has taken a “facts and circumstances” approach where it has reviewed agency determinations of extent and effect of ‘cumulative impacts.’ In *Blue Mountains Biodiversity Project v. Blackwood*, the 9th Circuit overturned the Forest Service’s determination that the cumulative effects of five lumber projects in the same watershed did not warrant a single EIS.¹⁶¹ The Court found three facts particularly compelling in its determination that the five sales were cumulative actions: (1) the sales were reasonably foreseeable, (2) the Forest Service announced the sales were developed as a part of a single forest recovery strategy, and (3) the sales were announced simultaneously to a coalition of logging companies.¹⁶²

However, the 9th Circuit distinguished *Blue Mountains* in *Wetlands Action Network v. U.S. Army Corps of Engineers*.¹⁶³ In that case, the Court determined the Corps was not required

¹⁵⁷ *Morongo Band of Mission Indians v. FAA*, 161 F.3d 569, 580 (9th Cir. 1998)); *see also* *Northwest Resource Information Center, Inc. v. National Marine Fisheries Service*, 56 F.3d 1060 (9th Cir. 1995) (holding that flow improvement measures and transportation program were not “connected actions” within the meaning of NEPA regulation and, thus, U.S. Army Corps. Of Engineers did not have to consider transportation program in EIS for flow improvement project).

¹⁵⁸ 161 F.3d at 580.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ 161 F.3d 1208, 1215 (9th Cir. 1998).

¹⁶² *Id.*

¹⁶³ 222 F.3d 1105, 1119 (9th Cir. 2000).

to analyze the cumulative impacts of three phases of a single wetland improvement project.¹⁶⁴

The Court found that when the developer applied for a permit for Phase I, many of the details and planning decisions regarding Phases II and III had not yet been completed.¹⁶⁵ On this basis, the Court emphasized that requiring the project's sponsors to analyze the environmental impacts of the three phases in a single EIS would be impractical.¹⁶⁶

In the NextLight problem, the GC is took issue with the appearance that NextLight is attempting an artificial distinction of the first 50 MW segment from the remaining 350 MW facility. Of the seven aspects NextLight emphasized in distinguishing their 50 MW facility,¹⁶⁷ only two appear to be physical characteristics related to the project: (1) the separate transmission line, and (2) the separate water supply agreement. However, even the water supply agreement may be merely contractual. In fact, the facility may be drawing water from the same physical water pipes that will ultimately supply the rest of the 400 MW facility. In that event, the only physical distinction beyond the separate transmission line will be a separate water meter. The remaining factors are, as the GC pointed out, merely contractual distinctions.

The preceding cases lend five points of direction that if the PUCN applied to a rulemaking, or its declaratory order in the NextLight case, would provide helpful guidance to the SESA project sponsors.¹⁶⁸ Under *Thomas*,¹⁶⁹ each project on a particular Nevada SESA would need not only site-specific environmental review, but also the ability to demonstrate each SESA project could deliver electricity independent of any other project located on the same SESA.

¹⁶⁴ *Id.*

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ See text accompanying notes 116-120, *supra*.

¹⁶⁸ So as to avoid redundancy, assume all projects located on any Nevada SESA are less than 70 MW, and thus qualify for UEPA exemption when viewed in isolation from any other facility located on the same SESA.

¹⁶⁹ *Thomas v. Peterson*, 753 F.2d 754 (9th Cir. 1985).

Further, under *Morongo Band*,¹⁷⁰ if each project on the SESA is designed to serve a need distinct from other projects on the same SESA, such as separate power purchase agreements, this would serve to demonstrate that no one project is dependent on the larger SESA for its justification. While on its own this distinction is merely contractual, taken together with the independent utility test under *Thomas*, I propose that these two would form the ‘connected action prong’ of the PUCN’s test.

Cumulative actions would form the second prong of the PUCN’s permissible segmentation test. Under *Blue Mountains*,¹⁷¹ opponents to the UEPA exemption would argue that Secretary of the Interior Ken Salazar’s announcement that the SESAs are the product of the Department’s effort to expedite zoning and siting of solar energy projects on Western lands. Specifically they would point out that like the Forest Service in *Blue Mountains*, the Department of Interior (DOI) has announced the project as part of a single plan. Moreover, the very fact that the DOI anticipated this plan going forward is evidence of its foreseeability. However, *Wetlands Action Network*¹⁷² limited the *Blue Mountains* rationale to situations where project details and planning decisions regarding later phases are largely known. Therefore, if the Agencies develop the SESAs one project at a time, the *Blue Mountains* rationale may be minimized.

V. Conclusion

To conclude, the Agencies should consider tiering solar energy projects it locates on the Nevada SESAs to conform to the §704.860(1) exemption. To limit risk, the Agencies should lobby this session of the Nevada Legislature to delegate authority to the PUCN for formal rulemaking on the segmentations issues. This clarification would reduce the capital market’s

¹⁷⁰ *Morongo Band of Mission Indians v. FAA*, 161 F.3d 569 (9th Cir. 1998).

¹⁷¹ *Wetlands Action Network v. United States Army Corps of Eng’rs*, 222 F.3d 1105 (9th Cir. 2000).

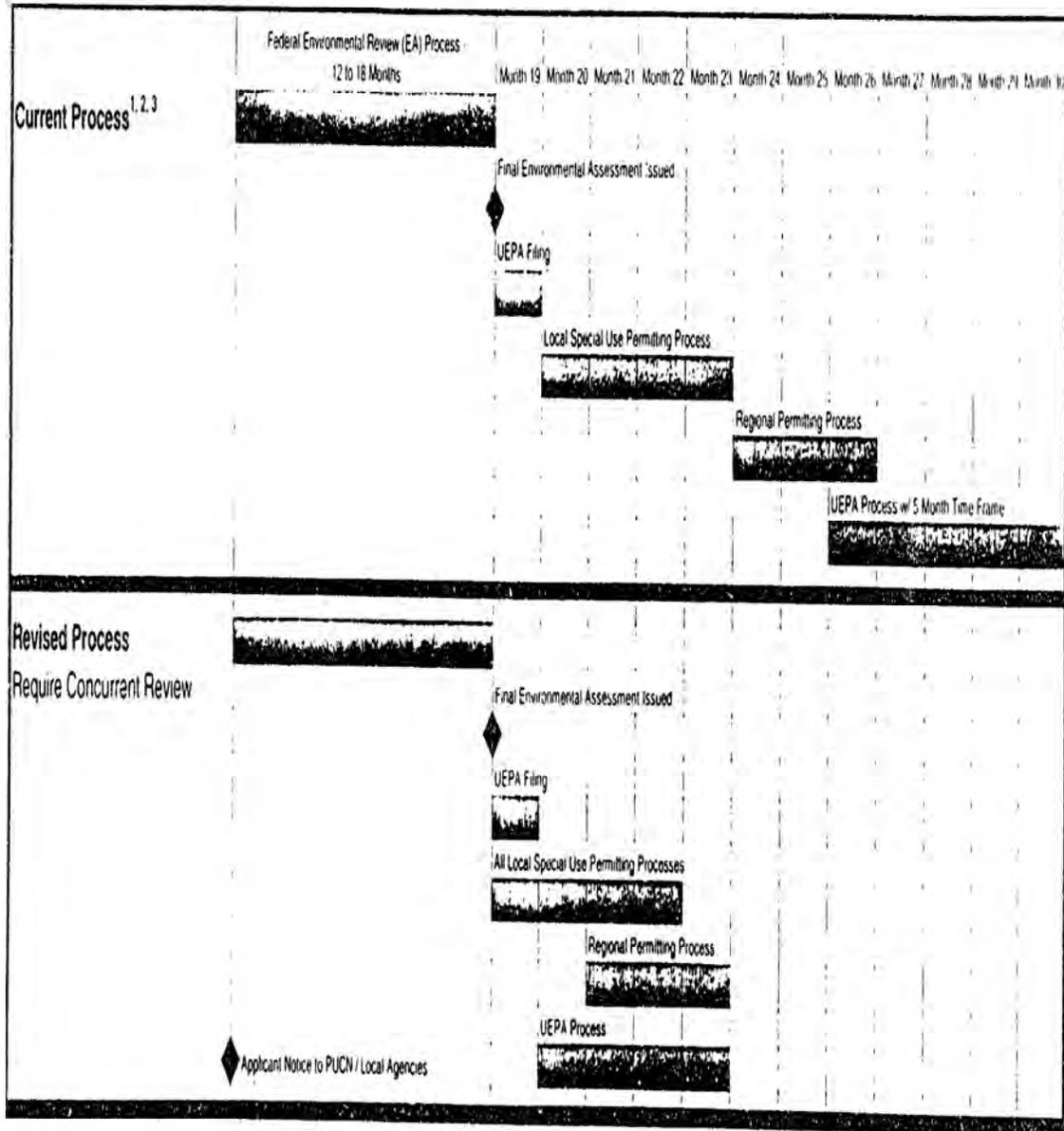
¹⁷² *Id.*

perception of risk and uncertainty, and therefore would most certainly benefit projects located on the SESAs.

Recall that the Alturas Intertie Problem associated with local permitting entities drove the 2001 amendments designed to eliminate them. If SESA projects do achieve exemption under UEPA, local permitting entities could once again become the tail that wags the EIS dog. The likely remedy for this uncertainty will require a Memorandum of Understanding (MOU) between the BLM and the local permitting entities. The MOU would extend UEPA's concurrent streamlining measures at the local level even while the project is otherwise exempt from state review. This would allow project sponsors to determine relative risk of development based on the quality of in-place MOUs with the Agencies. Subsequently, the SESAs located in counties with the MOUs would most likely develop first, thus incentivizing the local permitting entities to get on board.

Appendix A

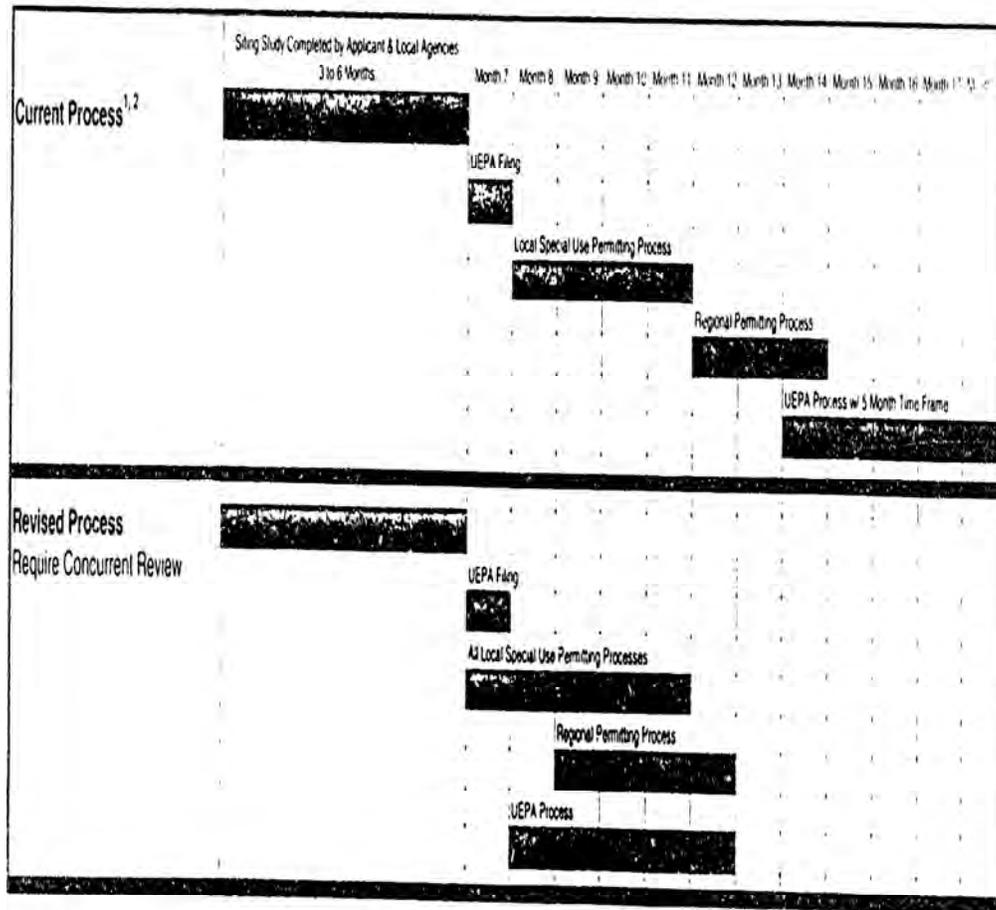
CURRENT / PROPOSED TRANSMISSION LINE PERMITTING PROCESS WHEN A FEDERAL APPROVAL IS REQUIRED



Footnotes:

- 1) Denial or changes to a proposed project location by a Local Agency would lead to repeating the entire Local and State process, increasing the approval time
- 2) If Federal Agencies require an Environmental Impact Statement, then the timelrames stated above would increase by 6 to 18 months.
- 3) The PUCN has the ability to complete UEPA concurrently under existing statutes, and has exercised this authority to the benefit of several recent transmission projects.

CURRENT / PROPOSED TRANSMISSION LINE PERMITTING PROCESS WHEN A FEDERAL APPROVAL IS NOT REQUIRED



Footnotes:

- 1) Denial or changes to a proposed project location by a Local Agency would lead to repeating the entire Local and State process, increasing the approval time
- 2) The PUCN has the ability to complete UEPA concurrently under existing statutes, and has exercised this authority to the benefit of several recent transmission projects

Thank you for your comment, Judith Jordan.

The comment tracking number that has been assigned to your comment is SolarD10015.

Comment Date: December 27, 2010 16:00:46PM
Solar Energy Development PEIS
Comment ID: SolarD10015

First Name: Judith
Middle Initial:
Last Name: Jordan
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

These comments are submitted in response to the request for comments on the draft Solar Energy EIS. As an initial matter, BLM should note that public lands are a dwindling, important natural resource, supplying recreation and habitat for wildlife. As BLM has opened up vast spaces to energy development, both recreational and habitat quality have deteriorated even as private lands are also being developed and removed from habitat. Some energy development may be necessary on public land, but solar energy is not. Towns throughout Colorado offer a perfect solar habitat-rooftops. And the added benefit is that these already come with transmission lines and no further degradation of natural wildlife habitat. Please try to resist the urge to develop every square inch of ground that is supposed to be held in trust for all citizens. Leave some open space. Pursue solar on private ground with existing infrastructure, where diffuse generation also makes much better sense from a national security standpoint as well.

Thank you for your comment, jeff williamson.

The comment tracking number that has been assigned to your comment is SolarD10017.

Comment Date: January 4, 2011 12:57:16PM
Solar Energy Development PEIS
Comment ID: SolarD10017

First Name: jeff
Middle Initial: m
Last Name: williamson
Organization: AZS/CWP
Address: 455 n galvin parkway
Address 2:
Address 3:
City: phoenix
State: AZ
Zip: 85008
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I would appriceat being kept informed with a focus on Arizona

Thank you for your comment, George Tharisayi.

The comment tracking number that has been assigned to your comment is SolarD10018.

Comment Date: January 5, 2011 16:13:24PM
Solar Energy Development PEIS
Comment ID: SolarD10018

First Name: George
Middle Initial:
Last Name: Tharisayi
Organization: ALL SOLAR
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The best technology is concentrated solar PV, generally Silicon based. The CPV shifts cost factor to the mirrors. I have estimated that trough mirrors can be manufactured for about \$60/sq. Meter. If you make the trough mirror as fixed roof, with Sun tracking receiver, then power cost will come down to as low as 1 cent/kWh.

I have founded a start-up focused on a cutting edge manufacturing technology for low cost mirror trough by using reflective films by Reflec Tech, 3M or Alcoa. This will be suitable for both solar thermal and CPV plants. For utility plants, power cost is estimated to be 4 cents/kWh. You can see that these costs are much lower than anything now in practice. Please contact me for more information.

Best,

George Tharisayi
Principal
ALL SOLAR
gtharisayi@yahoo.com
925-788-1836

Thank you for your comment, Roger Faulkner.

The comment tracking number that has been assigned to your comment is SolarD10019.

Comment Date: January 12, 2011 22:00:57PM
Solar Energy Development PEIS
Comment ID: SolarD10019

First Name: Roger
Middle Initial: W
Last Name: Faulkner
Organization: Electric Pipeline Corporation
Address: 15 West Main Street
Address 2:
Address 3:
City: Cambridge
State: NY
Zip: 12816
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: ICHVE_2010_4_page_paper_final.pdf

Comment Submitted:

I think the idea of identifying areas for grid-scale solar development is good, but now we need a transmission corridor to get all that power to markets. I think perhaps the Federal Government should take a leading role in siting these transmission corridors, preferably underground. I am attaching a concise article describing a form of electric pipeline that can move >10 GW in a single line. This or something like it, is greatly needed.

LONG DISTANCE UNDERGROUND HVDC TRANSMISSION VIA ELPIPES

Roger W. Faulkner, President <roger_rethinker@yahoo.com>; Ron Todd <ronaltdt@alum.mit.edu>;
Electric Pipeline Corporation, 15 West Main Street, Cambridge NY 12816

Abstract—Elpipes are polymer-insulated underground HVDC power lines that use relatively rigid extruded conductors designed for higher capacity and efficiency than is practical for overhead power lines. Elpipes can use far more conductor than cables, but also have more splices than an HVDC cable. The US Department of Energy showed early interest in massive underground transmission [1], but that faded until recently. The high efficiency of elpipes is motivated by the need to minimize heat dissipation while maintaining passive cooling. Minimizing waste heat production is critical since heat dissipation limits capacity. For a 325-800kV DC elpipe, we have selected a design basis of 1% loss per 1000 km, about three times better than an overhead 800kVDC line, and similar to “high temperature” superconducting (HTS) lines after accounting for the energy HTS lines consume for cryogenic cooling. This high efficiency enables continental scale power transfers with acceptable loss, and fully buried elpipes carrying up to 12 GW. Elpipes may one day enable continental scale HVDC grids, though there remain technological hurdles such as the need for HVDC breakers that must first be solved before that can occur.

I. INTRODUCTION

Elpipes are composed of solid-insulated pipe systems (Figure 1) which can be fully underground, installed at the surface (Figure 2), or above ground. There are many options for conductor, insulator, installation layout, and outer shielding conduit for elpipes; Figure 1 illustrates a simple design with aluminum conductor, insulated by crosslinked polyethylene (XLPE), within a steel conduit. This construction is highly conventional, and requires no new developments except the splices, which at this stage are proprietary to Electric Pipeline Corporation (EPC) and cannot be described yet. The cost estimates presented herein (Figure 3) look at the sum of the conductor + insulator cost only for a simple elpipe like the structure inside the rollers in Figure 1, using three different conductors with conventional XLPE insulation.

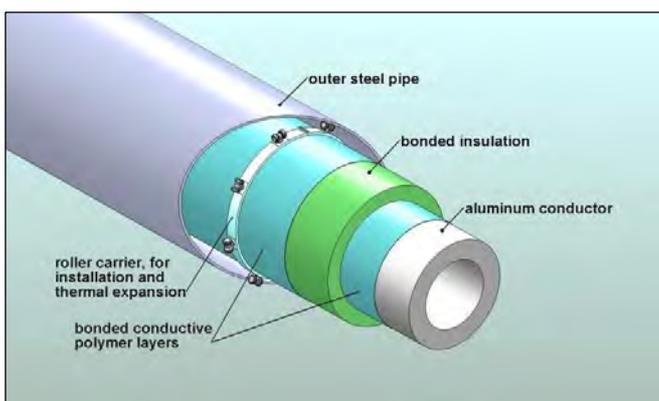


Figure 1. Buried HVDC Elpipe

An elpipe installed at the surface (Figure 2), could go to at least 24 GW with passive cooling. Active, non-cryogenically cooled elpipe designs can theoretically go to transfer capacities above 200 GW. Note though, that such high capacities would require full redundancy to meet North American reliability standards, and would require new HVDC circuit breaker technologies that are yet to be developed and proven.

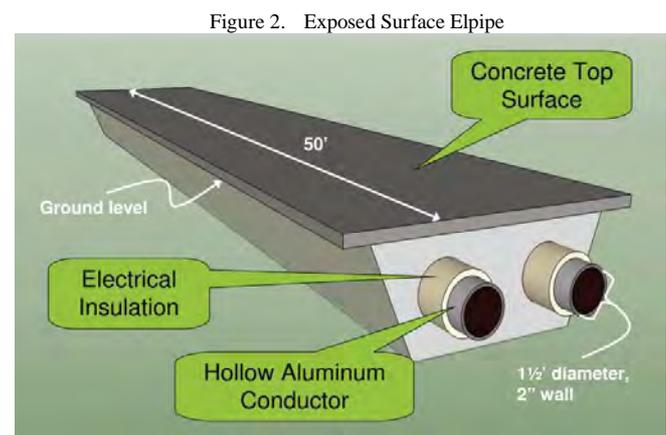


Figure 2. Exposed Surface Elpipe

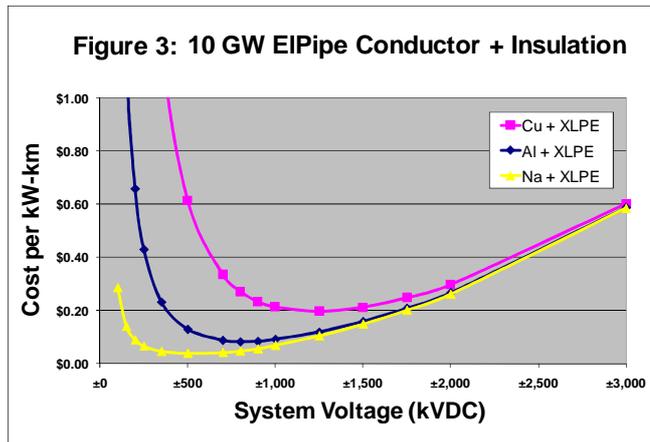
II. ELPIPES: TECHNICAL CONSIDERATIONS

Figure 1 shows one pole of a bipolar elpipe HVDC system. The conductor/insulator boundary lies within the XLPE layer (as is also the case in XLPE-insulated HVDC cables), but unlike HVDC cables, the XLPE layer is not necessarily bonded to the conductor. This feature separates the manufacturing of the elpipe segments into three separate components, the inner conductor, the insulator (containing the conductor/insulator boundary), and the conduit. Each has its own quality control methodology, and unlike the case for HVDC cables, a failure in the insulating pipe during testing does not require replacement of the inner conductor. This enables much higher test voltage for the insulator pipe with economically acceptable higher failure rates. By failing the weakest parts of the insulating pipe prior to assembly of the elpipe segments a more reliable composite segment may be achieved.

Passive waste heat removal limits steady state capacity for any fully buried transmission line based on conventional conductors. For buried, truck-transportable HVDC cables, waste heat dissipation limits maximum transfer capacity to about 1.1 GW per circuit at present, though anticipated cable insulation improvements [2] may take this up to about 3 GW per circuit in the next ten years for XLPE-insulated cables. Elpipes use 3-18 times more metal/ampere than cables or overhead power lines, and so have higher efficiency than an overhead wire or a buried cable, so that even with current XLPE insulation technology, a buried elpipe circuit (Figure 1) would be capable to 12 GW, and a surface-installed version (Figure 2) would be capable of transferring up to 24 GW.

Design Voltage of Elpipes

Elpipes are envisioned as future components of a continental scale HVDC grid that will lie “below” the AC grid. Selection of an operational voltage for such a grid involves many considerations, including ease and cost of interfacing with the AC grid. Figure 3 shows the cost of conductor + insulator for three candidate conductors, copper, aluminum and sodium, all insulated with conventional crosslinked polyethylene (XLPE), with maximum voltage gradient of 10 kV/mm. All elpipes were sized for 10 GW per circuit. Market prices for the metals and XLPE were used.



The curves of Figure 3 show capital cost for two important components of the elpipe: conductor + insulator) versus DC voltage. The more expensive the conductor is, the higher the cost for conductor + insulator, and the higher is the economic optimum operating voltage (sodium: ± 500 kVDC; aluminum: ± 800 kVDC; copper: $\pm 1,250$ kVDC). Note that both transmission capacity and efficiency were held constant in Figure 3 (at 10 GW and 1% loss/1,000 km). At any particular voltage the outside conductor radius is the same for copper, aluminum, or sodium; required for equivalence in shedding waste heat.

It is very interesting that the cost for electrical energy transfer using sodium as the conductor is low over the entire range of voltage from 325-800 kV, below the lowest cost for aluminum over this entire range. We are aware of the difficulty of dealing with sodium, and also the public relations nightmare it would be to propose a sodium-conducted elpipe technology in the US or Europe. Nonetheless, this is clearly the low cost solution. Electric Pipeline Corporation has technology for an aluminum elpipe that contains voids that can later be flooded with sodium to increase the capacity of the line at a later date.

Present National Electric Safety Code rules [5] allow no more than 30 minutes of emergency operation of an HVDC system in monopolar mode with ground return in the US, but if the ground return can go back through the conduit wall or a special moderate voltage elpipe for emergency ground return, but it is feasible to operate for long periods in a monopolar mode (to deliver half as much power) while the faulted leg of the bipolar HVDC system is repaired. In this case, the voltage withstand capability of the insulation between the conduit or the moderate voltage elpipe and ground only needs to be 40kV or less.

A CIGRE committee has been studying the problem of what common HVDC voltage should be adopted for continental scale HVDC grids; one key consideration is the ease of interfacing with

existing AC grids. It is likely that the selected design voltage will be between $\pm(500-800)$ kV, possibly ± 640 kV.

Insulation of Elpipes

Insulation for elpipes need not be flexible, as is required for cables. This opens up particularly interesting options for elpipe insulation that cannot be discussed at this time due to patent considerations.

Thermal Expansion of Elpipes

A side effect of going to rigid conductors as in an elpipe is that one must deal with the different thermal expansivities of the conductor, the insulator, and the conduit shell. Various prior art means to deal with this problem include:

- Bellows-type expansion joints (can be used on conductors, insulators, and the conduit);
- Sliding electrical contacts have been used for rigid conductors in gas insulated lines [3];
- Bonding elastomeric insulation to the metal conductor to restrict axial expansion of the insulator (problem: fatigue);
- Using wires within a structural shell that can “snake” as they expand;
- Using flexible conduit pipe, such as polyethylene pipe, that is placed into concrete as it is poured, negating the need for conduit expansion joints.

The preferred method for how we propose to deal with thermal expansion cannot be disclosed at this time.

Overload Capacity of Elpipes

Because of their massive design, elpipes have high adiabatic overload capacity. In an all-aluminum elpipe design, the adiabatic heating of an elpipe from normal operating conditions (85°C) to thermal overload (105°C) would require 2.5 hours at double the normal level of transmitted power, about 15 times as much overload capacity as typical underground cables. Versions of elpipes that use sodium as the conductor have even higher overload capacity due to the endothermic melting of sodium at 98°C .

Cooling Options

Elpipes can be much more massive than cables because they need not be wrapped on a reel for transport. Because of this, elpipes have a “cooling” option that is not feasible for high power cables: one can simply use more conductor to reduce I^2R heat generation in the first place. (As long as the elpipe is DC, there is no dielectric loss also generating heat, as would be the case if AC were used.) Lower heat generation also means higher efficiency. Although a lower capital cost might be had by using smaller conductors with an active cooling system, higher losses would increase operating costs, and added complexity due to the cooling system would reduce reliability. We therefore favor passively cooled designs wherever that is practical. There are however certain cases where structures and/or geology may force an elpipe to go deep under a river or a subway system, for example; in these special cases, an active cooling system will be required.

In a passively cooled elpipe, the electrical insulation is a major part of the “thermal resistance” between the elpipe conductor and the environment. If the elpipe is at the surface (as in Figure 2), or buried only shallowly, the electrical insulation represents most of

the thermal resistance to dumping waste heat into the environment passively, (at voltage > 325 kV), whereas at some burial depth (that varies with pipe diameter and soil type), the soil thermal resistance becomes even greater than that of the electrical insulation material; thus elpipes cannot be deeply buried unless a means to bring the waste heat to the surface, such as heat pipes (passive) or liquid coolant pipes (active) are part of the design.

At the typical elpipe design efficiency (1% loss per 1000 km at full rated load), I²R heat generation is 10 watts/meter per GW capacity, considering both wires (leakage current heating is much less for an XLPE-insulated elpipe than I²R heat generation). Present generation buried high power cables have thermal limits between 40-70 watts per meter per cable (up to 140 watts/meter for both cables); we have conservatively estimated that a fully buried elpipe circuit (a pair of elpipes as in Figure 1) can dissipate sufficient heat to transport 12 GW at steady state (120 watts/meter), with large temporary excursions if needed.

HVDC Grid Considerations

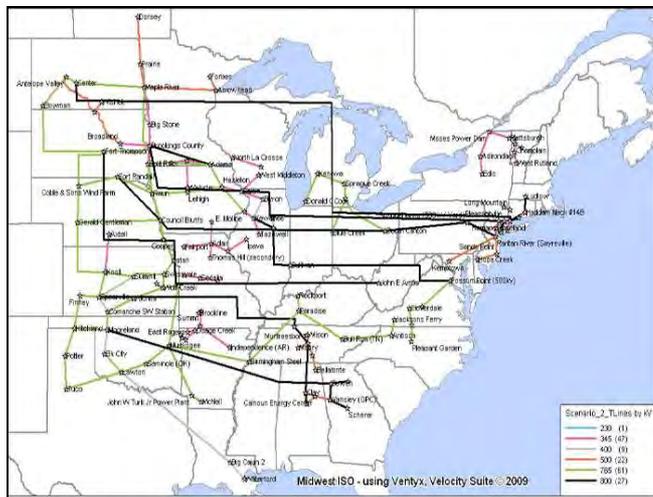


Figure 4. EWITS [4] Scenario 2, Proposed HVDC Lines

So far, commercial HVDC lines are point-to-point linkages, as in Figure 4, with power transformed from AC to DC and back by highly efficient thyristor-based line commutated converter (LCC) stations. LCCs require highly coordinated control of power in/power out for each converter station, and as a result, most experts do not think that more than six power taps are reliably operable on lines such as those shown in Figure 4.

Contrast this with the true HVDC network envisioned in Figure 5, which can move power from any power tap to any other tap; there would be on the order of 50-100 power taps on the HVDC loop of Figure 5, which would tie together an area with hundreds of GW of power production and consumption. The proposed HVDC grid would reinforce the three conventional AC synchronous grids in the region. Figure 5 shows the highest capacity elpipe circuits as heavy lines, but a realistic HVDC grid would also contain smaller underground cables, and/or overhead lines carrying 2-7 GW (a few are shown as lighter lines in Figure 5).

A true HVDC grid (with more than six power taps) cannot be built based solely on LCCs. LCCs also do not have “black start” capability, so the lines can only be restarted once the AC grid is operational in the case of a major blackout. More recently two types of “voltage source converters” (VSC) have been

commercialized for power transmission, GTO (gate turn-off thyristor) and IGBT (integrated gate bipolar transistor). VSCs are much more capable of being deployed in a true HVDC grid (with hundreds of power taps) than are LCCs (though this is not yet demonstrated at grid scale).

Unfortunately, VSCs are less efficient (~3% conversion loss for two IGBTs vs. ~1.2% loss for a pair of thyristor-based LCCs; GTOs are intermediate in efficiency). A mixed grid, with both VSC converters and current source converters is feasible and will be a likely design for the HVDC grid of the future; such a grid will be capable of having more power taps than a purely LCC-based grid because of the presence of VSCs in the grid, yet the bulk of power transfers occur through the more efficient LCCs.



Figure 5: HVDC Grid for Eastern US

Loops efficiently provide redundancy, which is critical to create a reliable grid. An HVDC grid such as that of Figure 5 would lie “below” the conventional AC synchronous grids (three synchronous AC areas are linked by the HVDC grid of Figure 5), and would reinforce them. The main circuits of Figure 5 are based on pairs of elpipes as in Figure 2. The Main Loop circuits can also be connected to smaller HVDC elpipes, underground cables, and/or overhead lines carrying 2-7 GW (a few are shown in Figure 5).

Ideally, such an HVDC grid would be tied into the regional AC grids at many points, but there are serious control issues with an HVDC grid that limit the maximum number of “taps.” This is an issue of keen interest to several research groups [6].

Installation Options

Elpipes can be installed in several different ways. In principle, a bipolar circuit can be installed in a single pipe for example. We have rejected this option due to the likelihood that a short in one conductor would damage the insulation of the other conductor, so that both legs fail at once. Having both conductors in a single conduit also means that during maintenance both legs of the circuit would have to be shut down. Thus, we think that separate conduits are desirable.

In a loop system, the total resistance between two points R_{total} is related to the clockwise resistance R_1 and the counterclockwise resistance R_2 by:

$$R_{total} = 1/(1/R_1 + 1/R_2)$$

The maximum point-to-point resistance occurs when $R_1 = R_2$. Loops provide intrinsic redundancy provided there are “hot” circuit breakers between each pair of next neighbor taps on the HVDC loop. However, such hot HVDC circuit breakers still need to be developed, and will likely be very expensive, so a fewer number of hot HVDC circuit breakers, combined with many more fast acting zero-load switches, is a likely scenario for circuit protection. In the event of an outage, the portion of such a grid that lies between hot circuit breakers can be rapidly reconfigured to allow each node point to be serviced from at least one loop direction (by isolating the fault via opening zero-load switches). After this reconfiguration, the IGBT-based converters can do a cold start.

To minimize magnetic effects near an elpipe, it would be highly desirable to have a coaxial relationship of the + and – conductors. This is indeed feasible for monopole systems with return current near ground potential. Monopole systems use the conductive material less efficiently than bipole systems in one way of looking at it (same mass of conductor as a bipole with half the voltage). Routine use of the conduit for a moderate voltage return current would complicate field repairs, expansion joints, and cooling tremendously, and is not favored for now (this remains a possibility in the future).

For added redundancy, it would be desirable for the bipolar elpipe to default to an effective monopolar design in case of a fault in one pole. We are at present pursuing designs (Figures 1 & 2) in which each conductor resides in its own shielding conduit, which may be either metallic or a polymer-based pipe. Making the outer conduit out of aluminum or aluminum/polymer composites would result in the potential for each pole of the HVDC circuit to default to monopolar operation with ground return through its own conduit in case of an outage on one pole. However, it is more economical to install a separate low voltage elpipe specifically designed for ground return in case of an outage in one pole; this has the advantage that the single ground return backup serves both poles of the normally bipolar HVDC elpipe connection. This is somewhat related to the concept of repurposing three-phase AC powerlines to HVDC with a spare pole [7].

Elpipes have a minimum radius of curvature (without using special elbow joints) that is smaller than a welded gas pipeline but larger than an HVDC cable. Elpipe minimum radius of curvature lines up well with the minimum radius of curvature of railroads and high speed, limited access highways. HVDC lines could be conveniently installed underground next to gas pipelines, railway lines, or interstate highways. Construction along railroads is especially appealing because long segments of seamless elpipe can be rail transported. Even if the segment length can only be extended to the length of two rail cars, this would imply one fourth as many splices as would be required if the elpipe segments must be transported over roads. The resultant savings would be significant, and in principle even longer pieces of elpipe, corresponding to the length of an entire train (~ one kilometer) could be rail transported to the trench.

In some parts of the world, major new railroads and gas pipelines are being contemplated; for example the proposed natural gas pipeline [8] that will connect from Iran to China through both Pakistan and India, or the ultimate Maghreb objective of a railway connecting Libya to Morocco and continuing to Mauritania [9]. A strong redundant elpipe connection from Saudi Arabia to Western Europe would likely lead to the development of solar energy and wind energy

resources in Saudi Arabia. Saudi Arabia is well situated to develop mega-scale solar electric power generation for export into Europe during the AM peak period, if only there were a way to export the power.

III. CONCLUSIONS

The proposed system represents a paradigm shift for power transmission in several ways. First is the obvious movement from wires to solid conductors, “electric pipelines.” This is an unavoidable consequence of the need for increased power transfer due to many factors, including deregulation of the power market, increased use of wind and solar energy, reduction of greenhouse gas emissions, and increased power consumption. Going underground addresses the increased consumption, and increased sensitivity to the environmental and aesthetic consequences of overhead power transmission.

In a longer term view, elpipes are one of only three feasible alternatives for building continental scale HVDC grids; the others being superconductors [10] and GIL [11]. We believe the HVDC grid of the future will probably include superconducting segments, cables, overhead lines, and elpipes, all operating at a single voltage between 500-800 kV [12].

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- [3] Koch, Hermann; “Experience with 2nd generation Gas-Insulated Transmission Lines GIL”; World Energy Transmission System Workshop, Meudon, France, June 2003
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- [5] 2007 National Electrical Safety Code (NESC) Standard Number: C2-2007 ISBN: 978-0-7381-4893-9
- [6] Consider for example: “Challenges with Multi-Terminal UHVDC Transmissions;” by Lescale, Victor F.; Kumar, Abhay; Juhlin, Lars-Erik; Björklund, Hans; and Nyberg, Krister; Presented at: POWERCON2008 & 2008 IEEE Power India Conference October 12-15, 2008, New Delhi, India
- [7] Barthold, L.O.; “Technical and Economic Aspects of Tripole HVDC” Powercon2006; 22-26 October, 2006 Chongqing China
- [8] The entire July 2010 issue of the Journal of Energy Security is devoted to the strategic competition of China for energy resources; in particular China has a common interest in Iranian natural gas exports with India and Pakistan. Recent indications are that a cooperative deal for a single large gas pipeline serving China, India, and Pakistan is feasible.
- [9] “Maghreb rail conference in Tunis”; Railways Africa, May 2010, p13; see <http://www.railwaysafrica.com/>
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- [12] Faulkner, Roger; Todd, Ronald; Electricity Today, March 2010, “Using conventional Elpipes for Long Distance Transmission”

Thank you for your comment, Adam Dajany.

The comment tracking number that has been assigned to your comment is SolarD10020.

Comment Date: January 14, 2011 14:27:24PM
Solar Energy Development PEIS
Comment ID: SolarD10020

First Name: Adam
Middle Initial:
Last Name: Dajany
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please, anything to further the use of clean energy. I live in Utah and in the winter the air is very polluted. It is often the worst in the nation, taking 4 out of the top 5 spot in the nation. It is so bad that instead of having snow day at local schools it is pollution that keeps the kids inside. I have children and they get so ill over the winters, maybe not directly from the smog but I can't even open the window to let in fresh germ free air for them to breath because the air is listed as unhealthy to even breath.

We have so much open space in Utah to accommodate solar projects. It doesn't make any sense to keep burning fossil fuels and increasing our inversions. Throughout the year and in the winter specifically, the valleys surrounded by mountains on all four side act like a gas chamber not allowing pollutants out.

Please help!

Thank you for your comment, Bruce Robertson.

The comment tracking number that has been assigned to your comment is SolarD10021.

Comment Date: January 19, 2011 13:17:20PM
Solar Energy Development PEIS
Comment ID: SolarD10021

First Name: Bruce
Middle Initial: A
Last Name: Robertson
Organization: Smithsonian Conservation Biology Institute
Address: Migratory Bird Center
Address 2: National Zoological Park
Address 3: 3001 Connecticut Ave NE
City: Washington
State: DC
Zip: 200137012
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Horvath et al. 2009.pdf

Comment Submitted:

I'm an ecological researcher who investigates issues in energy sustainability. In the last year I was part of a research team that discovered that solar panels emit an only recently discovered form of pollution: Polarized Light Pollution. By polarizing reflected sunlight, solar panels appear to be exaggerated water bodies to aquatic insects. This is because water is the only natural object to polarize light and insects and other animals have evolved the ability to see polarized light so they can more easily find water. These insects will prefer solar panels to natural water bodies and will mate above them and lay their eggs on them. They eventually become exhausted and die. Their eggs fail to hatch. This phenomena also creates a severe conservation problem known as an ecological trap: a scenario in which animals prefer the worst available habitat.

In our most recent paper we demonstrate ways to design solar panels to mitigate the impacts of photovoltaic solar panels and eliminate these ecological traps. Yet, all of our research has been on insects that have evolved in mesic habitats, not desert environments where photovoltaic solar energy installations will be placed. This is important because we should expect desert organisms to have evolved an even stronger attraction to polarized light sources than those in wetter environments. For this reason, our suggested solar energy mitigation strategy may not work and photovoltaic installations may cause massive die-offs of aquatic insects.

This is important because 1) deserts are home to many endemic insect species, 2) aquatic insects are the base of the aquatic food web and their loss or decline may crash the populations of fish or other animals that rely upon them as food, and finally 3) many other organisms can see polarized light so may be affected.

The list of species that are capable of seeing polarized light and using it as a cue to water is growing all the time. Birds can see it, and (pelicans and others) frequently mistake asphalt roads in deserts for ponds because they can polarize light. Desert reptiles birds, insects and bats may directly attracted to solar installations during the day (or night if there are night lights), or they may be attracted to concentrations of prey that are, themselves attracted to polarized light.

In these ways, solar installations may have serious ecological impacts on desert ecosystems, even when they occur at distance from natural water bodies. More research is needed about the importance of polarized light pollution on animal populations, and ways to eliminate it. In fact, the published literature on the subject of the ecological impacts of solar installations is so sparse, that I have been unable to find a single published research paper on the topic.

I have been searching for money to fund such a research program, but feel that rushing ahead with sighting without more information is potentially hazardous. Please contact me for more information or with additional questions.

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Relevant citations:

Horváth, G., Blahó, M., Egri, A. Kriska, G., Seres, I. & Robertson, B.A. 2010. Reducing the maladaptive attractiveness of solar panels to insects. *Conservation Biology* 24: 1644-1653.

Horváth, G., Kriska, G., Malik, P. & Robertson, B.A. 2009. Polarized light pollution: A new kind of ecological photopollution. *Frontiers in Ecology and the Environment* 7: 317-325.

Polarized light pollution: a new kind of ecological photopollution

Gábor Horváth¹, György Kriska², Péter Malik¹, and Bruce Robertson^{3*}

The alteration of natural cycles of light and dark by artificial light sources has deleterious impacts on animals and ecosystems. Many animals can also exploit a unique characteristic of light – its direction of polarization – as a source of information. We introduce the term “polarized light pollution” (PLP) to focus attention on the ecological consequences of light that has been polarized through interaction with human-made objects. Unnatural polarized light sources can trigger maladaptive behaviors in polarization-sensitive taxa and alter ecological interactions. PLP is an increasingly common byproduct of human technology, and mitigating its effects through selective use of building materials is a realistic solution. Our understanding of how most species use polarization vision is limited, but the capacity of PLP to drastically increase mortality and reproductive failure in animal populations suggests that PLP should become a focus for conservation biologists and resource managers alike.

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The term “ecological light pollution” (ELP) has been coined to describe all kinds of photopollution that disrupt the natural patterns of light and dark experienced by organisms in ecosystems (Longcore and Rich 2004). ELP includes direct glare, chronically increased illumination, and temporary, unexpected fluctuations of light emitted from lighted structures (eg buildings, towers, bridges) and vehicles. Artificial lights can attract or repulse organisms, leading to increased predation, maladaptive migration behavior, selection of inferior nest sites or mates, collisions with artificial structures, altered competition for resources, reduced time available for foraging, and disrupted predator–prey relationships that can, in turn, alter community structure (reviewed in Longcore and Rich 2004). This positive or negative phototaxis is elicited by the intensity and/or color of artificial light, which has been considered

as the major visual phenomenon underlying ELP. Yet other characteristics of light are visible too, and are used as behavioral cues by animals.

In particular, it has become clear that many animals are capable of perceiving the polarization of light and use it as a rich source of information (eg von Frisch 1967; Lythgoe and Hemmings 1967; Schwind 1985, 1991, 1995; Danthararayana and Dashper 1986; Shashar *et al.* 1998; Wildermuth 1998; Marshall *et al.* 1999; Novales Flamarique and Browman 2001; Wehner 2001; Labhart and Meyer 2002; Dacke *et al.* 2003; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006; Henze and Labhart 2007). In this work, we introduce the term “polarized light pollution” (PLP) as a new kind of ecological light pollution. PLP refers predominantly to highly and horizontally polarized light reflected from artificial surfaces, which alters the naturally occurring patterns of polarized light experienced by organisms in ecosystems. We first discuss known and potential sources of naturally occurring and artificially produced polarized light, and contrast the scale and timing of PLP with that of ELP. We then review our current understanding of the influence of PLP on the behavior of polarization-sensitive organisms and their ecological interactions and communities.

In a nutshell:

- Polarized light pollution includes light that has undergone linear polarization by reflecting off smooth, dark buildings, or other human-made objects, or by scattering in the atmosphere or hydrosphere at unnatural times or locations
- Artificial polarizers can serve as ecological traps that threaten populations of polarization-sensitive species
- Artificial polarized light can disrupt the predatory relationships between species maintained by naturally occurring patterns of polarized light, and has the potential to alter community structure, diversity, and dynamics

■ Natural and artificial sources of polarized light

Ordinary white light (eg sunlight, consisting of electromagnetic waves vibrating at all possible planes perpendicular to the direction of propagation) is unpolarized, but light is totally linearly polarized when its waves oscillate only in a single plane. Partially linearly polarized light with a given wavelength is commonly characterized by three parameters: the intensity I , the degree of linear polarization p , and the angle of polarization α , which

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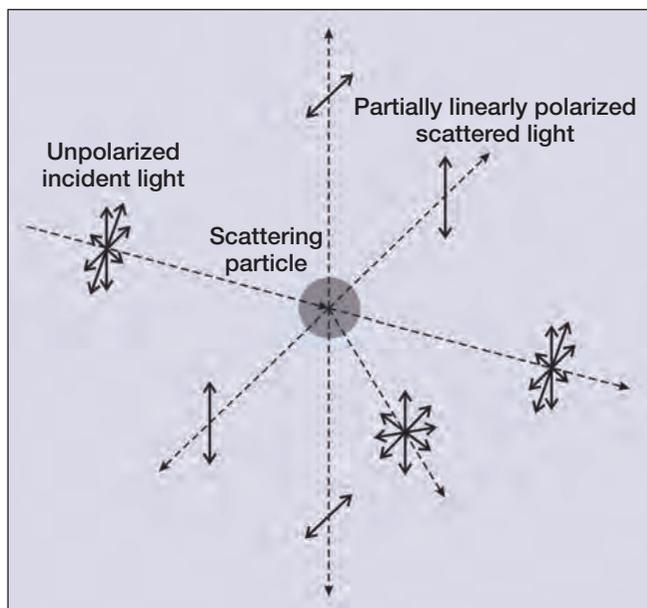


Figure 1. After scattering on a particle, unpolarized light – whose electric field vector (double-headed arrows) with the same length vibrates in all possible directions perpendicular to the direction of propagation (dashed arrows) – becomes partially linearly polarized. Its electric field vector is shorter in the plane of scattering than that perpendicular to this plane.

describes the alignment of the plane of oscillation of the electric field vector relative to a given reference (eg vertical) direction. I is proportional to the number of photons incident perpendicularly to a unit surface per a unit time interval; p is the percentage of photons vibrating in the plane of polarization. In the natural, optical environment, partially linearly polarized light is abundant; this arises from two primary sources: (1) the scattering of sunlight and moonlight within the atmosphere and hydrosphere (Figure 1), and (2) the reflection of light off the surface of water bodies and other non-metallic surfaces (eg rocks, soil, vegetation; Figure 2). We will focus en-

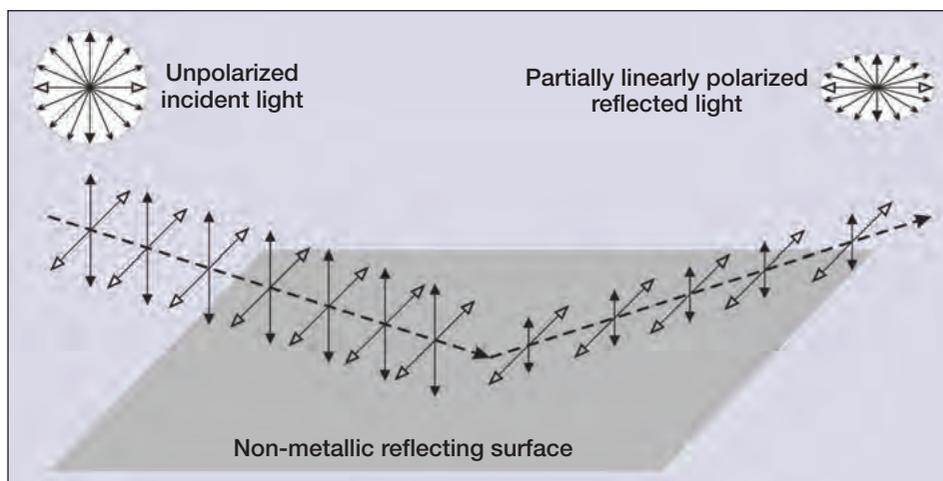


Figure 2. After reflection from a non-metallic surface, unpolarized light becomes partially linearly polarized. The electric field vector is shorter in the plane of reflection (double-headed arrows with black heads) than in the perpendicular plane (double-headed arrows with open heads).

tirely on partially linearly polarized light, the most common naturally occurring form of light polarization on Earth.

Solar radiation is unpolarized before entering Earth's atmosphere, but is partially linearly polarized through interactions with atmospheric gases, aerosols, water droplets, and ice crystals (Coulson 1988; Figure 1). The result is a characteristic celestial polarization pattern with skylight usually polarized perpendicular to the plane of scattering (defined by the observer, the celestial point observed, and the position of the Sun or Moon), and maximum p is generally found at 90° from the Sun or Moon (Können 1985). Patterns of polarized light in the sky provide reliable information about the location of these celestial bodies that animals can use to orient themselves and direct their movements. Aquatic and marine organisms can rely on a similar polarization pattern, produced by the scattering of light in the hydrosphere (Lythgoe and Hemmings 1967; Shashar *et al.* 1998; Marshall *et al.* 1999; Novales Flamarique and Browman 2001; Waterman 2006).

Unpolarized light can also undergo strong polarization by reflection (Figure 2). Water is the primary natural source of horizontal polarization by reflection (Figure 3a), and its depth, turbidity, transparency, surface roughness, substratum composition, and illumination strongly influence the reflection–polarization characteristics of its surface (Horváth and Varjú 2004). In general, the extent to which an object polarizes light depends on the angle of reflection and on the material from which its surface is made, with darker and smoother (shinier) surfaces producing higher p (Umow 1905).

Diffuse reflection from rough surfaces in all possible directions results in depolarization (reducing p), because the reflected electromagnetic waves vibrate in many planes. The net p of light returned by an object is determined by the relative intensities of (1) light reflected from the object's surface and (2) light scattered back from the object's material and refracted at its surface. The first and second components are polarized parallel and perpendicular to the reflecting surface, respectively, and therefore have a mutual, depolarizing effect on one another. If, in a given part of the spectrum, the first component is more/less intense than the second one, the net plane of polarization of returned light is parallel/perpendicular to the reflecting surface. If both components are equally intense, the returned light is unpolarized. When the returned light is polarized parallel to the surface, the more intense the second component, the lower the net p . On the other hand, the more/less intense the second component, the

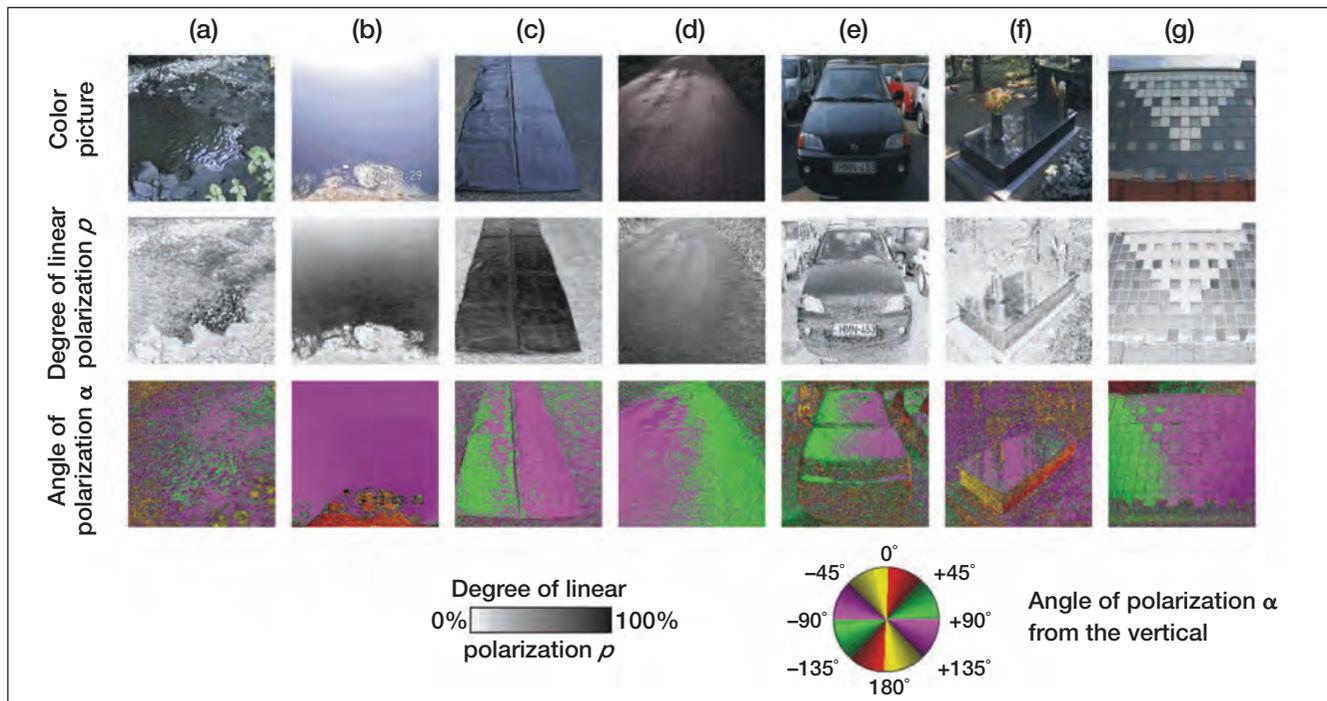


Figure 3. Color photos, patterns of the degree of linear polarization p , and the angle of polarization α of a water surface (a) and different artificial surfaces (b–g) causing PLP. (a) Dark water body. (b) Crude oil lake in the desert of Kuwait. (c) Black plastic sheet on an asphalt road. (d) Dry asphalt road. (e) Black car. (f) Polished black gravestone. (g) Windows with gray/black glass ornamentation. p is the percentage of photons vibrating in the plane of polarization. Darker gray tones encode higher p (white: $p = 0\%$, black: $p = 100\%$). α is the alignment of the plane of polarization measured clockwise from the vertical. Different α values are encoded by different colors and hues (red: $0^\circ \leq \alpha < +45^\circ$, green: $+45^\circ \leq \alpha < +90^\circ$, violet: $+90^\circ \leq \alpha < +135^\circ$, yellow: $+135^\circ \leq \alpha < +180^\circ$). At a given color, the hue encodes different angles α with a step of $\Delta\alpha = 1^\circ$.

brighter/darker the object. Thus, in a given part of the spectrum, brighter/darker surfaces reflect light with lower/higher p . This phenomenon is called the Umow effect (Können 1985).

One of the consequences of this phenomenon is that, in a given spectral range, smooth darker surfaces are more effective at producing PLP than are brighter ones. Hence, there is an inverse correlation between the brightness of a smooth surface and the amount of PLP produced by it. Thus, if a smooth object is bright/dark in the ultraviolet (UV) spectral range, it reflects UV light with low/high p . Consequently, brighter UV reflectors are less effective at producing PLP. This is important in light of the widespread UV sensitivity of birds and insects (Schwind 1991, 1995; Tovée 1995). Many aquatic insects that are attracted to horizontally polarized light sources are also attracted to unpolarized UV blacklight (Nowinszky 2003). Therefore, one can decide only with appropriately designed multiple-choice experiments whether it is the UV spectrum or the polarization of light that serves as the attractant signal (eg Schwind 1985, 1991, 1995; Danthanarayana and Dashper 1986; Horváth *et al.* 1998, 2007, 2008; Kriska *et al.* 1998, 2006a, 2007, 2008a; Bernáth *et al.* 2001b; Dacke *et al.* 2003; Horváth and Varjú 2004).

Modern human development has resulted in the introduction of different sources of polarized light pollution to natural habitats, primarily as a byproduct of the human

architectural, building, industrial, and agricultural technologies. Many human products – including black plastic sheets (used in agriculture), asphalt roads, oil spills and open-air waste oil reservoirs, dark-colored paintwork (eg of automobiles), black gravestones, and glass panes (Figure 3b–g) – share important physical characteristics of the most common natural polarizer, the surface of dark waters (Figure 3a), and polarize light strongly.

The phenomenon of PLP is global and has increased rapidly over the past several decades, following the rapid spread of urban development, road systems, and industrial agriculture. Although the magnitude and prevalence of PLP have greatly increased with human activity, PLP can also occur naturally (eg ancient asphalt pits). Because ELP results from the incidence of visible light at times and places where it does not occur naturally, ELP is predominantly a night-time phenomenon, affecting nocturnal and crepuscular species. In contrast, PLP can occur during both light and dark cycles in terrestrial environments, and in other permanently dark habitats, as long as both artificial light sources and polarizing substances are present.

■ Ecological effects of polarized light pollution

Many animals, including birds, reptiles, amphibians, fish, insects, crustaceans (eg crabs and shrimp), and even echinoderms, have amazingly well-tuned polarization

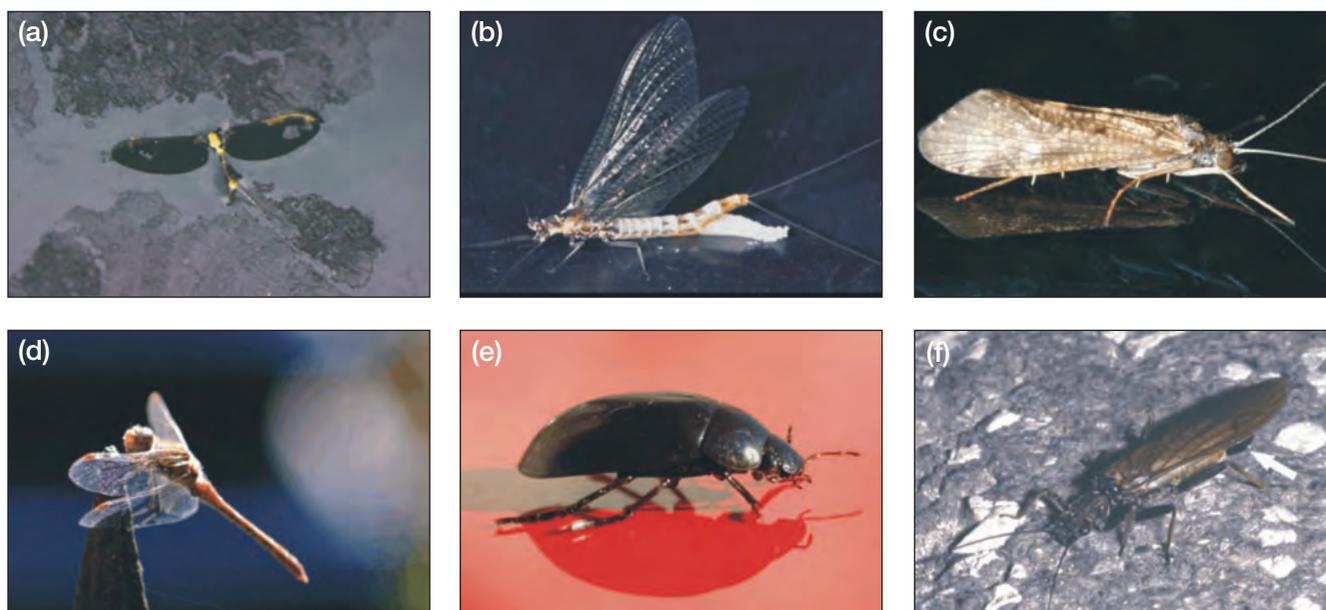


Figure 4. Polarotactic, water-loving insects attracted to different PLP sources. (a) Mayfly trapped in a waste oil lake in Budapest, Hungary; (b) mayfly laying eggs on a horizontal black plastic sheet; (c) caddisfly on a vertical glass pane (the picture is rotated by 90°); (d) male dragonfly perching above a polished horizontal black tombstone; (e) water beetle on a red car roof; (f) ovipositing stonefly (white arrow: eggs) on a dry asphalt road.

vision (reviewed in Danthanarayana and Dashper 1986; Schwind 1995; Wehner 2001; Labhart and Meyer 2002; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006). In this section, we review cases in which anthropogenic sources of polarized light affect the behavior and fitness of polarization-sensitive animals, directly or indirectly, and discuss the potential for PLP to influence ecological interactions with other species.

Habitat selection and oviposition

Polarized light pollution caused by artificial planar surfaces has clear and deleterious impacts on the ability of animals to judge safe and suitable habitats and oviposition sites. In particular, PLP presents severe problems for organisms associated with water bodies. Orientation to horizontally polarized light sources is the primary guidance mechanism used by at least 300 species of dragonflies, mayflies, caddisflies, tabanid flies, diving beetles, water bugs, and other aquatic insects. This is used to search for suitable water bodies to act as feeding/breeding, habitat, and oviposition sites (Schwind 1991; Horváth and Kriska 2008). Because of their strong horizontal polarization signature, artificial polarizing surfaces (eg asphalt, gravestones, cars, plastic sheeting, pools of oil, glass windows) are commonly mistaken for bodies of water (Horváth and Zeil 1996; Kriska *et al.* 1998, 2006a, 2007, 2008a; Horváth *et al.* 2007, 2008). Because the p of light reflected by these surfaces is often higher than that of light reflected by water, artificial polarizers can be even more attractive to positively polarotactic (ie lured to horizontally polarized light) aquatic insects than a water body (Horváth and Zeil 1996; Horváth *et al.* 1998; Kriska

et al. 1998). They appear as exaggerated water surfaces, and act as supernormal optical stimuli.

The ecological consequences of attraction to these PLP sources vary. Attraction to oil spills and pools typically results in mortality for organisms that touch or land on the surface of the oil and cannot escape. Large numbers of dragonflies, mayflies, caddisflies, water bugs, and water beetles are trapped by waste oil pools and oil spills in spring, summer, and autumn, during their annual swarming and migration (Horváth and Zeil 1996; Bernáth *et al.* 2001a; Figure 4a). Some insect species are attracted to plastic sheeting, which causes them to swarm, land, crawl, copulate, and lay eggs (Figure 4b), while many others (eg aquatic bugs – Heteroptera, and water beetles – Coleoptera) dry out and perish within hours (Bernáth *et al.* 2001b; Kriska *et al.* 2007). Emerging caddisflies (*Hydropsyche pellucidula*) are attracted to the vertical glass surfaces of buildings on river banks (Figure 4c) as a result of their strong, horizontal polarization signature (Kriska *et al.* 2008a; Malik *et al.* 2008; Figure 3g), an effect that is strengthened by building lights after dark. Because they copulate and remain attracted to the glass panes for hours, many individuals become trapped by partly open tilttable windows and perish.

Many aquatic insects experience complete reproductive failure when they lay eggs on artificial polarizers. Dragonflies (Wildermuth 1998; Figure 4d) and mayflies (Figure 4a, b) carry out sexual behaviors and lay eggs on unsuitable surfaces (eg shiny cement floors, black benches, glass panes, black plastic sheets, and horizontal black gravestones) that, like water, reflect horizontally polarized light. Strong polarization patterns also make black or red cars (Figure 3e) attractive to a host of species

(Kriska *et al.* 2006a; Figure 4e). Male dragonflies often perch on car antennas and establish territories on automobile hoods, while females frequently land and lay their eggs on horizontal car surfaces, where they fail to hatch (Wildermuth and Horváth 2005). Polarotactic mayflies and other insects (Figure 4f) commonly swarm above, land/copulate on, and oviposit onto dry asphalt surfaces that reflect horizontally polarized light (Kriska *et al.* 1998; Figure 3d). Attraction to PLP sources is often so great that individuals appear incapable of leaving, a behavior we call the “polarization captivity effect” *sensu* Eisenbeis (2006), which culminates in the death of the insects as a result of dehydration and exhaustion.

It is not surprising that water-seeking insects use horizontally polarized light to locate water bodies – among the available visual cues, polarization is the most reliable under variable lighting conditions (Schwind 1985; Horváth and Varjú 2004). Certain waterbirds are attracted to pools of oil, in which they drown, and they also try to forage on plastic sheeting laid on the ground, which appears to them as a small body of water (Bernáth *et al.* 2001a). Foraging on this type of inappropriate, artificial habitat wastes time and energy, but landing on artificial reflectors can be lethal for other species.

Obligate waterbirds, such as the ruddy duck (*Oxyura jamaicensis*), common loon (*Gavia immer*), dovekie (*Alle alle*), and brown pelican (*Pelecanus occidentalis*), are occasionally found dead or injured and stranded (unable to take off) in large asphalt parking lots (McIntyre and Barr 1997; Montevecchi and Stenhouse 2002), or on asphalt roads in the desert (Kriska *et al.* 2008b). Strandings commonly take place at night, when bright, downward-facing streetlights are reflected upwards by asphalt surfaces, creating a strong optical signature during a time of day when few cues for locating water bodies are available. Studying the possible role of polarization vision of these waterbirds in water detection is the task of future research.

Foraging ecology

Polarization sensitivity can be used by certain predators to help detect suitable prey. Underwater, both the degree and the direction of polarization created by scattering depend on the position of the Sun or Moon. But when scattered light passes through the transparent body of small aquatic prey animals (eg jellyfish, ctenophores), its polarization signature is altered, increasing the visual contrast of the prey species relative to the background (Lythgoe and Hemmings 1967; Shashar *et al.* 1998): transparent bodies repolarize transmitted, reflected, or refracted light and stand out against a background polarized in a different plane and at a different magnitude. Plankton feeders are adept at detecting zooplankton in the water column that would otherwise be transparent (Novales Flamarque and Browman 2001). In this way, cephalopods, trout, and other aquatic predators can detect the polarization signature of camouflaged and/or

distant prey (Shashar *et al.* 1998; Marshall *et al.* 1999; Novales Flamarque and Browman 2001). Longfin squid (*Loligo pealei*) also use polarized light as a hunting cue and will eat clear, polarizing beads in preference to non-polarizing ones (Shashar *et al.* 1998).

Underwater plastic garbage is another source of PLP, and may prompt aquatic organisms into consuming inappropriate and dangerous items. Transparent plastic is an abundant pollutant in marine environments throughout the world (reviewed in Derraik 2002); it alters the polarization of light passing through it, in the same way as small transparent organisms, because its index of refraction is different from that of water. The polarization signature of plastic refuse may also be problematic for sea turtles, since they may also be sensitive to polarized light (C Mora *pers comm*). Turtles commonly ingest plastic, particularly transparent plastic bags (Gramentz 1988; Bugoni *et al.* 2001), which have a polarization signature similar to that of prey items they commonly target (eg jellyfish, ctenophores). In addition to direct mortality (Duguy *et al.* 1998), sea turtles may experience reduced growth rates, which increases their vulnerability to large predators, and reduced energy reserves and migratory ability, as a consequence of plastic ingestion (McCauley and Bjorndal 1999). Plastic bags may attract sea turtles solely on the basis of their transparency and similarity in shape to jellyfish, yet the role of polarization signals in the interaction between plastic garbage, sea turtles, and other aquatic organisms deserves further study. Polarization vision in piscivorous predators should enhance detection of silvery-colored fish, by breaking their spectral camouflage (Marshall *et al.* 1999). The polarized light signatures of plastic refuse should therefore enhance its attractiveness to a number of polarization-sensitive predators (eg fish, cephalopods, birds; reviewed in Wehner 2001; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006), making the potential scope of the problem both taxonomically and geographically widespread.

Navigation and orientation

Many taxa (eg birds, reptiles, fish, insects, crustaceans, and echinoderms) use polarized light patterns in the sky or hydrosphere as an orientation cue (reviewed in Danthanarayana and Dashper 1986; Schwind 1995; Wehner 2001; Labhart and Meyer 2002; Horváth and Varjú 2004; Waterman 2006; Wehner and Labhart 2006). Artificial polarized light (eg reflected from glass buildings or scattered in water around fishing boats and undersea research vessels) could therefore disrupt evolved polarization-based navigation and orientation behaviors. Certain bees, crickets, desert ants, and beetles, for instance, use the skylight polarization patterns as a cue for orientation during their dispersal and migration (eg von Frisch 1967; Labhart and Meyer 2002; Dacke *et al.* 2003), yet a wide range of nocturnal insects are attracted to, and “trapped” by, artificial point sources of polarized light (Kovarov and

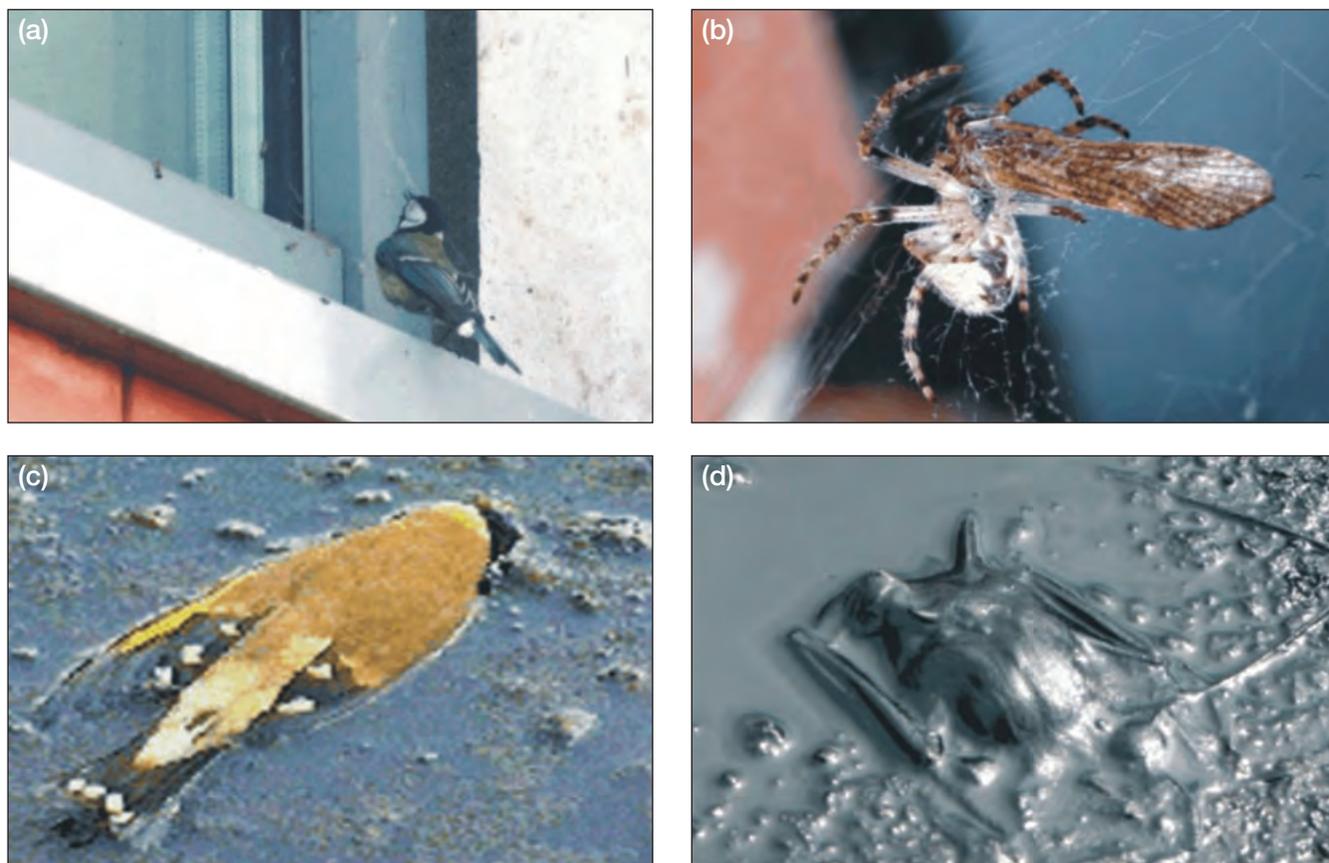


Figure 5. Predators feeding on polarotactic insects attracted to two PLP sources. (a) A great tit and (b) an orb-weaver spider feeding on caddisflies attracted to vertical glass surfaces; (c) carcasses of a European goldfinch and (d) a bat trapped by a waste oil lake in Budapest, Hungary.

Monchadskiy 1963; Danthanarayana and Dashper 1986). The maximum p of skylight is highly variable, ranging from 15–75% (Coulson 1988), so highly polarizing artificial surfaces (Horváth and Pomozi 1997) that reflect light downwards may easily become supernormal polarization signals to which different species are attracted. Field crickets (*Gryllus campestris*), for example, can orient to degrees of polarization of only 5–7% (Henze and Labhart 2007), while artificial polarizing surfaces may produce a signal as high as 80–95% (Horváth and Varjú 2004). Artificial surface reflections may therefore be confused with natural polarized light produced by scattering in the atmosphere.

Predation

Although the direct effects of PLP on polarotactic organisms are commonly negative, PLP can indirectly benefit species that feed on, or compete with, polarotactic organisms. Anuran amphibians, reptiles, birds, bats, and spiders hunt insects attracted to streetlamps at night (reviewed in Rich and Longcore 2006); this is a well-known, secondary effect of conventional (non-polarized) ecological photopollution. Similarly, wagtails (*Motacilla alba* and *M. flava*) readily hunt polarotactic insects attracted to dry asphalt roads and highly polarizing black plastic sheets

laid on the ground, which function like a huge bird feeder (Kriska *et al.* 1998; Bernáth *et al.* 2008). Caddisflies attracted to vertical glass surfaces lure diverse predators, including birds, such as European magpies (*Pica pica*), white wagtails (*M. alba*), house sparrows (*Passer domesticus*), and great tits (*Parus major*; Horváth and Kriska unpublished data), which systematically hunt and catch the caddisflies that have landed on glass panes or are swarming near windows (Figure 5a). Spiders are also attracted in large numbers to feed on these caddisflies (Figure 5b).

Cascading effects may result if predators, initially benefiting from the abundance of caddisflies attracted to the glass surfaces, become prey themselves. For example, magpies gathering near caddisfly congregations could represent an enhanced predatory risk for the chicks of other bird species that nest in the immediate vicinity of glass buildings, because magpies are nest predators of other, smaller birds (Parker 1984). In this way, the ecological trap for caddisflies could actually trigger a secondary ecological trap for several bird species that prey upon the caddisflies. Spiders attracted to prey upon caddisflies also become prey animals in this altered food web (Figure 5b; Horváth and Kriska unpublished data).

A similar, but more complex food web has been observed by Bernáth *et al.* (2001a) at an open-air waste

oil reservoir in Budapest, Hungary. The strongly, horizontally polarizing black surface of the oil (Figure 3b) attracts large numbers of polarotactic aquatic insect species. These insects lure various insectivorous birds and bats, which are then trapped by the sticky oil (Figure 5c, d). The carcasses of these birds and bats in turn attract other carnivorous birds (eg owls, kestrels, hawks), which may also become trapped in the oil. Ancient natural asphalt seeps have acted as massive animal traps, the most famous example of which are the Rancho La Brea tar pits in Los Angeles, California (Akersten *et al.* 1983). It is generally thought that animals were initially caught when they accidentally stumbled into these tar pools, which may have been camouflaged by dust or leaves (Akersten *et al.* 1983). Alternatively, these asphalt seeps may sometimes have been covered by rainwater, thus strengthening their polarization signature and attracting polarotactic insects and birds, and initiating a cascading trap for predators attracted to the trapped prey species.

Population ecology

The attraction of aquatic insects to PLP sources is one of the most compelling and well-documented instances of ecological traps to date (Robertson and Hutto 2006). Ecological traps occur when rapid environmental change leads organisms to prefer to settle in poor-quality habitats (Gates and Gysel 1978); behavioral cues are no longer correlated with their expected fitness outcomes. Because PLP sources can polarize light more highly than water, aquatic insects prefer to settle and lay eggs upon artificial, horizontally polarizing surfaces, even when there are suitable water bodies nearby (Horváth *et al.* 1998, 2007; Kriska *et al.* 2008a). Ecological traps that result in mortality or reproductive failure are predicted to have severe fitness consequences, leading to rapid population declines and, in some cases, complete extirpation (Kokko and Sutherland 2001). Because the most common response to PLP is attraction, and since highly and horizontally polarized light is more attractive than less polarized light (Horváth and Varjú 2004), supernormal polarization signatures may be a common mechanism for triggering ecological traps among polarization-sensitive taxa.

Because population-scale studies of the effects of PLP are just beginning, its ability to cause population declines or alter the structure, diversity, or dynamics of ecological communities is still speculative. For example, populations of certain aquatic insect groups (eg mayflies and dragonflies) are declining in countries with highly dense human populations, but this could result solely from habitat alteration and destruction. Experimental approaches would address the importance of PLP by using large, temporary, polarization traps near aquatic habitats that are otherwise unaffected by PLP. Subsequent changes in the local population size of polarization-sensitive species, their biotic interactions with other organisms (eg competition, predation), and alterations in community struc-

ture or diversity could then be attributed to the effects of PLP. Observational studies could indirectly assess the effects of PLP by comparing populations of polarotactic taxa and their aquatic communities in wetland or riparian landscapes surrounded by varying acreages of artificial polarizers (eg asphalt roads and glass buildings).

Conclusions

The surprising ubiquity of anthropogenic polarizing surfaces combined with the occurrence of sensitivity to polarized light in so many animal taxa suggest that caution in the placement and use of artificial polarizers is warranted from a conservation perspective. Great potential exists for the mitigation and elimination of the ecological consequences of PLP, through the use of alternative materials that reduce the polarization signature of human activity. Because rough surfaces reflect light with lower p values at a given angle of reflection (Kriska *et al.* 2006b), one solution is to use building materials that are as rough as possible (eg avoiding shiny bricks and glass in favor of matte surfaces). Where shiny materials cannot be avoided, lighter-colored building materials should be used in place of shiny dark (black, dark gray, or dark-colored) ones. Night lighting in parking lots and near buildings should be minimized and/or directed away from buildings, asphalt, and cars. It is particularly important for these guidelines to be implemented in proximity to rivers, lakes, and other water bodies. Because polarotactic organisms can also use cues other than polarized light in selecting habitats, even relatively moderate reductions in the polarized light signature associated with human structures (eg with a degree of polarization more typical of natural habitats) may allow organisms to make adaptive decisions.

Although it is clear that the extent of PLP in natural environments is likely to increase proportionally to the enhanced use of artificial polarizers in human endeavors, the magnitude of the ecological consequences associated with increases in PLP is still difficult to predict with certainty. Future research needs regarding PLP can be grouped into two major categories: (1) monitoring and measuring the sources of PLP with imaging polarimetry, and (2) probing the organismal and ecological consequences of PLP. Surveying the human-made optical environment to establish further possible sources of PLP is essential. For example, photovoltaic solar panels are a possible source of PLP (Figure 6a), and production of these is predicted to increase in response to rising energy prices.

Research continues to add to the surprisingly long list of animals that have evolved the ability to detect polarization as well as to describe fascinating new uses for it. Yet our knowledge of the functional nature and the importance of polarization sensitivity in animals remains relatively limited. Because some organisms (eg polarotactic insects) are attracted not only by linearly polarized light, but also by artificial night lights, we need to investigate the synergistic interactions between polarotaxis

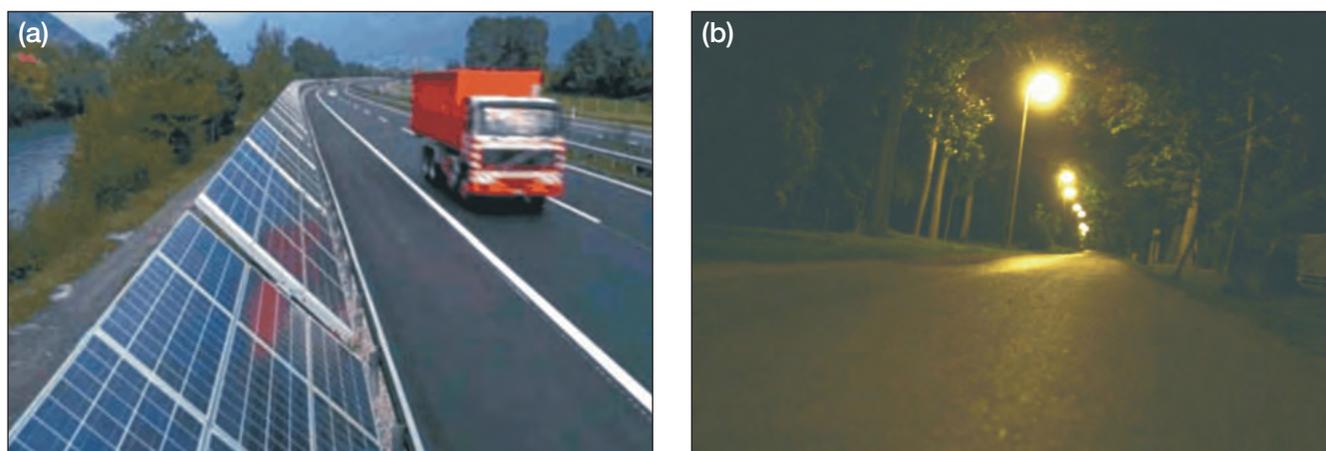


Figure 6. PLP sources to be studied. (a) The PLP induced by the shiny, black surface of photovoltaic solar panels at the edge of an asphalt road running alongside a river bank is synergetically strengthened by the PLP caused by the asphalt surface. (b) The PLP of asphalt roads illuminated by streetlamps at night is synergetically supported by the photopollution of the lamps. Night-flying polarotactic insects may be lured by phototaxis to the streetlamps, and are then attracted to the horizontally polarizing asphalt.

and phototaxis in the behavioral ecology of these species (Figure 6b). In addition to their diurnal effects, artificial lights illuminate a vast array of marine and freshwater habitats at night, in both urban and rural areas. Night lighting is a major source of ELP, but can also produce PLP via (1) reflection from buildings and other structures (Figures 2 and 3) and (2) the creation of underwater polarization signatures through scattering in the hydrosphere, which may affect ecological interactions among aquatic organisms.

Because the advantages of sensitivity to polarized light in some taxa are still unclear, forecasting the importance of PLP to the survival of populations and the integrity and function of ecosystems remains largely speculative. Even so, the ever-increasing levels of PLP and its ability to negatively affect behaviors and to alter interspecific interactions constitute an important conservation problem, which requires increased attention from conservation professionals and researchers alike.

■ Acknowledgments

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Thank you for your comment, James Bryant.

The comment tracking number that has been assigned to your comment is SolarD10022.

Comment Date: January 21, 2011 13:33:07PM
Solar Energy Development PEIS
Comment ID: SolarD10022

First Name: James
Middle Initial: M
Last Name: Bryant
Organization:
Address: 4607 Edgewood Place
Address 2:
Address 3:
City: Riverside
State: CA
Zip: 92506
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The approach being taken by the Administration and DOI to solar energy development is fundamentally flawed, and has the appearance of being manipulated, at least in part, to take huge new areas of wildlands out of preservation status in order to make them available for all manner of future development. The experience the nation has had over two centuries with the "mining" of resources - exploiting them with little or no thought to their replacement or renewal - has been horrible, leaving huge swaths of the continent desolate and bereft of their forests, their water resources, their mineral content, even their very native landscapes. While solar energy may be in a sense renewable, the landscapes upon which these proposed installations will rest are not. As the Wildlands Conservancy has testified, solar energy installations should be limited to already disturbed lands, and this restriction should probably be revised to be "only the built environment". New and existing structures, and perhaps entire business or residential districts, should be adapted to solar energy installations. This would help to redeem some of the value of the "brown fields" created by so much of our overbuilt environment, and would place the emphasis on energy generation, and not on more exorbitant spending on energy transmission infrastructure, which is ultimately a huge "waster" of electricity. Utilities (as protected monopolies) should be required to promote and enable the domestic/residential generation of electricity, not the "spinning off" of new for-profit solar energy partners and subsidiaries to be subsidized through cheap access to public lands.

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10023.

Comment Date: January 25, 2011 17:31:41PM
Solar Energy Development PEIS
Comment ID: SolarD10023

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: 636 W. 200 S.
Address 2:
Address 3:
City: Provo
State: UT
Zip: 84601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The unburned portions of the proposed East Mormon Mountain SEZ, located mainly in its eastern and southern parts, should be excluded, if this SEZ is not eliminated altogether. These areas, and possibly the burned area, most likely contain desert tortoises and other sensitive species, as well as joshua trees and other succulents. In 2005, large areas of Mojave desert vegetation burned to the north. Because native vegetation in this area is so slow to reestablish, any unburnt habitat in this region should not be disturbed. Development near the burn boundary may also inhibited seed dispersal and reestablishment of vegetation in the burn area. In addition, visual resources and the quality of neighboring wilderness areas and of potential wilderness areas nearby would be compromised by development in this study area.

Thank you for your comment, Bruce Fenske.

The comment tracking number that has been assigned to your comment is SolarD10024.

Comment Date: January 27, 2011 14:33:43PM
Solar Energy Development PEIS
Comment ID: SolarD10024

First Name: Bruce
Middle Initial: A
Last Name: Fenske
Organization: Arizona Department of Transportation
Address: 2243 East Gila Ridge Road
Address 2:
Address 3:
City: Yuma
State: AZ
Zip: 85365
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Ltr_BLM Programmatic EIS(012711).pdf

Comment Submitted:

Please see the attached letter. The original will follow.



Arizona Department of Transportation
Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Jan Brewer
Governor

John Halikowski
Director

Floyd Roehrich
State Engineer

January 27, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 South Cass Avenue
EVS/240
Argonne, Illinois 60439

Re: Comments on Draft PEIS for Solar Energy Developments

Dear Sir/Madam:

The Arizona Department of Transportation (Department) is a major stakeholder in the use of lands administered by the U.S. Department of Interior's Bureau of Land Management (BLM). The Department oversees thousands of lane-miles of highways within the state, many of which are on easements issued by the BLM to either the Department or to the Federal Highway Administration (FHWA) of the U.S. Department of Transportation. We also plan ways to meet the needs of the traveling public for highways, passenger rail, and air travel both now and in the future.

The Department's oversight of the state and national highway systems includes the authority to issue encroachment permits to public and private entities seeking access to highways throughout the state when developing their lands. The Department also manages an airport and, potentially, will oversee the planning, design, and/or construction of future high speed or light rail systems. The Department completed a framework study¹ in 2010 that identifies Arizona's transportation needs through the year 2050.

In these roles, the Department is familiar with regional and statewide transportation networks and needs. As an involved stakeholder for a couple of planned solar projects on federal lands, as well as some proposed facilities on private lands, the Department offers these comments on the draft programmatic environmental impact statement (PEIS) regarding the potential development of solar energy facilities on federal lands managed within Arizona by the BLM –

- Table 2.2-2, Pages 2-8 through 2-9, Areas for Exclusion. The Department does not object to the areas identified as exclusionary zones; however, we do have specific comments for each

¹ Arizona Department of Transportation (ADOT). 2010. 2010 Statewide Transportation Planning Framework [on-line]. <available: <http://www.bqaz.gov/StatewideTransportationPlanningFramework.asp>> Phoenix, Arizona: ADOT. [cited: December 26, 2010]

proposed zone regarding coordination and communication under our comments for Section 8 of the draft PEIS.

- Section 3.2.2, Page 3-16, Site Preparation and Construction. The paragraph lists features of a solar power-generating facility that would be needed for an operational facility. The first feature listed is for “establishing site access.” We recommend changing this phrase to read “establishing site access, including obtaining local permits and improving the local or regional highway network.” The text does not clearly define “establishing site access,” but one major component of it will be to obtain local zoning and construction permits. As part of the permitting process, the developer of a proposed solar-generating facility will need to identify its effects on the local transportation system and under state law be responsible for improvements to those systems, if they cannot handle the proposed volume and types of traffic generated during all phases of the project. We realize that Section 5 of the draft PEIS addresses transportation issues more directly, however, we recommend this wording revision in order to introduce the subsequent discussion on transportation in the draft PEIS.
- Section 5.2.1.2, Transmission Lines and Roads, and Section 5.2.3, Potentially-Applicable Mitigation Measures. In Arizona, as well as in other states, local development adjacent to state highway routes requires an encroachment permit in order to directly access the state highway system, including the Interstate Highway system. A proposed solar power facility may affect a highway if it increases traffic volumes, is of a type incompatible with a road’s design, or significantly decreases a road’s serviceable life. Operation of a solar power facility should have minimal effect on traffic; however, the construction of such a facility potentially has site-specific traffic issues. Information provided to us on previous solar projects in Arizona indicates that up to 1,000 construction workers may arrive and depart from a site at the same time for a year or more. Turning movements associated with such a volume could cause back-ups on a traffic interchange along an Interstate Highway or could cause severe congestion on a state (or local) road. The Department needs future applicants to complete a traffic study in order to provide the Department (and local governments) an opportunity to review and comment on a project’s potential effects on traffic along the state highway system and along local roads. The information that we need from such a study are 1) projected daily average traffic volumes during construction; 2) peak morning and afternoon hourly traffic volumes for privately-owned vehicles during construction along with any variations anticipated during the construction period; 3) volumes, weights, and maximum lengths for trucks; 4) directional analysis of the traffic; 5) a queuing analysis according to the Department’s standards; and 6) recommendations for site-specific mitigation measures, if any. This traffic study allows the Department (and local governments) to identify any road improvements needed to maintain safe and efficient traffic flow during the construction period.
- Section 8, Arizona Proposed Solar Energy Zones (SEZ). There are three SEZs within the state of Arizona identified within the draft PEIS. The draft PEIS lists these as Brenda, Bullard Wash, and Gillespie. Our SEZ-specific comments are –
 - Brenda. This site does not appear to be in conflict with any of the Department’s current or planned facilities; however, we recommend that any future applicant coordinate with

the Western Arizona Council of Governments (WACOG), La Paz County, and the Department to identify and address site-specific issues.

- Bullard Wash. Local governments, the Department and the FHWA are reviewing the potential for a new I-11 corridor between Phoenix, Arizona, and Las Vegas, Nevada. This corridor could include a freeway and/or railway that may run near any potential solar facility. The proposed I-11 corridor can be found in the Hassayampa Framework study², as well as the State Rail Plan³ and the 2010 Statewide Transportation Framework Study. The dimensions for an I-11 corridor are in planning and still remain broad at this time. The Bullard Wash SEZ does not appear to be in conflict with potential departmental facilities; however, we recommend that any future applicant coordinate with the Maricopa Association of Governments (MAG) and the Department. These two agencies will have the latest information on the I-11 corridor and local roads within Maricopa County.
- Gillespie. The 2010 Statewide Transportation Planning Framework Study and the State Rail Plan identify the rehabilitation of the Wellton branch rail line for freight and passenger service. In addition, a high-speed passenger service may also use this corridor. However, the one mile utility easement identified in the draft PEIS as an area to avoid should be sufficient for these transportation activities. As a result, we do not expect the proposed SEZ to conflict with the Department's current or future facilities. In order to confirm a lack of conflict in the future, however, we recommend that any future applicant coordinate with the Department on site-specific issues.

If you have any questions regarding these comments, please feel to contact me and I can arrange to meet with you or have the Department's appropriate staff available to discuss these issues.

Sincerely,



Bruce A. Fenske, P. E.
Development Engineer, Yuma District
Arizona Department of Transportation
2243 East Gila Ridge Road
Yuma Arizona 85365

cc: S. Allred – Multi-Modal Planner, Phoenix
J. Toth – Director, Multi-Modal Planning Division, Phoenix
R. LaJeunesse – Regional Traffic Engineer, Prescott

² Maricopa Association of Governments (MAG). 2006-10. I-10 Hassayampa Valley Roadway Study [on-line]. <available: <http://www.azmag.gov/Projects/Project.asp?CMSID=1099> > Phoenix, Arizona: ADOT. [cited: January 19, 2011]

³ ADOT. 2008-10. Statewide Transportation Planning Framework – Arizona State Rail Plan [on-line]. <available: http://www.bqaz.gov/rail_asrp.asp > Phoenix, Arizona: ADOT. [cited: January 19, 2011]

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10025.

Comment Date: January 31, 2011 16:27:29PM
Solar Energy Development PEIS
Comment ID: SolarD10025

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

FACT: Solar technology will help take harmful pollutants out of the air and land therefore directly benefiting BLM and us Americans who love our land and country so very much.

Therefore, I would like to see BLM, local colleges, our government, and our city governments working together at implementing way more solar energy projects. We need to take this seriously people.

Did you know we have the natural resources right here on our own soil which are being shipped overseas currently to make much of the solar technology, to then be shipped back to us at a high cost? Why not use our own natural resources better and more efficiently huh?

I will be graduating with my degree in Industrial Technology with Solar Emphasis this Spring 2011. This plan would directly benefit jobs in my state and area, including my own business quests. We need to keep an open mind and put Americans to work making stuff again. Let's work together to bring the trade jobs and industry back to USA. MW

Thank you for your comment, Victoria Allen.

The comment tracking number that has been assigned to your comment is SolarD10026.

Comment Date: February 1, 2011 18:25:24PM
Solar Energy Development PEIS
Comment ID: SolarD10026

First Name: Victoria
Middle Initial:
Last Name: Allen
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

A dispersed infrastructure of solar energy development on pre-existing structures is a possibility. Advantages include transmission lines would be pre-existing, road access for installation and maintenance would be pre-existing, and disturbance of natural areas would likely be significantly decreased. Also, if there is a safety issue (given the value of solar panels), many pre-existing structures (VCs, housing, office buildings) have local or regular law enforcement patrols.

Thank you for your comment, Jeff Pauly.

The comment tracking number that has been assigned to your comment is SolarD10027.

Comment Date: February 2, 2011 14:07:12PM
Solar Energy Development PEIS
Comment ID: SolarD10027

First Name: Jeff
Middle Initial: M
Last Name: Pauly
Organization:
Address: 30 Locust Drive
Address 2:
Address 3:
City: Yerington
State: NV
Zip: 89447
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My name is Jeff Pauly and I have been enjoying the area of Goldpoint and the Lida Valley for over 40 years. I own a small cabin in Goldpoint.

I object to a solar energy field in this area because of 2 reasons.

- 1.- This is one of the last historical mining areas for people to visit and enjoy in Nevada. It is one of the last still standing mining camps and it's solitude and beauty is enjoyed by thousands every year.
- 2.- The sheer beauty of this area. There is no other place that cradles a mountain like Mt. Jackson. I will attempt to send one photo by attachment to illustrate this. We may need the solar energy fields, but with so many hundreds of square miles to use, this is one area that needs to be preserved.

In reading over the material about these solar energy fields, it would also appear to cost less to put them close to existing transmission lines. This can be done. In a time when our country has such a defecet , we need to to make this as cost effective as possible. I look forward to learning what these cost are projected and what they might be if the areas under consideration were in line with existing power lines.

I was not able to send an attachment as a photo, so I will send to send it another way.

Thank you: Jeff Pauly

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10028.

Comment Date: February 7, 2011 09:35:04AM
Solar Energy Development PEIS
Comment ID: SolarD10028

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

It seems that way too much of our desert West is up for sacrifice. A major concern is the visual pollution and the destruction of wildlands.

What lands should be made available for solar development must be decided and allowed only in concert with an overall national energy program and honest and intelligent analyzes of the costs and benefits of the various options.

Thank you for your comment, Claudia Alongi.

The comment tracking number that has been assigned to your comment is SolarD10029.

Comment Date: February 8, 2011 12:13:47PM
Solar Energy Development PEIS
Comment ID: SolarD10029

First Name: Claudia
Middle Initial: K
Last Name: Alongi
Organization:
Address: 68512 Calle Prado
Address 2:
Address 3:
City: Cathedral City
State: CA
Zip: 92234
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This whole idea is ridiculous; to destroy the last vestiges of our beautiful desert so a private company can charge us millions for FREE energy is contemptuous and contemptable! Why would the public fall for another big-business conspiracy against the future? Shame! Shame! Shame!

Thank you for your comment, Coulter Stewart.

The comment tracking number that has been assigned to your comment is SolarD10030.

Comment Date: February 9, 2011 11:38:45AM
Solar Energy Development PEIS
Comment ID: SolarD10030

First Name: Coulter
Middle Initial: H
Last Name: Stewart
Organization: Democrats in Sun City, Palm Desert
Address: 78804 Links Dr.
Address 2:
Address 3:
City: Palm Desert
State: CA
Zip: 92211
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear Linda,

We attended your presentation last night in Indian Wells, CA.

My thoughts:

1. The nation and Southern Calif. needs you to carry out the maximum development of this solar resource. not only in the 677,000 acres in the 24 SEZs but also on the 22 million acres of BLM land within the 120 million that is authorized for application.
2. There is no conflict with either Joshua Tree NM or the Chuckawalla Valley. As for Desert Center, it is already a blight on the landscape and should be bulldozed and turned into a solar array.
3. As you may know there is already a 1.2 MW solar PV plant at Chuckawalla State Prison at the intersection of Wiley Wells Rd. and the I-10 Freeway, which they can't even see.
4. Your environmental mitigation measures are sensible and adequate.
5. Your RFDS should be doubled to 64,000 MW on 320,000 acres (5 acres/mw) using CSPV or similar systems to minimize water cooling requirements.
6. Make the Indian Tribes economic partners in this as power providers and/or transmission companies.

General Comments:

Riverside, San Bernardino, and Imperial Counties can band together in an Energy Consortium to pool resources, financing and make this happen.

For us it is about jobs, jobs, jobs...

For the nation it is about National Security and Defense.

Good Luck.

Thank you for your comment, Theresa Langlois.

The comment tracking number that has been assigned to your comment is SolarD10031.

Comment Date: February 9, 2011 12:52:50PM
Solar Energy Development PEIS
Comment ID: SolarD10031

First Name: Theresa
Middle Initial:
Last Name: Langlois
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I moved to the Desert in 1992 after visiting the area for many years prior. Loving the beauty of the mountains, night skies, clear air, birds, animals and flora. I could go on and on. Each day brings a new experience. Living in a natural corridor for migrating birds, the osprey was exciting, just passing thru (documented). Yesterday I saw again, a single coyote going west for the night, east in the mornings. The coyote has been doing this since 1992. Watching the balance of nature, sometimes brutal, is part of life. Wildflowers not seen for hundreds of years reappear with the right amount of rain (1997-1998) from untouched land. Any large industrial projects changes the natural progress of nature. You can't just move a tortoise and say go this way now. Putting a solar field up against a National Park (Joshua Tree) would affect nature. You can't and shouldn't put an unnatural fence near the Park.

One most important question: Who benefits from this solar energy? Since these are remote areas, where does the power go? Will there be transmission lines? Are they above or below? What about the protected Burrowing Owls, seen usually at night? Much activity is at night.

One project usually brings more. Example, the windmill fields in the Palm Springs area. The whole landscape is changed forever! A last comment. One of my neighbors clear a portion of their land. The effect was many new critters, including sidewinders in our backyard. They had to find a place to go!

Thank you for your comment, Jim Bell.

The comment tracking number that has been assigned to your comment is SolarD10032.

Comment Date: February 9, 2011 14:12:48PM
Solar Energy Development PEIS
Comment ID: SolarD10032

First Name: Jim
Middle Initial:
Last Name: Bell
Organization:
Address: 4862 Voltaire St.
Address 2:
Address 3:
City: San Diego
State: CA
Zip: 92107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

When Good is Bad
By Jim Bell
www.jimbell.com jimbell@cox.net
619-758-9020

Here we go again, justifying doing something bad to do something supposedly good.

I'm referring to the plan to scrape off hundreds of square miles of desert and other habitat areas to install solar collecting devices that convert direct solar light into electricity. This approach will also require that more plant and animal habitats will have to be damaged to construct and maintain transmission lines to deliver electricity produced by remote solar power plants to cities where most of it is needed.

Obviously, scraping off land to install renewable energy to electricity producing devices will hurt all the plants and animals on the land to be scraped off. It will also hurt animals that now use the land to be scraped off for food, water and migration. But don't we have to have remote solar to electricity sites to become renewably electricity self-sufficient in urban areas?

Absolutely not!!!

In fact, much of the United States can become renewable electricity self-sufficient, and do it in ways that are both cost-effective and life-support-system-effective. Because of laws like AB 117 (CCA or Community Choice Aggregation) in California, this option is already available to cities and counties in some states. Basically it allows cities and counties in those states to become CCA municipalities. This means that cities and counties in those states can choose to become electricity supply and price secure by making their buildings and infrastructure more electricity use efficient and by installing PV panels on roofs and over parking lots.

Assuming 1,000 sq. ft. of roof and parking lot per capita, San Diego County, where I live, can use free-market forces to cost-effectively become renewably electricity self-sufficient. This can be accomplished by increasing the County's electricity use efficiency by 40% and installing 15% efficient PV panels over 17% its roofs and parking lots, (shaded parking).

Other benefits of becoming renewable electricity self-sufficient include:

- + Eliminating the need to scrape off habitat to accommodate remote direct solar installations and transmission lines to deliver the electricity they produce to urban areas. Land under buildings and parking is already disturbed and damaged plant and animal habitat. Installing efficiency improvements in building and PV panels on roofs and over parking lots eliminates the need to impact new land.
- + Being more electricity supply and price secure. The increase in electricity use efficiency and the electricity produced on local roofs and parking lots cannot be cut off by the failure of transmission lines from remote suppliers to urban areas. Increasing electricity use efficiency and installing PV panels on roofs and over parking lots would also make it difficult for acts of nature, accidents or intentional human acts to cause serious damage or disruption to a county's production, distribution and storage of renewably generated electricity.

+ Changing San Diego County's negative-electricity purchase cash-flow into a positive-electricity-purchase-cash-flow. Currently San Diego County exports one billion plus dollars each year to purchase imported electricity or imported natural gas or nuclear fuel to make electricity locally. If the County were renewable electricity self-sufficient today, all the money now exported to pay for imported electricity or fuels to produce it locally will be kept in the County's economy. Initially this money will be used to hire businesses and its employees to make the county more electricity use efficient and install PV panels on roofs and over parking lots. Because the businesses and workers making the county more electricity use efficient and renewable electricity self-sufficient will be local, much of the money they earn will be spent locally, helping everyone's bottom line. Assuming an economic multiplier benefit of two, a renewable electricity self-sufficient San Diego County would add around \$3 billion of economic activity to the County's economy each year. This is assuming that electricity is 10 cents per kWh. If the cost of electricity on the Western States Electricity Grid Market is more than 10 cents per kWh, the positive-cash-flow and economic multiplier benefit of becoming renewable electricity self-sufficient in San Diego County will grow accordingly.

+ That local efficiency and PV installations do not require new power lines or existing power line enhancement. The electricity produced with PV on roofs and over parking lots is already grid connected. Excess electricity produced during peak PV output can be sold or traded for electricity through out the Western States Electricity Grid for times when local PV panels are not producing sufficient electricity to meet the county's electricity demand.

+ Eliminating the County's contribution to pollution, general life-support damage and to climate change related to its dependence on producing electricity using fossil and nuclear fuels. It also eliminates the life-support damage connected to producing and delivering remotely produced renewably generated electricity to urban areas.

+ Eliminating price shocks related to the rising cost of electricity; made with price uncertain non-renewable energy resources. Unlike fossil and nuclear fuels, renewable energy resources are free and even delivered free. We are still becoming more cost-effective at becoming more electricity use efficient and making and installing PV panels over roofs and parking lots.

+ Increasing local business and employment. Becoming renewable electricity self-sufficient in San Diego County will create over 400,000 job-years of direct and indirect employment.

+ Changing ratepayers into utility company owners. As owners, ratepayers can meet all their electricity needs. If they produce more than they need, they can sell excess production into the Western States Grid.

+ Fostering the potential for the cost of increasing electricity use efficiency and renewably generated electricity to become less expensive. The manufacture and installation of electricity use efficiency measures and renewable energy collection and conversion to electricity devices is still becoming less expensive and the energy to power them is free and even delivered free.

+ Serving as a free-market example of how communities, in general, can save money and the environment by becoming renewable electricity self-sufficient. With some modifications, this investment strategy can be used by many communities to become completely renewable energy, water and food self-sufficient.

+ Becoming more electricity use efficient and installing PV panels on roofs and over parking lots adds zero heat to the county's incident solar load. When electricity produced in the desert is used locally, it will add heat from the desert to the county's incident solar load. It's a small addition but now is not the time we need more heat.

For details on the free-market plan (zero subsidies needed) to make San Diego County renewable electricity self-sufficient, go to www.jimbell.com and click on "Green Papers"

Thank you for your comment, Patrick Jordan.

The comment tracking number that has been assigned to your comment is SolarD10033.

Comment Date: February 9, 2011 19:55:31PM
Solar Energy Development PEIS
Comment ID: SolarD10033

First Name: Patrick
Middle Initial: V
Last Name: Jordan
Organization: Land owner in SEZ area of Blythe, CA
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

After listening to the presentation last night 02/08/11 in Indian Wells, CA and studying the proposals presented I feel the best compromise for all parties is sticking with the proposed SEZ's and also requiring mitigation of both undisturbed and disturbed lands. Generating new park facilities or areas that have been previously un accessible to the general public while using our natural resources to generate much needed renewable power with the proposed solar energy zones. I also agree that Eagle mountain and the border radius of the National parks are important to protect and should not be allowed for development.

Thank you for your comment, Renee Castor.

The comment tracking number that has been assigned to your comment is SolarD10034.

Comment Date: February 10, 2011 17:23:29PM
Solar Energy Development PEIS
Comment ID: SolarD10034

First Name: Renee
Middle Initial: W
Last Name: Castor
Organization: Chairman-Desert Center Area Chamber of Commerce
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

This statement was also given at the meeting held at the Indian Wells Hyatt meeting Feb. 8 2011

My name is Renee Castor and I am the Chairman of the newly formed Desert Center Area Chamber of Commerce in the town of Desert Center. I am not an environmentalist and I am here to represent a different perspective.

While the Sharpied's (?) and I normally sit on opposing sides of issues that effect our valley and small town you (BLM and DOE) have managed to create and issue we whole heartily agree on, if not for entirely the same reasons.

The Desert Center community formed the chamber of commerce this year to find ways to fight to keep our town from dying and becoming a ghost town in the current economic crisis. Yet while we fight to improve the economic growth and development of our community your (BLM ans DOE) proposed expansion of the solar energy program guarantees our extinction. There are millions of acres available with no towns within a hundred miles that are more suitable to this issue.

Our community is gaining no benefits from this project. All the energy that will be produced will be exported to large metropolitan areas. Yet your proposed Solar Energy Zones (SEZ) surround our small town on all sides. If you could imagine that Indian Wells Resort is Desert Center and every other roof top from here to Desert Hot Springs and from here to Coachella Valley is a solar panel that they plan to place in our valley, that would be the view we would wake up to everyday.

This program will destroy our valley's only natural resource, the unadulterated views and beauty of the Chuckwalla Valley. The beauty and majesty of our valley that brings Snowbirds and nature lovers who love to bike, hike and live in our valley every winter, will be gone and the economic boost they bring to our local economy will be gone with them.

These solar farms of such monstrous scale will disrupt the habitats and migration patterns of our local wildlife. We will lose the birds the bring the birdwatchers every year. We will lose the dove, quail, and deer that bring hunters every year and the business that comes with them.

We would look like one huge industrial complex which would amount to the same as post a huge sign that says "DON'T STOP HERE" to passersby. Tourism keeps us alive and this will kill our tourism.

The rural human population is an endangered species of its own and your program would guarantee our extinction. My mother was raised here, I was born and raised here, I returned to raise my own children here but if this program succeeds there will be nothing for my grandchildren. Our town is the last of the Mayberry type towns and this program will ensure its demise.

I agree with the alternative of roof top solar on all the houses and business that would benefit from the energy it will be farming any way. Instead of exporting from our valley place it directly at the source. I'm pretty sure the roof top space in the greater metropolitan areas this is intended for anyway would equal out to the acreage of our ecosystem your taking form us for this project. Our ecosystem is just as important as the protected ecosystems in Yosemite and Yellow Stone. Our Ironwood tree forests (yes we have forests) are just as environmentally important as that of the Red Wood Tree.

For groups who's job it is suppose to be to protect the environment and ecology of an area you seem to have been working

successfully to devastate not only an entire ecosystem but also an entire town.

Thank you for your comment, kim bauer.

The comment tracking number that has been assigned to your comment is SolarD10035.

Comment Date: February 10, 2011 22:24:17PM
Solar Energy Development PEIS
Comment ID: SolarD10035

First Name: kim
Middle Initial:
Last Name: bauer
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

the development of the desert regions of s.ca. as well as the rest of the desert regions in the west u.s. should be better studied ,documented,etc. as even the blm studies have stated that the projects would cause significant damage to area's flora and fauna.the projects should be denied access to building in these area's and any solar projects should be built in the cities that need them.

Thank you for your comment, lee Whitman.

The comment tracking number that has been assigned to your comment is SolarD10036.

Comment Date: February 12, 2011 21:24:09PM
Solar Energy Development PEIS
Comment ID: SolarD10036

First Name: lee
Middle Initial:
Last Name: Whitman
Organization:
Address: 59845 anzanita ln.
Address 2:
Address 3:
City: Anza
State: CA
Zip: 92539
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

consider; installing the panels on city rooftops, no transmission lines, no power drop.

Thank you for your comment, Duane Porterfield.

The comment tracking number that has been assigned to your comment is SolarD10037.

Comment Date: February 13, 2011 19:24:59PM
Solar Energy Development PEIS
Comment ID: SolarD10037

First Name: Duane
Middle Initial: L
Last Name: Porterfield
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Covering the entire Southwest with solar panels and wind machines will not get us off of foreign oil. It will not provide jobs because the majority of wind machines, solar panels, and "reflective panes" (you can't call them mirrors because it costs more to import them into this country), are not made in this country. In fact the companies that are building most of the solar installations are not U.S. companies. Thermal solar is not free or clean, a small 70 MW plant uses 300,000 gallons of a toxic heat transfer fluid that freezes at 56 degrees and turns to benzine after being heated beyond 600 degrees for a period of time. It will also give the BLM another excuse to close millions of acres of public land to multiple use. In addition, no one wants to admit that this type of renewable energy requires 100% backup by some type of additional generation for night time, and periods of little or no wind/sun. There are better uses for my tax money.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10038.

Comment Date: February 15, 2011 21:20:10PM
Solar Energy Development PEIS
Comment ID: SolarD10038

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am against the proposed solar plants alongside the Hwy 10 corridor in California. I am a snowbird and reside in the area during the winter months for the peace and quiet and pristine beauty of the desert. I am planning on residing here for the next 20-30 years and do not want the beauty of the desert destroyed by mass solar!! Our area in Desert Center will literally be destroyed by the solar propositions. This is a small community trying to survive and people will not come here if our beauty is destroyed by mass solar. We need the freedom of our land around us to explore and enjoy. There is enough land in our states to put solar plants, ect. where they will not be seen by every passing person and destroying small communities. Use the territory where there is no traffic and towns. Do the 'due diligence' research and make sure where you are putting these plants is best for all involved!! Do Not Rush to get these plants in because they may 'save' energy in the future. Lets take a good look at what is being done and make sure it is best for all. Please Do Not Ruin our Home and Lifestyle for the possible benefit of saving energy without doing the research to know this is the only option there is.

Thank you for your comment, Richard Nelson.

The comment tracking number that has been assigned to your comment is SolarD10039.

Comment Date: February 18, 2011 12:04:33PM
Solar Energy Development PEIS
Comment ID: SolarD10039

First Name: Richard
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Attachment: SolarPEIS_Comments 20110214 rn.doc

Comment Submitted:

**Standard Review Form
Draft Solar Energy Development PEIS**

Reviewer's Name: Richard Nelson

Reviewer's Organization: Nye County, Nevada

Reviewer's email address: Richard@becnv.com

Reviewer's Telephone numbers: 702-304-9830

Primary Disciplinary Area (e.g., ecology, land use planning, regulatory oversight): Oversight

Section or Chapter Number and Date of Reviewed Document: DES 10-59 – DOE/EIS-0403, December 2010

EIS Section	Page/Line	Comment/Suggested Revision	Action (for use by ANL)
3.1.1 Parabolic Trough	3-4/27-28	When comparing per capita water usage to solar technology water usage, a differentiation between rural and urban water usage should be noted as the two can vary significantly (e.g. agricultural lands vs. inner cities).	
3.1.5 Comparison of Technologies	3-11/Table 3.1-1 Footnote d	Actual panel washing water requirements for PV should be included in this table and are likely available from data collected at the previously cited Nellis Solar Power Plant, Nellis Air Force Base, Las Vegas, Nevada, and the Arizona Public Service Company facility at the Prescott, Arizona, airport.	
3.1.5.2 Water Use	3-13/33 to 3-14/2	In discussing the drawbacks for utilizing reclaimed wastewater in operations in dry environments, it should be noted that many of the solar facilities currently operating in these environments, or applications for facilities in these environments, are not close to population centers and therefore the development of an extensive piping system would incur additional monetary costs and impacts to the environment. Trucking water in would also greatly increase the initial and operating costs of the facility.	
11.1 AMARGOSA VALLEY	FIGURE 11.1.1.1-1 Proposed Amargosa Valley SEZ	The Southern Nevada, Las Vegas Field Office, Resource Management Plan designated corridor should be included on the Nevada maps indicating the location of designated utility corridors.	

<p>11.1.3 Specially Designated Areas and Lands with Wilderness Characteristics</p>	<p>FIGURE 11.1.3.1-1 Specially Designated Areas in the Vicinity of the Proposed Amargosa Valley SEZ</p>	<p>The Southern Nevada, Las Vegas Field Office, Resource Management Plan designated corridor should be included on the Nevada maps indicating the location of designated utility corridors.</p>	
<p>General Comment</p>		<p>The Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States, approaches the development of the Solar Energy Zones (SEZ) based primarily upon immediate environmental impacts. Based upon water use, a obvious response would be to require the use of photovoltaic (PV) generation within the SEZs. PV is an intermittent source of energy that provides specific balancing problems when transmitted over the grid. Restricting SEZ development to PV would require additional equipment and cost in order to balance the load, could require additional land, equipment and resources for backup generation or energy storage to achieve the necessary load balancing, and could render projects financially impractical. In addition, PV provides the lowest rate of job return for site operation – removing a source of long term jobs and tax revenues for nearby communities if development is restricted to only PV.</p> <p>Therefore, the selection of specific technology for a SEZ should be evaluated upon (1) available resources at that location, (2) input from nearby communities which will be affected by the development, and (3) the ability of the technology or utility to provide the required load balancing for grid transmission.</p>	

To add addition boxes, press tab.

Thank you for your comment, Eric Flodine.

The comment tracking number that has been assigned to your comment is SolarD10040.

Comment Date: February 18, 2011 18:03:37PM
Solar Energy Development PEIS
Comment ID: SolarD10040

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Attachment:

Comment Submitted:

To Whom It May Concern:

RE: The SOLAR PEIS Approach is Backwards!!!

Federal and State Agencies "own" (i.e. manage) over 45% of lands in the State of California. A MAJOR FLAW of the Solar PEIS approach is focusing large scale solar development on undisturbed public lands while requiring mitigation lands to be purchased on private lands. This is backwards!!! Public lands contain large, cohesive swaths of habitat for many desert species. These areas should not be compromised for solar development. The right approach would be to encourage solar development on consolidated private lands and then establish permanent conservation areas within public lands as mitigation. This not only keeps the habitats intact, but just as important, allows local agencies to reap the economic benefits of increased property taxes on the developed lands. Why create permanent open space on private land and eliminate significant revenue sources for local agencies due to capping property tax levels at vacant land levels???

Protect Public Lands. Protect Private Property Rights. Protect Local Property Tax Revenues.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10041.

Comment Date: February 20, 2011 22:20:29PM
Solar Energy Development PEIS
Comment ID: SolarD10041

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Attachment: Locomotive Power Sources.docx

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments. For example, attached is my compilation of candidate power sources for high-speed locomotives. I am confident that developing some of these locomotive power sources would eventually lead to practical replacements of wind turbines and solar power plants.

High-Speed Locomotive Power Sources

High-speed trains typically rely on some means of supplying energy to the locomotive from an external source. For example, cumbersome overhead electric lines are tapped to directly power a locomotive's electric drive wheels. Another method of connecting the locomotive to an electricity grid is with a dangerously exposed high-voltage third electrified rail. Linear magnetic propulsion mechanisms have been researched.

It would be much cheaper and easier to build and operate high-speed trains if their locomotives utilize an internal practically fuel-less power source.

The following candidate high-speed locomotive power sources appear worthy of further research. Some may be found to be worthwhile for building and testing prototype self-powered locomotives.

BlackLight Power's Hydrino Generator

BlackLight Power, Inc., is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. BlackLight Power, Inc., has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

BlackLight Power, Inc., is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. BlackLight Power, Inc., claimed some years ago that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles.

BlackLight Power, Inc., has already licensed 8,250 megawatts of clean, safe hydrino generation fueled by water to seven utilities (Hoover Dam's capacity is 2,080 megawatts) – eliminating \$2 billion/year in fuel costs.

Focus Fusion

See <http://www.focusfusion.org/>. Apparently this method is much less expensive than hot fusion.

Thorium Powerpack

Bob Dratch's thorium powerpack would generate electricity at approximately one-tenth of the cost of current methods of producing electricity. Thorium is sufficiently abundant that the entire planet can be powered for millennia. After ten years of continuous operation, a trace amount of U-233 is produced. U-233 recovery to re-purify the thorium is easily accomplished. Thorium thus lasts a long time when recycled and consequently is a very efficient energy source. After extraction from ore, thorium does not require energy-intensive enrichment as is the case with uranium.

A thorium-powered reactor is inherently safe. It doesn't run the risk of "meltdown" or explosion nor can even a dirty bomb be created. Its nuclear reaction simply stops when its neutron exciter is turned off.

The simplest and smallest "table top-sized" neutron exciter design is something close to the size of a 4-D cell flashlight, and starts at about 500-kilovolt neutron output. In fact this smallest most cost-effective system can run off 4 D cells for its power.

A thorium powerpack's neutron excitor does not use radioactive flux components as conventionally done for portable systems. Instead it relies on Dratch's invention of a novel method of resonant phonon pair cleavage using specifically designed nuclear lattice holo-forms (holographic waveforms) to induce neutron imbalance in a host atom where the host atom then attempts to establish "balance" through the liberation of neutrons. Dratch demonstrated the first model of this novel design back in 1966.

Commercial thorium powerpacks can be developed with 50 or 100 kilowatts of output for home use, and up to 1 megawatt for industrial use. They actually are "power amplifiers" with power outputs of 60 times over input power. Maintenance would be minimal.

Thorium-227 Electricity Generator

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, from 1951 through 1991 secretly employed 6600 of the most brilliant theoretical physicists in the entire Soviet Union to work for nearly 50 years with complete freedom. They were able to develop whole new sciences, technologies and materials unknown in the West.

Their models of non-linear quantum mechanics, plasma physics, atomic engineering, nuclear physics and related mathematical and theoretical constructs, which made their development possible, are so unique that they challenge the validity of the most fundamental assumptions embodied in the Copenhagen Interpretation model currently held in general acceptance in the West.

For example, Western-developed particle/wave quantum mechanics is described by Einstein's $E = MC^2$. The Soviet nonlinear model of quantum mechanics is described by the formula $E = M_K V$ [Energy = Mass @ rest as a function of a mathematical constant].

Einstein's theory of relativity assumes that the speed of light is constant. However, measurements have shown that the speed of light has slowed down 7 per cent over the past two centuries. (See http://worldnetdaily.com/news/article.asp?ARTICLE_ID=39733.) Einstein's famous equation is therefore not based on the real world of peer-reviewed experimental results. Consequently the more correct Soviet model has enabled numerous technical advances not even dreamed of by Western science.

Among several energy inventions developed by the IPMS are free-standing thorium-227 isotope electric power generating plants. They can be small enough to power a single home and large enough to power whole communities. They also can operate for up to 18 years without ever requiring refueling or maintenance.

Micro-Fusion Reactor Employing Stable High-Density Plasma Electron Spiral Toroids In Neutron Tube

Several thousand neutron tubes are in use in the US today that safely collide hydrogen ions to produce neutrons, which in turn are used for medical testing, industrial process control, and homeland security. An ion source produces hydrogen ions (deuterium), which are accelerated to 110 kilovolts, then directed to hit a hydrogen target (also deuterium), which produces neutrons, and also heat as a waste product. Neutron tubes today produce neutrons and a low level of heat energy. The low density of the hydrogen ions limits the amount of energy produced.

In the 1970's, Dr. Wells at the U of Miami collided two plasma toroids to produce low-level fusion energy in the TRISOPS system. The amount of energy produced was limited by the short duration time of the plasma toroids used, as well as their low density and their low level of energy.

Electron Power Systems, Inc., (see www.electronpowersystems.com) has discovered a plasma electron spiral toroid that remains stable without magnetic confinement, by using background gas pressure for confinement instead. These new plasma toroids are observed to remain stable for thousands of times longer than classical plasma toroids, which opens the way for new clean energy applications.

The Company's new stable plasma electron spiral toroids will overcome each of the neutron tube's limitations, and will potentially result in fusion with no magnetic containment required, thus producing a practical micro-fusion reactor. The Company's challenge is to adapt the new stable plasma toroid to the TRISOPS method.

The micro-fusion reactor invention, owned by Electron Power Systems, Inc., adapts the Electron Spiral Toroid (EST) Spheromak to the neutron tube design. The EST Spheromak is patented jointly with MIT scientists who also have published papers confirming the EST Spheromak physics and data. The EST Spheromak will overcome the neutron tube limitations by increasing ion density by 2500 times. A metal containment can be used for efficient heat energy collection and conversion.

The EST Spheromak micro-fusion reactor will be less than three feet in length, the same as for present neutron tubes, and small enough to fit in an electric car. Elimination of the need for magnetic containment allows this power supply to be small and compact. A micro-fusion reactor will use hydrogen/boron to produce clean energy without neutrons. One pound of hydrogen/boron replaces 250,000 pounds of gasoline. Hydrogen and boron are plentiful and will not run out, as oil is projected to do in the 21st century.

The EST Spheromak micro-fusion reactor is scaleable from 1 kilowatt to 1000 megawatts, and operates safely, reliably and silently at both extremely high and low outdoor temperatures. Electron Power Systems, Inc., has developed preliminary designs for a 10-kilowatt supply that will heat and power a house, and for a 100-kilowatt supply suitable for powering an electric car. Electron Power Systems, Inc., has a preliminary design for a model and can provide calculations that support the 1000-megawatt application.

The company first plans to make a small EST Spheromak furnace to heat homes and buildings at one-tenth the cost of oil, gas, or today's electric heat. The Company next plans to make a non-polluting car engine since an EST Spheromak-based car would cost 10% less to buy and 90% less for fuel than today's gasoline cars, and will be silent and pollution free.

The cost to produce a 10-kilowatt EST Spheromak electricity generator would be about \$1100 in production quantities. The EST Spheromak generator would have fewer parts than a comparable Sears generator.

Electron Power Systems, Inc., does not have a working prototype. The company has identified the instrumentation and needs another \$100,000 for laboratory work. With \$2,000,000, the company expects to have in two years a demonstrable prototype. In an additional year for \$8,000,000 a production prototype is expected to be built. Remember, each piece of the project uses technology others have demonstrated.

Thin-Film Electrolytic Cells

A number of seasoned technology integrators have developed thin-film energy storage technologies which hold considerable promise. Dr. George Miley, Dr. Robert Hockaday and others have developed thin film technologies with energy densities exceeding 250-400 watt hours per kilogram. Dr. Miley's invention is illustrative. Using a flowing pack-bed type electrolytic cell with 1-molar LiSO_4 in light water, 1mm plastic beads with a very thin [500-1,000 angstrom] film of metal [nickel, palladium, titanium] are employed. A special sputtering technique is used to spray the metals onto the surface of the beads. With 2-3 volts of electrical power and 1.5 milliamperes of current, the single film experiments have shown the material to produce more than 10 times as much output power as input. The input power is no more than 0.01 watts while .5 watt of heat is produced.

It is likely that the physics involved in this reaction involve the release of energy as a by-product of nuclear transmutation. Dr. Miley has written, "The key finding from these studies has been the observation of a large array of "new" elements (i.e., different from the original bead coating), many with significant deviations from natural isotopic compositions, after the run.

Great care has been made to ensure that these elements are distinguished from isotopic impurities by use of a "clean cell" with high purity components and electrolytes, in addition to the pre-and post-run analyses. Even low-energy radiation was detected from the bead days after each experiment. Applications to space power, providing a 1-kilowatt cell with only 500 cubic centimeters of active electrode is predicted." Note that this particular invention, with its large over-unity energy yield, was awarded a NERI grant by the DOE. At the insistent urging of the American Physical Society and representatives from MIT and other universities whose laboratories are currently engaged in high-temperature gas-cooled nuclear reactor research, Secretary Richardson eventually withdrew the grant. The tangle-footed Department of Energy actively discourages the development of new sources of energy, presumably to appease the oil, uranium and coal companies. The U.S. Patent Office has unfairly classified secret nearly 5000 energy patents. Luckless energy inventors then risk 20 years in prison if they work on, sell, or publicize their energy invention – often created at great personal sacrifice.

Searl Effect Generator

The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don't touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a “governor”, either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG’s primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small “inverse gravity” vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue. The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

Two Russian scientists replicated the Searl effect generator and vindicated all of these somewhat unusual claims. See their paper “Experimental Research of the Magnetic-Gravity Effects”, V. V. Roschin and S. M. Godin, Institute for High Temperatures, Russian Academy of Science, Izorskaya 13/19, Moscow 127412, Russia.

At one time, a German power company reportedly considered replacing a nuclear power station with eight fuel-less SEGs costing a total of about \$4.5 million and generating a total of 240 megawatts with no pollution.

Noble Gas Plasma Engine

Joseph Papp was granted US Patent #3,670,494 for his “Noble Gas Plasma Engine”. A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

Clem Over-Unity Vegetable-Oil Engine

Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine's durability, the only working model of the Clem engine has been continually running on his son's farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop for manufacturing hollow shafts and cones.

Magnatron – Light-Activated Cold Fusion Magnetic Motor

During the late 1970's Howard Rory Johnson, a brilliant inventor in Elgin, Illinois, combined light-activated cold fusion with a new type of magnetic motor into a "Magnatron". His prototype Magnatron produced 525 horsepower but only weighed 475 pounds. It could propel a large truck or bus 100,000 miles on about 17 ounces of deuterium and 1.5 ounces of gallium before being recharged. This was years before either Pons and Fleischman or Dr. James Patterson entered the scene with their cold-fusion technology.

Johnson discovered the light-activated cold fusion portion of the Magnatron by accident when as he was developing a new type of electronic circuit using deuterium oxide and gallium, he noticed the two materials were producing energy on their own. He could not figure out what was triggering the energy production for some time until he finally discovered it was light.

The Magnatron's flow of deuterium (an isotope of hydrogen) is controlled by magnetic tunnels. At the point where the deuterium strikes the gallium (a heavy metal electron donor), a beam of light from a diffraction prism forces their fusion. That controlled reaction results in the fusion of two atoms forming a new atom. In the process, electricity is released, and that is what powers the magnetic motor. The Magnatron is sealed, however, so 'light' is provided from photon energy produced from coils tied directly to the motor. It is more or less a pulse-generated system.

A photon is a football-shaped particle of electromagnetic wave energy. Its energy content is a product of its frequency f and Planck's constant h . When an electron in orbit around the nucleus of an atom drops to a lower, less energetic orbit, a photon containing the energy equivalent to the electron's energy drop is emitted. This explains why light and other forms of electromagnetic energy such as gamma rays and radar are sometimes observed as particles and other times as waves. The heated filament of a light bulb is an example of photon production.

There is no way to explain, using contemporary electrical theory, how his relatively small motor could produce such tremendous horsepower. Utilizing his own new electrical-magnetic energy theory, involving a process he called "attract-attract", Johnson exploited the magnetic field. He used the top and bottom rotors in his motor. First, the top rotor attracted, released; then the bottom rotor attracted, released. The action of attraction, alternating between upper and lower magnets, used the windings to complete the attract field.

Robert Nelson's compilation of articles about the Magnatron provides much more technical detail on the Magnatron than the foregoing. (See <http://www.rexresearch.com/magnatron/magnatron.htm>.)

Johnson constructed his prototype Magnatron's 525-horsepower magnetic motor without any of the hardware that is presently used in present state-of-the-art electric motors. Conventional motors use the accepted principle of attract-repel, an energy form that doesn't utilize the magnetic field to its greatest advantage. For comparison, a typical 500-horsepower electric motor has wires exiting it that are the size of a garden hose.

The sealed self-contained Magnatron has no wires. Thus, other than the Magnatron's infrequent refueling with small amounts of deuterium and gallium, the stand-alone Magnatron uses no input power. The Magnatron's entire output power is conveyed by its magnetic motor's rotating shaft.

Fuel for the Magnatron is plentiful: deuterium is derived from water, and gallium is extracted from abundant aluminum bauxite. Commercially available pure gallium is still scarce and expensive. It may well be possible, however, to cheaply transmute another less expensive element into gallium. See Gary Vesperman's list of over two dozen methods of neutralizing radioactive waste in <http://freeenergynews.com/Directory/NuclearRemediation/Vesperman/> which includes possible transmutation methods. Additional methods are briefly described in <http://freeenergynews.com/Directory/NuclearRemediation/>. Dr. Santilli's method plus an explanation of suppression of radioactivity neutralization methods are available at <http://www.nuclearwasterecycling.com/>. Robert A. Nelson's survey "Transmutations of Nuclear Waste" is at <http://www.rexresearch.com/articles/nukewa.htm>.

The Magnatron uses no fossil fuel in its operation, and it emits no pollution. The magnetic motor's RPM is 8,000 with a gear ratio of 2:1. Lubrication for the sealed motor is synthetic motor oil which does not need changing and does not need a filter, because foreign materials such as carbon and varnish are not introduced into the system, as they are in the internal combustion piston engine.

This writer, Gary Vesperman, attended the 3rd International Symposium on New Energy in Denver, CO (April 25-28, 1996). I remember being impressed by Gerald Orłowski's lecture "Magnatron, Fusion Magnetic Motor", during which he provided substantial technical information on the Magnatron.

Orlowski reported that, "Some inside information revealed that OPEC had been keeping track of all competitive technology", and Johnson was #1 on their hit list! Johnson was about to manufacture the motors through a nationwide dealership. Some motors still exist, but the owner wants several million dollars for them."

This writer Gary Vesperman knows of very few inventions of new energy sources which are reasonably large stand-alone energy producers. Besides the Magnatron, they include Oleg Gritskevitch's hydromagnetic dynamo, and Electron Power Systems' micro-fusion reactor, which employs stable high-density plasma electron spiral toroids. Almost all inventions of new energy sources are, or claimed to be, relatively small over-unity power converters that convert input power to greater amounts of output power. Bob Dratch's thorium powerpack is an exception (see above).

At the September 14, 2005 public meeting in Green Valley Ranch casino regarding the proposed Regional Fixed Guideway traversing Las Vegas, Nevada, this writer Gary Vesperman submitted comments suggesting possible power sources for the train, including descriptions of the hydromagnetic dynamo and the micro-fusion reactor (<http://www.rtcsonthernnevada.com/rfg/documents/September2005PublicMeetingMinutes.pdf>, pp. 19-77).

No wonder the Magnatron's inventor, Rory Johnson, was rumored to have been "Number One" on Organization of Petroleum Exporting Countries (OPEC)'s hit list.

The following is an excerpt, slightly edited, from Orlowski's lecture transcript where he tells about his unwitting personal involvement with the U.S. Government's suppression of the Magnatron:

"After I saw the Magnatron motor, my life changed. I was no longer a happy camper working by myself in a wonderful, fully equipped research machine shop for the Greyhound/Armour Corporation in Arizona. While on a business trip, I saw this motor running in the Magnetron, Inc.'s showroom located in Egin, Illinois.

"During my 15 years of electric motor repair, among the hundreds of motors I repaired, I rewound a 500 HP electric motor. That motor had wires exiting it that were the size of a garden hose. The Johnson motor being shown had NO wires. Surely this motor was unreal, a con-job to get money for dealerships. Yes, there he was, Rory Johnson standing next to his sealed self-contained electric motor.

"Upon returning to the Greyhound Towers and telling them what I had seen, they instructed me to call Mr. Johnson. Greyhound wanted Johnson to put forth a plan to install a motor in one of their buses for testing purposes.

"I called Johnson. He was delighted that a Greyhound employee had seen the motor running, and replied that the testing idea was acceptable. He would set a time frame for just when a bus should be delivered to him.

"Two years went by, with no business proposal from Johnson. Then, his former business partner, Mike Marzicola, called to say Johnson had passed away. He wanted me to work with him to get one of the motors running. I flew to Orange County, CA, saw the motor, took pictures, and put forth a plan to Greyhound. Subject to a contract with Marzicola, one of the old worn motors would be brought to the research shop. I would then very carefully reconnect the generator wires that Johnson had cut off prior to moving from Egin, IL to California.

“Discussions with Marzicola brought out that the U.S. Government (given the authority by the Congress of 1952) had issued a GRAB order to take Johnson's motors. Rumor has it, the DOE is run by US oil companies and OPEC, and they want no competition, period. Because of this grab order, Johnson had cut the generator wires. He had then put his `total shop', with motors and all, on several U-Haul trucks and left Illinois in the middle of the night. He went to California to re-establish his business. But before he could get a motor running, he passed away.

“Surely, Greyhound would agree to let me re-start one of Johnson's motors. The wonderful proposal put forth to Greyhound was rejected by mail. Very agitated, I went to the top office at Greyhound demanding an explanation. I was met at the door with the comment, "We know why you are here." Knowing the potential savings to the bus company, surely they could have only one reason for rejecting the proposal. They must have believed I was not qualified to start up the motor.

“Greyhound’s top legal advisor stated he was present when the Greyhound board met and discussed my written proposal. He stated the following, "At NO time was the thought put forth that you would not succeed. In fact, we discussed all of the hardware designed and constructed by you, and started the conversation from what happens when Greyhound has a running motor. We contacted a State representative who felt this motor should not be allowed to be used in 4,000+ buses. The loss in tax dollars for fuel alone would be a very huge sum.” He then asked me to leave, stating he was sorry that he had to tell me the reason the plan was rejected.

“Telling Marzicola of the rejection, I offered to personally put in a few thousand dollars toward the parts to get one motor running. In return, I would be assigned the dealership for the Phoenix metropolitan area. We signed legal papers in exchange for the money agreed on, and went to work. (I still have the signed dealership.)

“The first thing I noticed was that someone had been working on repairing the motors. Three motors already had new commutator assemblies installed. Each assembly consisted of 3 commutator assemblies on one insulated tube with a metal case to secure it to the shaft.

“One motor still had the old worn commutator assembly, as it had not yet been repaired.”

Orlowski goes on to describe his reconstruction efforts and includes interesting technical details about the Magnatron’s structure and theory.

Johnson did not know that OPEC tracks all potential competition to its oil business and that he was reportedly number one on OPEC’s hit list. His first mistake was publicizing, in many magazines, his plans to manufacture and distribute his revolutionary motor.

Erik Masen has spoken with a few people who even signed up for distributorships. Erik Masen had included Johnson and his Magnatron in his energy invention suppression anthology (see http://www.electrifyingtimes.com/erik_masen_suppression.html).

In 1979, Johnson placed his engine in a Buick Electra and was preparing to drive it around the country to sign up more distributorships when the US Department of Energy and the State of Illinois teamed up to prohibit his company Magnatron, Inc., from producing and selling Magnatrons. They first placed a gag order on all the people in the company by using the Secrecy Act of 1952.

Secondly, the State of Illinois immediately requested the company to provide information about all of their employees, distributors, stockholders, investors, suppliers, etc. They asked questions that blatantly deny anyone's constitutional rights to privacy. The pressure from the State of Illinois became so overwhelming that Johnson decided to move his entire business to California in the middle of the night.

After a year of hearing nothing but silence from Johnson, Greyhound agents tried to contact him – only to be notified that he had passed away unexpectedly. This is a particularly troubling part of the story, since he had been in his early fifties and in robust health. Later, Greyhound learned that shortly before he died, Johnson had inexplicably moved out of his laboratory in the middle of the night and taken all of his motors and technology to California.

Bob Bass, in his report copied below on low-energy nuclear transmutation, claims that the CIA, the KGB and the Mossad, etc. all have "sprays" which can be sprayed upon someone and cause him or her to die of apparently natural causes. One speculation is that Johnson's death – apparently due to heart failure – had been artificially induced by such a spray.

In a January 20, 2007 email to Gary Vesperman, Terry Sisson reports:

"Hi Gary,

"I visited Magnatron, Inc., in July 1979. I wish I would have taken a photo. Placards were placed over every inch of the large windows in the front of the building listing all of the questions the State of Illinois requested his company to provide. He wrote, "When has the government ever had the right to ask this of any company." I peeked in the front window and saw one of his motors mounted on an engine stand. Nobody appeared to be there so I walked around to the rear of the building. I found the rear garage door open and could see the Buick Electra inside. I was about to approach nearer when a man emerged. We talked, but he quickly informed me that due to a US gag order he was unable to talk about anything. I managed to get his phone number and called him from time to time for years following. He was an assistant of Rory's and he kept the information very close to the vest. He did tell me that it was real and it worked, yet not how it worked.

"About 1984, I began to call all the Johnsons in the phone book in Elgin. I finally got a hold of Rory's son. He too said that it was real, but I got nowhere. Around 1992, I met Jerry Orłowski, and he told me his experience as the employee of Greyhound who was sent to investigate the technology, since he wound electric motors for several years. Jerry was very upset about the whole incident, particularly Greyhound's Board of Directors refusal to utilize the technology after he found the technology to be authentic. Jerry even witnessed the government's seizure of the motors in California. --- Terry Sisson."

Hydro-Magnetic Dynamo

The hydro-magnetic dynamo is a large-scaled emission-free electrical generator which does not require external fueling and operates safely, reliably and silently at moderate temperatures. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One doughnut-shaped 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics who were unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at \$500 per kilowatt which is competitive to nuclear power's capital costs of \$5,000 per kilowatt, windmill capital costs of \$4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, buses, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street \$4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ball park of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day of the year to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent IPC H 02 K 44/00 "Method of deriving of electrical energy and organization of Gritskevich's MHD-generator for its realization":

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water's friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavital-vacuum structures, and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Note that the hydro-magnetic dynamo is always producing electricity once it is manufactured and jump-started at the factory. Whenever a locomotive is parked in sub-freezing weather, its hydro-magnetic dynamo's electricity output would be used to heat the dynamo's containment to prevent its water-filled toroid from freezing.

Whenever a locomotive is parked, its hydro-magnetic dynamo's excess electrical output could be sold to the local power grid.

IPMS Energy Storage/Battery Device

During the summer of 1984, airborne intelligence surveillance teams of the United States Air Force, operating out of specially configured and equipped Boeing 707 airframes (called AWAC's) electronically detected (and then shortly thereafter photographed) bursts of coherent light of enormous power originating in the vicinity of Dushambe, Turkministan. The bursts of light, a brilliant blue-green color, lasted just a few seconds and were shifted almost to the ultraviolet end of the light spectrum. The "laser" beams were directed upwards out of the atmosphere towards American military communications satellites.

At precisely the same time the AWAC's detected and photographed the laser bursts (they were referred to in that jargon by American military analysts but later proved to be something almost entirely different), several of the satellites essential to America's global military command and control communications systems became inexplicably inoperable.

The Defense Intelligence Agency, under the direction of the National Security Council and assisted by the National Security Agency, escalated its surveillance of the remote site in the Ural Mountains from which the bursts first originated. For several months, during a concerted campaign of uninterrupted observation by AWAC's and American spy satellites, no additional bursts were observed or reported. Then, without warning, in the middle of the night nearly seven months later, AWAC's crews operating just outside the territorial airspace of Afghanistan detected similar laser bursts of lower intensity during a period of intensive localized ground warfare.

The Afghanistan bursts were apparently aimed at targets under attack by Soviet infantry units. The laser bursts continued in a sustained, localized but obviously mobile attack pattern, as frequently as four or five times per hour, until nearly sunset of the next day. Photographic evidence gathered at the time by the AWAC's crew, and later corroborated by photographs taken at the actual site of the fire fight and forwarded to the U.S. for analysis, showed that the targets of the laser bursts were ammunition and fuel supply depots located in the remote desert. Several of the ammunition and fuel caches had apparently been destroyed during the attack, as demonstrated by the evidence of explosions, fire, smoke and residual infra-red heat patterns detected, photographed and electronically recorded on-board the AWAC's.

All this information was transmitted (via encrypted communications bursts, routed through the military Global Command Control satellite system) to the National Security Agency (NSA), located at Fort Meade, Maryland. Analysts there recognized that they were looking at evidence of a weapons system which had never been observed before. They did not know what had produced the laser bursts. But they did know that the technology which made such a thing possible was not available to the countries participating in the NATO Convention. They were terrified at the implications of such a development.

Within hours, the information was packaged into classified documents and conveyed to the Joint Chiefs of Staff. The Joint Chiefs examined the information while they were being briefed by the AWAC's crews which had witnessed and recorded the events. After the briefing, the crews were dismantled, and their various members stationed far away from one another, with orders never to discuss the events they had witnessed. Officially, the laser bursts never had occurred.

Secretary of Defense Frank Carlucci took delivery of the packet at his residence in Falls Church, Virginia, three days later, at a private, secret meeting held in the middle of the night. No one has yet adequately explained why the Joint Chiefs waited three full days to brief the Secretary. Early the next morning, he was driven in a specially prepared bulletproof limousine to the White House. He personally delivered the information to the new President of the United States, Ronald Reagan. The content of the Secretary's report had an immediate, measurable impact.

It was this series of events which principally precipitated the Strategic Defense Initiative, a program of military defense and reprisal based on America's state-of-the-art satellite-borne laser-optical and particle accelerator technologies. The S.D.I. system was intended to provide the U.S. with a meaningful deterrent to further aggressive use of the technology developed by the Soviet Military.

There was only one problem with this system, aside from the fact that its astronomical costs almost bankrupted the American economy: it did not work. S.D.I. was designed to respond to a kind of technology which was not achievable in the West, and which could not be explained by any of the models, materials, technologies or sciences known in the West.

In 1985, the top-secret military version of the space shuttle, code named Atlantis, embarked on a special orbital mission. One of its mission assignments was to retrieve, examine or photograph the military spy satellites which had been disabled by the laser bursts recorded in 1979-84. The results of this investigation have not been declassified or released in any but the most censored version to the public. What we do know for certain, as a matter of publicly available non-classified information, however, is that each of the disabled satellites appeared to have had at least one, and in some cases as many as four or five precisely measured holes, approximately the size of an American silver dollar, melted completely through them from the outside.

The photographs taken of the satellites show evidence of intense heat, charring and carbonized residue evenly distributed around the perimeter of each hole. The evidence is clear and unmistakable – the satellites were disabled by a coherent beam of some sort, characterized by such intense energy that it was possible to melt consistently measured holes through the exterior and interior components of American military satellites, after having passed through the atmosphere of the planet and into space for as many as 325 miles. Such a thing has scarcely been dreamed of by the American military, much less put into any but the most nominally effective operational form.

After more than ten years of political, economic and technological wrangling, and after the expenditure of more than one hundred twenty billion dollars in largely ineffectual research and development efforts, it is inescapably clear that no amount of money or political pressure, no amount of geo-political posturing or economic sanctions was going to compel the disclosure or replication of the technologies which produced the results photographed over the Carpathian Mountains and the Afghanistan deserts. The Soviets had developed a weapons system which was so revolutionary that it could not be explained, replicated or defended against.

The Reagan Administration's lack of specificity about the nature of the implied threat to which S.D.I. was supposed to respond subjected the Administration, the Defense Department and the R&D proponents of the most prominent American aerospace corporations to an endless barrage of charges by the Press and the Congress. They were characterized as being disingenuous and accused of being unreasonably secretive during successive appropriations battles in the Congress.

The truth of matter is that the Administration and the Pentagon were not being disingenuous at all. They simply could not admit to the American public that they were attempting to develop an effective response to a weapons system which they did not understand and could not replicate.

There are a number of issues intrinsic to this set of circumstances, along with several dozen others which, though less well known or economically dramatic, are no less important from a technological standpoint. It is certain that the implication of these technologies has not been lost on those multi-national corporations whose entire capital structure may be threatened by the new sciences, technologies and materials which have been developed in secret laboratories, hidden in caverns excavated beneath the Carpathian Mountains, in the former Soviet Union.

Over the past decade the West has enjoyed occasional gratuitous glimpses into the heart of Soviet science. Attempts to disclose or discuss these developments in the press have been ruthlessly suppressed by powerful special interests vested in both the public and private sectors.

The science which underlies the series of events recounted here remains at the outer limits of the most advanced technology of which the West is capable. The questions posed by the military and corporate analysts about this laser beam weapons system are far-reaching in their scope and implications. Some of them are illustrative:

- 1) **New Model of Quantum Mechanics:** The sciences and models of quantum mechanics which produced such stunning recent developments in the West as the laser and maser make quite clear how much energy is required to create a beam of coherent light powerful enough to penetrate the atmosphere, retain its coherence in spite of atmospheric diffraction (and other effects described in quantum mechanics as "thermal blooming"), and melt a two-inch hole clear through a satellite made of the most sophisticated alloys ever produced in the West. Except for limited short-distance demonstrations conducted with industrial grade lasers used in cutting operations, there is no known combination of materials or technologies extant in the West to make such a thing possible.
- 2) **New Materials:** The materials necessary to create an electrical charge large enough to power a device capable of producing such a beam certainly do exist. In quantum mechanics the term large enough does not make sense, but we can agree for the purposes of this discussion on the effect of it as represented by such commonly accepted constructs as frequency, voltage, current and ionic flow rates [as distinguished by the phenomenon of resistance].

Hydroelectric plants and large, fixed-base nuclear power plants are capable of producing enough energy to theoretically power such a device. But the energy bursts in both the Carpathians and the Afghan desert were generated by sources which moved from one location to another. In order to do that, several additional considerations must be addressed:

a. **Portability:** The power source would have to be transportable or be capable of storing sufficient energy to repeatedly power such a device. Western technology cannot produce either a portable power production unit or energy storage system capable of the performance requirements everyone agrees must be met to make the weapons system work, either in the laboratory or in the field. System portability was the most puzzling feature of the NSA/DIA report.

When carefully analyzed, the computer-enhanced enlargements of the photographs taken by the spy satellites and AWAC's crews failed to provide evidence of any tracks which could be attributed to wheeled or tracked vehicles operating in the precise locations and at the same time as the laser bursts which were observed. The implications of this set of circumstances was almost too much to believe – the devices were apparently either hand held or transportable and rechargeable in such a way as to allow them to be transported by one or more foot soldiers, without vehicular support.

b. **Enormous Power Requirement:** The materials and technologies used to construct a device capable of generating a beam of such enormous power and magnitude would have to be sufficiently advanced to enable the components to be transported without damage over significant distances in unpaved areas of very rough terrain. Such strategies, engineering techniques, construction technologies or materials do not exist in the Western inventory.

c. The continuous repetition of the laser bursts suggests that the devices can be operated repeatedly at short intervals of 12-15 minutes. This means they can be triggered with significantly higher frequency and intensity than anything which can be produced in the West, even for laboratory use. Industrial strength lasers used to cut metals require careful setup, accommodate only limited use in short bursts, require extensive cooling and must be continually recalibrated. These limitations obviously did not apply to the devices being operated in the Afghan desert. Analysts at AMTL agreed that the units would either have to be recharged via an external, independent device or somehow be capable of self-recharging in the field.

Such a thing is almost unthinkable by current Western military standards. Not only can we still not replicate the technology in any meaningful form, but the Soviets had refined the technology to a point which allowed it to be carried on the shoulders of ordinary foot soldiers and recharged in the field without motorized support.

Unbelievable! How was such a thing possible? According to some of the highly qualified scientists who scrutinized the photographs, it is not possible. The “Not Invented Here” syndrome is alive and well in the American engineering community. Some of them still insist that the pictures were either fabricated or demonstrate something completely different than this narrative suggests.

3) **Energy Recharge-Batteries:** How did such high-intensity laser beam generators get recharged in the middle of the Afghan desert, in the absence of powered support vehicles or fixed-based power plants? There are a number of possible alternatives. They could have been powered by some sort of advanced battery technology. It's possible, but if the battery technology used in the West is used as a model to support such a thesis, it would take a bank of the most sophisticated batteries ever designed by NASA, arrayed in series and parallel configurations larger than five full-sized Soviet T-60 tiger tanks to power such a device.

This theoretical battery bank, operating at 100% efficiency (which is not practically or theoretically possible; the best batteries manufactured in the West operate at less than 60% discharge efficiency), could conceivably produce enough direct current voltage (in a zero resistance super conductive circuit, which is not possible, either) to perhaps produce one burst of light equal in intensity to 20% of the power required to burn a 2-inch hole through a satellite moving at 20,000 miles per hour at a distance of 325 miles.

Soviet ground forces were generating bursts of this magnitude every 12-15 minutes for more than 10 hours with nothing but ground troops. During eight hours of this exchange, it was totally dark. Something pretty remarkable must have been going on to make such a thing possible.

4) Energy Recharge – Solar Cells: Another alternative would have been to have whatever energy storage devices were being used to power the “laser cannons” recharged by sunlight. The state-of-the-art in photo-voltaic cells produced in the West simply would not support such an undertaking. The very best solar cells ever produced in the West have been produced by the Japanese.

These cells operate at a maximum of 19% efficiency - that is, they convert as much as 19% of the ambient visible sunlight shining on a clear, cloudless day into ion flow, which then becomes low voltage direct electrical current flowing through a circuit. The Japanese panels require months per section to manufacture and literally cost more than their weight in gold to manufacture. They are very heavy and are so sensitive to vibration and calibration that once installed, they cannot be moved at all.

Photo-voltaic cells capable of providing enough electricity to recharge a theoretically infinite energy well would have to operate at efficiencies of 50-80% to recharge batteries of infinite electrical capacity with enough power to trigger such a device. Such cells would have to be very light weight and able to withstand extremes of heat, cold, vibration, dust, wind and other conditions encountered in a hostile battlefield environment. Nothing like that exists in the Western technological arsenal.

5) Dielectric Materials – Transformers and Capacitors: Another consideration must be reconciled before this issue can be theoretically put to rest. In order to produce a burst of coherent light of sufficient intensity to have the effect which was observed and recorded by the surveillance teams, the voltage and amperage required to support such a device would have to be staggeringly high. In order to operate at all, the voltage supplied to the system must be released all at once, not in a continuous stream but in a single coherent burst so intense that any materials known in the West would either evaporate or melt. Not only would the best dielectric materials known to Western Science melt because of the heat produced by such enormous energy bursts, but before a bolt of energy of this magnitude could even be released to such a device, it would have to be accumulated and stored somehow.

A similar set of requirements of a less dramatic type is present in all the electronic devices manufactured and marketed in the West. This includes the entire range of electronic devices such as VCR's, computers, televisions and sound components, telecommunications, information storage, transmission and retrieval systems of every kind. We could not live as we do without them. The components which convert, store and release ion flow into the circuitry of these devices are known as transistors, transformers and capacitors.

This discussion delves into a slightly technical area here, so non-scientific types will need to either become familiar with the fundamentals of electricity to understand what is meant or simply give it a possibility that what is developed in the next section is a true representation of the way such things actually operate. The discussion deals with such commonly used and seldom understood concepts as voltage, current, frequencies and resistance.

(a) Transformers convert voltage at one level of current (amperage) to either higher or lower voltage levels. When the voltage is increased, the amperage or current is proportionately decreased. A low voltage produced at a high current level can be transformed into a much higher voltage at a proportionately lower level of current or “power.”

(b) Capacitors: The decrease in amperage which accompanies a transformation of low voltage to higher voltage is often compensated for by a device known as a capacitor. In the most simplistic terms, capacitors “store” electrical energy until the amount of voltage and current reach a certain minimal threshold. When that point is reached, the entire store of energy is released all at once in a single burst.

The tantalum materials used in the West to manufacture such devices conform to certain standard rules which are commonly accepted by electrical engineers. These rules have only recently been stretched by new technologies and materials developed in the West. For the purposes of this discussion, though, it is safe to say that electrical engineers have long relied on these rules because they have always produced the same results when applied in the same way. Here’s an example.

It is standard engineering fare which dictates that a transformer capable of accommodating one volt at one ampere of current across a grid of one ohm of resistance will be one cubic meter in dimension. If followed to its logical conclusion, this standard rule of electrical engineering would require that a transformer capable of supporting a laser burst device of the kind operated by the Soviet ground forces in the Afghan desert would have to be approximately the size of a building built on a base 100 feet to a side, nearly 150 feet high.

Surely such a device could not have been hidden from the AWAC’s eye in the sky which can clearly photograph the letters on a license plate from 60,000 feet altitude, nor could it have been moved on the shoulders of ground troops without wheeled vehicular support. The fact that there was absolutely no trace of such a huge, massive transformer device (or any other kind of structure or vehicle which could be construed to serve that purpose) means that something else must have been used instead. Military analysts had absolutely no idea what it could have been.

Such a burst system cannot operate without a capacitor of some sort. A capacitive device capable of storing the amount of energy required to power a single burst from a laser cannon, made of the most advanced dielectric material known in the West, would have to have been equally massive and, further, would have to have been cooled by some sort of strategy which would have been instantly and unmistakably detected by the infrared cameras and spectroscopic scanners used aboard the AWAC’s and the spy satellites which investigated the scene.

The practical requirements of such a system are best demonstrated by the massive equipment required to operate and cool the Super Conductor Super Collider linear particle accelerators recently designed by the United States and Japan. No evidence of any such capacitive device was recorded in either the Carpathian Mountains or the Afghanistan desert. How can we explain it?

Without going into any detail about how the technologies were developed, suffice it for now to say that the Soviet ground forces in Afghanistan were equipped with a prototype of a hand-held plasma beam accelerator, the likes of which had only been roughly imagined by American military analysts. The device relied on some innovative strategies. Among these were:

Energy Storage Devices: The power source for the Soviet light cannons was comprised of a back-pack array of specially designed energy storage devices. The closest thing we have in our vocabulary to compare to them is described by the term “battery.” In the limited sense that these devices store electrical energy, they are batteries. Any other similarity to the batteries we are accustomed to in the West ends there. The literal translation of the Russian name for them is energy accumulators.

The batteries relied on in the West are based on the chemical properties of components which, when combined in certain configurations and proportions, interact chemically with one another. The result of this chemical interaction is that it creates both heat and a stream of liberated ions – electricity. In dry cell batteries, the process of chemical interaction is one way – once they have been expended, they are simply disposed of. It is estimated that more than 12 billion expended dry cell and lead-acid batteries are dumped into America’s landfills every year.

Other batteries are designed and constructed so that the chemical reactions which liberate electrical current are reversible in some degree. These rechargeable cells are characterized by the lead-acid batteries which are used in automobiles and in commercial and industrial applications. Various strategies have been developed to make batteries relying on chemical reactions maximally effective, but the theoretical limits of effectiveness of such devices have surely been reached.

A consortium of aerospace companies working with NASA recently announced the development of an advanced sodium-hydride-based rechargeable cell which is the most efficient battery yet invented in the West. Unfortunately, it operates at an ambient temperature of 2000 degrees centigrade and, if allowed to reach temperatures outside a very narrow safe operating zone, will explode with the force of a small thermo-nuclear device of approximately ten-kiloton yield. It is not safe, but it is the best Western science has come up with.

The energy storage device developed by the I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, works on a completely different principle. Its construction is the result of a completely unique nonlinear quantum mechanical model which makes it possible to create crystalline lattices of absolutely pure carbon (and other materials) in sheets of infinitely variable dimension which are exactly one molecule thick. The crystal formation techniques and the whole body of new science which allows for their creation in the first place are completely unknown to Western science.

The mono-molecular sheets deposited by this technique are wrapped back and forth on top of each other, more than one million times per millimeter, and are separated from each other by a distance of less than one atomic diameter. At this level of construction, the material becomes subject to the rules of quantum mechanics which are almost entirely probabilistic. That means a whole atom of carbon (or almost anything else except an electron or photon) will not fit in the space which separates the lattice sheets.

When viewed under an electron microscope, the sheets produce a pattern which looks for all the world like an endless field of four-sided pyramids, connected base to base, on a single plane, with the tips of the pyramids protruding endlessly, uniformly upwards. When wrapped back and forth on top of each other, these sheets of pure carbon crystal, made of carbon molecules shaped like trillions of identical tiny pyramids, all arrayed endlessly in identical formation, are positioned so that the tips of the pyramids on the bottom sheet are matched with the tips of the pyramids on the top sheets. What remains between the pyramid tips are open “spaces” or energy wells.

The quantum physics which describes the characteristics of the energy wells created between the layers of crystalline lattice is largely unknown to Western physicists. The Soviet model predicts with a high degree of probability that the quanta of energy referred to in the West as electrons (and, in some cases, photons), the stuff of which electricity is made, will, when introduced to the lattice structure, search, find and fit into the energy wells with military precision.

During the recharging or loading phase, the energy storage devices made of the crystalline lattice material channel one electron at a time into each well created by four carbon pyramids on the bottom layer and four carbon pyramids on the top layer. Because the rules of quantum mechanics which operate in this tiny environment demand it, each electron or quanta of energy has a certain polarity, spin and “color” (and other mathematically defined characteristics) which must be accommodated if it is to find, fit and stay in an energy well. Interestingly enough, when a current is applied across the lattice-work structure, the electrons behave precisely as nonlinear quantum mechanics predicts they will. They flow much like a fluid into the lattice field, then separate into individual energy quanta and spin into the last energy well in each layer, automatically adjusting their individual spin, polarity and color to match their characteristics to fit the requirements of each well, until the lattice is full.

Because no chemical reactions are involved in the process of marching electrons into or out of the energy well fields, there is no resistance in the circuit. In the absence of resistance, the electrons fill the wells at light speed, never missing a space, automatically adjusting polarity, spin and other characteristics, and creating no heat. The amount of time required to “charge” such a cell is less than 5% of the time required to recharge a conventional chemical battery of similar voltage and current.

The validity of $E = MC^2$ is called into question by the way these devices function. When the battery is fully charged, it actually demonstrates more mass than when the energy storage device is empty or discharged. The laws of quantum mechanics relied on in the West state categorically that this is not possible. It is the answer to the question, “How much does a beam of light weigh?”

According to the Soviet model, this is precisely as it should be. When this phenomenon was first demonstrated to scientists in the West who were testing the energy storage devices at INEEL in Idaho, they were thunderstruck. The quanta of energy, or electrons as we refer to them, which are poured into the crystalline lattice demonstrate characteristics of mass even though they are bundles of pure energy sitting in stasis, literally at rest. The characteristic of mass is verifiable – you can measure it by weighing the energy storage devices before and after they are charged. When they are charged, they demonstrate appreciably more mass than when they are fully discharged.

If this is confusing to you, to suggest that pure energy can be shown to demonstrate verifiable mass while at rest (in stasis), perhaps you can begin to appreciate how fundamentally different the physics of all this is when viewed in the terms of Einstein’s classic equation $E = MC^2$.

The existence of this technology clearly is proof positive that not only does energy demonstrate the characteristics of mass, but it does so in a state of non-motion or stasis, sitting idly in an energy well. A state of stasis is a very far cry from the terminal theoretical velocity required by the constant in Einstein’s equation, equivalent to the square of the speed of light.

The scientific implications of this phenomenon are truly staggering. At very least, the verification of mass as a property of energy quanta at rest suggests that Einstein's theory of relativity may be altogether incorrect as a means of describing the dynamics underlying the real nature of the material world and its relationship to energy.

The existence of this technology suggests at very least, that energy and mass are equivalent characteristics of all things which are manifest in the material world. It is this fundamental contextual difference which distinguishes the Soviet model of quantum mechanics from the Western model. "The proof of the pudding," they say, "is in the eating."

Theoretical physicists may argue endlessly about the validity of the assumptions relied on by the IPMS scientists to develop their unique sciences, technologies and materials. But they cannot argue about the existence of the materials which have arisen from that context. They are as real as they can be. And they are unlike anything ever seen or contemplated in the West.

In the same way energy quanta stored in the energy wells of crystalline lattice materials demonstrate complete mathematical satisfaction with staying there indefinitely, when allowed to flow out in the form of an outgoing wave of electrical discharge, these quanta (electrons or photons, as you prefer) march right back out without resistance at light speed through a closed circuit to another use.

When these energy storage devices are discharged, they demonstrate other attributes which are not known in Western science, and which, because of the very nature of the chemical reactions we are accustomed to, are not theoretically possible according to conventional wisdom. Conventional chemical batteries, when fully charged, produce electric current at a useable voltage for perhaps 30-40% of the total discharge cycle. After that, either the voltage or amperage (or both) drop to low enough levels that the devices being powered by them cannot recognize or use the electrical current which remains available. At that point, the batteries either have to be recharged or replaced.

The crystal lattice batteries have been demonstrated to produce precisely the same current and voltage levels throughout 98% of their discharge cycle. They produce no heat during discharge, regardless of the rate at which they are discharged. This is absolutely contrary to our experience with batteries, transformers or capacitors. Until the crystalline lattice materials were specifically engineered to register an electronically detectable blip at 95-96% discharge, it was impossible even for the scientists who developed them to distinguish a partially discharged battery from a fully charged one.

There is another characteristic which is intrinsic to energy storage devices which comes into play here. It is a characteristic of materials which is described as energy density. For non-scientific readers, this concept can simply be construed to mean the amount of measurable electrical current which can be produced by any device or material when its mass is converted into electrical energy. The concept is expressed in mathematical formulas as the number of watts and hours of consumable energy which can be converted from each kilogram of material. It is expressed as watt-hours per kilogram.

Here is an example we can all understand. Consider gasoline. When converted into electrical power at 100% efficiency, gasoline has been theoretically shown to have an energy density of between 550 and 600 watt-hours per kilogram of mass. In easy terms, that means that if one kilogram of gasoline were converted into pure electricity at 100% efficiency (with no loss due to heat, resistance, waste, etc.), the reservoir of energy would power a 100-watt light bulb for 5.5 to 6 hours.

Most of the high-end conventional automobile batteries of the lead-acid variety operate at an energy density rate of between 20-25 watt-hours per kilogram. The best NASA sodium-hydride batteries operate at 48-50 watt hours per kilogram. The energy accumulator devices which have been tested at the Idaho National Electronic Laboratories have demonstrated energy densities of between 850 and 1050 watt-hours per kilogram.

What does this mean in practical terms? It means, for one thing, that for the first time in the history of science an energy storage device has been created with an energy density which is greater than gasoline or any other refined fossil fuel. It means that devices which rely on these energy storage technologies can theoretically be designed to store and deliver clean electrical power at higher rates of efficiency than any fossil fuel ever discovered.

The global implications of this technology are irresistible. It means, among other things, that the technology exists, right now, to eliminate the need to build another nuclear power plant or dam another river to produce hydroelectric power. It means we can no longer justify burning another ounce of petroleum, another piece of coal, another cubic centimeter of natural (or unnatural gas) or another tree to produce heat, electricity or power for any purpose, including transportation.

When coupled with the plasma beam devices being tested by the Soviet infantry units in Afghanistan, these energy storage devices operated at such unbelievably high rates of discharge efficiency that they made it possible to repeatedly induce huge electrical discharges in a highly mobile configuration.

The same technologies which were used to produce the energy storage devices have been adapted to create transformers and capacitors with previously unimaginable performance characteristics. Instead of adhering to the conventional western model of "One Volt at One Amp across a resistance of One Ohm equals One Cubic Meter," the Soviets have produced a capacitor which measures more than 1200 farads at 10,000 amperes in a package the size of a tuna sandwich.

When tested by the Technology Materials Testing Laboratory of the Defense Department at the Pentagon and at the I.N.E.E.L. in Idaho, totally new testing equipment had to be designed, engineered and constructed just to test the devices. The scientists at those laboratories had never tested anything like these materials before.

Instead of having to house transformer and capacitor devices in a series of trailers towed by diesel tractors or huge fixed-base facilities, the operating apparatus which supplied transformed power and high intensity capacitive bursts to the light cannons weighed less than ten pounds and could easily be transported in a backpack by a foot soldier.

One final question remains unanswered. "How did the energy storage devices, once dissipated or discharged, become recharged in the field, especially in the dark of night?"

The back-pack plasma beam device detected by the AWAC's during limited combat use in the Afghanistan desert was powered by energy storage devices constructed of crystalline lattice materials. After each laser burst, the energy storage devices were recharged every 12-15 minutes (nearly 45 minutes in the dark of night – the residual ambient heat of the desert is a very efficient source of infrared energy) by sunlight, collected and converted to electricity by four-foot square panels of "solar cell" material arrayed on a pole like a flag, each weighing less than ten ounces.

The electrical energy stored in the back-pack energy accumulators was transformed into enormously high voltages and released at almost unbelievably high current levels when the super-capacitors were sufficiently charged. The beam of "light" detected by the AWAC's crews was a field of plasma, flowing at the speed of light and demonstrating characteristics of mass (and, therefore, kinetic energy). The phenomenon represented by these bolts of lightning are not comprehensible according to the model of quantum mechanics and plasma physics currently being used in the West.

Battery packs utilizing these energy accumulator materials have been designed, produced and tested which provide more than 14 hours of continuously transmitted power on a single charge to conventional hand-held cellular telephone devices. Similar improvements in conventional battery/energy storage capacity have been developed and are being tested for such devices as video camcorders, laptop and portable computers and other similar consumer, commercial, industrial and military applications.

IPMS research in the field of layered crystals has thus led to the creation of capacitors with a very high level of capacitance (measured in farads). This technology is based on a revolutionary production technique which forms polarized surfaces of one molecule thickness, separated by less than one atomic diameter of space, held together by weak Van der Waals energy forces. The special properties created by these layered crystalline structures provide previously unimaginable internal surface areas. Super capacitors are constructed of layered materials numbering more than one million dipole sheets for each millimeter of crystal thickness.

These devices provide a virtually limitless number of charge-discharge cycles at astonishingly rapid charge and discharge rates. The potential impact of such devices on all electronic equipment currently being produced is incalculable, since virtually all electronic devices rely extensively on the West's state-of-the-art tantalum capacitance technologies.

At present, IPMS has on hand (among others) a super-capacitor roughly the size and dimension of a sandwich which develops more than 1,200 farads at 10,000 amperes. It also boasts production of a battery whose active mass energy density exceeds 850 watt-hours per kilogram. For the non-scientist (and all the rest of us as well) this means that a "battery" has been produced which, for the first time in history, produces more power per unit of mass than any fossil fuel ever devised.

Prototype testing of larger-scaled devices designed specifically for providing power to electric vehicles is currently underway. Prototypes are expected to be capable of sustained highway speeds of up to 70 miles per hour with a range of 525 miles on a single charge. The power plant for this application has been recently improved by the inclusion of a proprietary solid-state ceramic electric motor which weighs 7.2 kilograms and produces 100 horsepower on 12-volt direct current. For comparison, an electric vehicle employing a 100-horsepower electric motor performs the same as with a 500-horsepower gasoline engine.

If these performance attainments can be sustained in broad-based applications, electrically powered vehicles could be produced which would meet or exceed virtually all performance characteristics currently available in equipment relying on internal combustion, petroleum-based engines. Gasoline/diesel-powered transportation devices can be replaced by cleaner, more efficient and significantly less expensive alternatives.

The world market for current energy storage applications which will be superseded by these energy storage technologies is estimated to be in excess of \$24 billion per year (1991), exclusive of electric vehicle considerations.

Metamatter

9/25/1997 11:16 AM

From: Robert Bass

To: James Bowery<jabowery@netcom.com>;

CC: Robert W. Bass<rbrtbass@pahrump.com>; Gary Vesperman<vman@skylink.net>;

Subject: for the postulated "Bass page"?

Jim,

I just went to <http://www.generalstore.com/> and see nothing but "under construction, etc." Is this you, or someone else in another state? Do you know how to (reasonably economically) do Mass-eMailings? Say either from a rented Data Base of known Investors, or just blindly to "millions"?

How about posting the following

Potentially Awesome Speculative Investment Opportunity?

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Venture SEED Capital? Low Risk, AWESOME Payback!!!

I seek one or more High-Technology-Oriented "High-Roller" Nerves Investor(s) who would be intrigued by the following proposition (if demonstrably sound and absolutely genuine): Suppose you go to "Super Monte-Carlo" in the sovereign nation of Erehwon, and you come to a table with a Croupier who says:

"I have here a coin the size of a U.S. silver dollar, which is perfectly evenly balanced between Heads and Tails to 10 decimal places [with the edge for Heads in the 11th decimal place]; and a certificate from the US Bureau of Standards certifying it is not "loaded" to favor either Heads or Tails to the best measurements they can make.

"You can flip the coin yourself.

"I have here Certificates of Deposit for \$30 Billion in a centuries-old Swiss Bank of spotless reputation.

"My croupier's fee for allowing you to play is ridiculously modest.

"How much are you willing to wager on the honest flip?

"Now suppose the preceding scenario is repeated, except that several of the most reputable scientists in the world assure you that the coin is 'loaded' so that the chances of Heads are between 95% and 99%. Your own experts assure you that you have at worst One Chance in 20 of losing.

"Finally, the croupier says, you may play for \$150,000."

To recapitulate, the odds are 20-to-1 that you will win \$30 Billion, versus one chance in 20 that your entire \$150,000 wager will be lost.

Would you play?

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-----PRIVATE Communication-----
----- (NOT a Publication) -----
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I need Seed Capital of \$150,000 under circumstances exactly analagous to those outlined in the Risk/Reward scenario above. If "Heads" comes up, then my patented Plasmasphere technology can be escalated to a Metamatter technology, where by METAMATTER I mean a solid, crystallized fully-ionized plasma.

An ordinary crystal has nuclei spaced apart distances of about 10^-8 cm, the Bohr radius, because the electron cloud makes the atoms behave like little billiard balls of the size indicated.

However, in a plasma, the positively-charge nuclei and the electrons are equal in number, but the electrons are not in orbit around individual nuclei; they are "mixed up" as in a plum-pudding. Most plasma physicists will tell you that in order for hydrogen gas to be fully ionized (i.e., all electrons stripped from all nuclei) the temperature of the gas would have to be above 150,000 degrees Kelvin (i.e., 15 times hotter than the surface of the Sun). But this is demonstrably FALSE (both theoretically and experimentally). If the gas is dense enough, it can be fully ionized at "low" temperatures, e.g. 5000 Kelvins [so-called "pressure ionization"].

Now suppose that the fully ionized low-temperature gas is condensed into the physical state of a liquid metal. I call this a Liquid Metallic Plasmoid (LMP). The characteristic of an LMP is that, like mercury, it keeps a constant volume; unlike a gas, it does not expand to fill all available space (if in a vacuum). The positive nuclei remain on average equidistant, and the electrons circulate around the dynamic lattice as in a giant crystalline molecule. Cook called it a "Cryscapade"; whereas others might call it a Liquid Crystal.

Fewer than a score people in the world understand that LMPs can exist. One LMP was photographed in half a dozen or so photos on the cover of the Journal of Applied Physics in 1957 by [later] Nitro-Nobel Medalist, physical chemist, Dr. Melvin Cook. The theory by which Cook explained his accidental discovery has been independently rediscovered (in 3 separate countries, USA, UK & France) by researchers seeking to explain the illusive natural phenomenon of Ball Lighting.

The late expert on High-Energy Lasers and Shock Tubes, Dr. Jay Blauer of Rockwell Rocketdyne, who died early of leukemia, helped me to design an experiment that would prove beyond shadow of a doubt that LMPs can be created at will. The basic idea is to use a combination of Shock Tube technology and High-Energy Laser technology, with my patented Plasmasphere technology, in order to achieve in a non-self-destructive, reusable device, what Cook discovered accidentally with high-explosives in a self-destructive experiment.

Once the mere EXISTENCE of producible-at-will LMPs is achieved (for the Risk Capital of \$150K), it will be trivially easy to raise several million more for refinement of the device to move the LMP into a cryogenic vacuum chamber where (since it is electrically conductive) it can be magnetically levitated and allowed to cool by radiation.

Use of the Brush-Sahlin-Teller Equation of State (used to design the H-bomb) shows that as the LMP cools, its volume contracts, and it becomes more and more dense. There can be shown to scientists sufficiently expert to understand the evidence, a mass of recent experimental evidence (as well as expert theoretical evidence) that before the LMP gets down to room temperature it will crystallize into a Metastable Solid Crystal, namely a new form of matter never seen before on Earth!!!

The density will be intermediate between that of ordinary condensed matter and that of [neutron stars](#), wherein a teaspoonful weighs tons.

I propose to manufacture 3 kinds of Micro-Crystals of Metamatter: MSP, MSD, and MSD. Each addresses in a truly *revolutionary* way a trillion-dollar market, with a multi-billion dollar profit potential. In many ways, Metamatter will have a bigger impact on human civilization than any prior discovery, including both computers and atomic energy! In fact, consider the following:

MSP (Meta-Stable Protium [hydrogen]) will be the IDEAL room-temperature [Superconductor](#), which will revolutionized both the Computer/Electronics industry and the Electric Power industry.

MSD (Meta-Stable [Deuterium](#) [heavy-hydrogen]) will be the ideal 5th [Generation Cold Fusion fuel](#); when triggered by an infra-red photon of 17.7 eV, a micro-pellet will undergo a phonon-mediated and Lattice-Catalyzed ANEUTRONIC chain-fusion reaction to cleanly release the energy of 10 sticks of dynamite, to make steam for mechanical heat and conversion at 67% efficiency into electrical energy. This can make both homes and automobiles independent of the present electrical utility companies, though they will still need to buy the almost dirt-cheap MSD fuel micro-pellets from Metamatter Industries.

MSH (Meta-Stable Helium) will be the IDEAL [rocket propellant](#) for expanding human civilization into the [Solar System](#) (e.g. to colonize Mars); when a micro-crystal of MSH is triggered by the right frequency of laser-light, it will return to the form of gas as if it had been compressed by tens of millions of atmospheres of pressure; it will release 43 times more energy per unit weight than any conceivable chemical combination!

During the mid 1980s, the [Air Force Systems Command](#) sent a group of 7 or 8 Colonels who held Doctorates in the physical or engineering sciences to scour the USA for 9 months, in groups of 2 or 3, and to report back on what futuristic technology would have the greatest potential impact on the [USAF](#) and USA economy by the year 2000 if reduced to actual practice. They listened to 600 industrial and academic presentations and selected MSH as the greatest payoff (for least risk) choice! The USAF Rocket Propulsion Lab was supposed to issue 8 parallel contracts for 8 "crash" projects to see if bulk MSH could be manufactured. I was slated to get one of the 8 contracts, but my approach (through solidifying a helium LMP) was radically different from that of the other 7 selected proposers.

With MSH as fuel, one could take a 50 percent payload to Mars and back in two weeks! (Accelerate there and return at one gee.)

But a Princeton professor of Physics, Will Happer, then Secretary of the JASONS [advisers to DOD/DOE], advanced theoretical arguments which appeared to shoot down the practicality of the other 7 approaches, and the whole project was canceled. But Happer's arguments are totally irrelevant to my approach. Moreover, Happer was later Chief Scientific Advisor to [Admiral Watkins](#) (Secretary of DOE) when the ERAB Report was produced.

Those who understand the recent work of Arata and Zhang in which the aneutronic conversion of deuterium nuclei to helium nuclei inside of a palladium lattice is recorded in Real Time (inside of a sealed apparatus which contains a Mass-Spectrometer and which give ZERO helium when the heavy-water deuterium is replaced by ordinary-water hydrogen) know that Aneutronic [Cold Fusion](#) (CF) is a demonstrable FACT and that Happer and the ERAB Report were WRONG. Therefore it is logical to consider the possibility that Happer was also wrong when, before he shot down CF, he also shot down MSH.

There is ZERO risk in producing an LMP; it is just that 99.999% of all scientists are ignorant of Cook's work. There is a slight technical risk in crystallizing an LMP at room-temperature; conceivably, it will remain liquid until below the temperature of [liquid nitrogen](#), in which case my proposal will have been a failure. But the payoff is so AWESOME, and the chances of failure so tiny, that the risk seems worth taking.

I can supply drawings of the Proof-of-Principle Process Prototype Plasmasphere demonstration designed by Dr. Blauer and myself. Jay Blauer told me that he could do the experiment in his spare time evenings and weekends "in two weeks" using shock-tube and laser equipment already in his lab at [Rocketdyne](#), provided he had \$10,000 cash for items and materials not on hand.

Several "reputable" labs have explained to me that they would not even consider bidding on doing the Bass-Blauer experiment for less than \$100,000. I have personal contacts at 22 government and private labs (such as JPL, SRI, LANL, etc.) which I would like to visit with my former graduate student Dr. Lou Puls (who, unlike me, is an accomplished experimental plasma physicist) to make joint presentations on the theoretical and experimental aspects of creation of an LMP, preparatory to asking them to bid. After 22 weeks spent in such visits, (and paying Dr. Puls Consulting Fees) I expect to have \$50,000 left to offer the Highest Bidder. I also expect that no one will bid less than \$100,000. But I also expect that out of the 22 presentations, at least several will become so excited that they will offer to Cost Share. In several labs, the working-level scientists interested in LMPs have told me, "If you can get the Management to pay attention, we have in place already a mechanism and a precedent to Cost Share."

Remembering what happened to Fleischmann and Pons it will accomplish naught for me to take the \$150K, rent the equipment, and do it in my own garage. Nobody will believe it, and nobody will pay any attention. However, if we spend 6 months getting suitable technical personnel of nationally reputable laboratories excited about the subject of LMPs, and then some lab with the prestige of, say, JPL or LANL or SRI, announces the production of an LMP, many other labs will immediately undertake to "catch up" and to replicate the result at their own expense. Once 3 or 4 labs have announced successful replication, no one will doubt and then it will be trivially easy to raise the venture capital to go from LMPs to solid, crystallized Metamatter micro-crystals of MSP, MSD, and MSH.

I can supply a large amount of written technical material to anyone who is interested in raising the \$150,000 seed capital required to get Metamatter Industries off the ground (and for me to file the pioneering Patent Applications, and since I am now licensed to practice Intellectual Property Law before the PTO I can do it myself at no extra expense – as did the physicist/patent-attorney who invented the Xerox process).

This will be BETTER than getting in on the ground floor of Xerox or Polaroid or [Microsoft](#)!

Sincerely,

Robert W. Bass, M.A. Oxon, Ph.D.

Dr. Robert W. Bass, Registered Patent Agent 29,130 [ex-Prof Physics]

Inventor: Topolotron, Plasmasphere, issued; QRT Cold Fusion, pending

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Voice-Mail: (702) 387-7213

e-Mail: rbrtbass@pahrump.com

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XXX.YYY

XXX Venture Partners

Dear XXX,

Have you got your _____ Fund off the ground yet? Did you receive the Proposal I sent you last week?

Do you agree that the logic of the Analogy I used for the proposed Low-Risk, AWESOME Payoff, "Proof-of-Principle" (POP) [Experiment](#) is sound? If a rational Investor were convinced (e.g. by the photos published by Nitro-Nobel Medalist, Melvin Cook) that it is possible to put a plasma in the state of liquid metal (Liquid Metallic Plasmoids, or LMPs), and that the ONLY risk is that when cooled to room temperature they will not yet crystallize [but won't crystallize until down below, e.g.. the temperature of liquid nitrogen], which risk will be taken by OPM [[Other People's Money](#)] when the scientific community realizes that LMPs can be created at will, and that there is ZERO risk in performing the proof-of-principle demonstration experiment to convince them of this fact, and that this can be done for as little as \$150,000 (which will also permit Patent Applications ensuring the inside track when LMPs get crystallized), don't you agree that the Reward to Risk Ratio of $\$3 \times 10^{10} / \$1.5 \times 10^5 = 2 \times 10^5$ multiplied by the probability of crystallization at room temperature (which is supported by hundreds of theoretical papers on MSH and at least one recent paper in Physical Review Letters on MSP, as much, much better than 50%), namely an EXPECTED REWARD/RISK RATIO of more than 100,000-to-1 implies that this Proposal is "better" than any proposal made in this field yet, when you note that each of the 3 main products to be manufactured from crystallized LMPs, namely MSP, MSD, and MSH, EACH separately addresses a different Trillion-Dollar Market with a clear Profit Potential of more than \$10 Billion?

Moreover, this is a Proposal in which the Investor who RISKS \$150K will know within a mere 6 or 7 months WHETHER OR NOT Phase One of his speculation has paid off! (And it is highly likely that the Absolute Answer will be known within another 3 months, considering how fast the scientific community reacts to something, e.g. High-Temperature Superconductors, which is both surprising and EASY to replicate!)

Please tell me when a Speculative Investment Possibility better than this one has last crossed your desk? (I'll bet, NEVER!)

Regards,

Bob Bass

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Electrino Fusion Power Reactor

Gordon L. Ziegler has discovered how to make a clean electrino fusion power reactor capable of generating up to 2000 megawatts. The proposed energy source would produce no carbon emissions and no radioactive wastes. (By reversing the order-to-disorder arrow in the second law of thermodynamics, a \$50,000,000 electrino fusion power reactor could be built which would also reverse all aging, disease, and decay processes within a one-mile radius.)

Power output, however, cannot occur in this system without the simultaneous operation of two aspects of the invention. One is an accelerator-collider making a field reversing the order-to-disorder arrow in the second law of thermodynamics in a controlled area. Among other things, that field makes the other aspect of the system (the power source) efficient enough to be self-sustaining and prevents the formation of radioactive wastes.

Electrons are generally regarded to be structure-less spinning point charges. But that contradicts a reasonable postulate that occurred to Gordon L. Ziegler in 1967: "A spherically or cylindrically symmetric smooth charge distribution cannot have detectable spin." Electrons have detectable spins. Therefore they must not have smooth structure-less symmetric charge distributions. They must be lumpy and have internal structure. An application of the Parsimony Principle shows that they must be composed of two half-charges orbiting each other at the speed of light. The reason scientists concluded that the electron was structure-less was that it could not be blasted apart in collisions up to 700 MeV each particle.

But in Ziegler's model, electron sub-particles are bound together by confinement by a speed of light barrier (they are trapped going faster than the speed of light). They cannot be blasted apart, even though they are two particles.

The two sub-particles of electrons make a whole different structure for matter than quarks and leptons. The sub-particles can also fuse with each other – making new particles. Fusing sub-particles of positrons reverses the order-to-disorder arrow in the second law of thermodynamics – making the power source efficient enough to be self-sustaining and preventing the radioactive wastes from forming. Fusing the sub-particles of electrons comprise the power source.

Key components include a polarized positron source, injector accelerators, inflection magnets, end magnets, and the beam transport.

Governments and utilities would buy electrino fusion power reactors because the process is a clean, inexpensive way to produce electricity. It is 1000 times as efficient as nuclear reactors. It does not require uranium or plutonium for fuel. It can run on anything for fuel such as dirt, sand, sewage, ground garbage, toxic chemicals, radioactive wastes, sea water, etc. without carbon nor radioactive pollutants.

The projected cost of a 2000-megawatt power reactor is approximately \$100 million. Electricity could be generated for only about 1.5 percent of current rates (a little over 0.1 cent per kwh).

The size of the market is essentially enormous. It would be up to 50 percent of electric generation world-wide eventually. That's probably over a trillion dollars.

A self-powered high-speed locomotive powered by an electrino fusion power reactor would need to be at least 85 feet long.

Environmental Heat Engines

Deceased Las Vegas inventor Robert Stewart developed his "Stewart Cycle" engine for transportation vehicles, electricity generators, and large-scale water lifters. His efficient and pollution-free engine uses ambient heat to expand a working fluid such as Freon or ammonia and move pistons through sealed chambers. His patent is for Vapor Actuated Power Generating Device, No. 4,033,136.

A possibly more up-to-date version is Ralph J. Lagow's Method of Generating Power from a Vapor, Patent No. 4,693,087. Ken Rauen's Rauen cycle and Superclassical cycle engines also expand working fluids with environmental heat to provide useful net mechanical power.

Mr. Stewart claimed that his fuel-less engine could lift Colorado River water from below Hoover Dam back up into Lake Mead, thereby doubling Hoover Dam's output of electricity. He also proposed lifting water from the Columbia River into the Colorado River via a canal, generating electricity as the water flowed back downhill.

Gary Vesperman
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Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10042.

Comment Date: February 20, 2011 22:26:59PM
Solar Energy Development PEIS
Comment ID: SolarD10042

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Advanced Technologies2.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments. For example, attached is my compilation of "Advanced Technologies for Foreign Resort Project". It is also available in www.padrak.com/vesperman, <http://www.icestuff.com/%7Eenergy21/advantech.htm> and <http://www.linux-host.org/energy/advantech.htm>. It contains descriptions of approximately 50 energy-related inventions. I am confident that developing some of these energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Advanced Technologies

for a

FOREIGN RESORT PROJECT

Gary C. Vesperman
PMB 249
2756 N. Green Valley Parkway
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Introduction

I used to be associated with a resort complex to be built on a large tract of raw land which is located outside the United States. This project presented a rare opportunity to incorporate on a large scale current thinking and ideas prevailing among experts in urban planning, ecological sustainability, wildlife habitat preservation, etc. The project also provided an opportunity and the freedom to utilize advanced technologies which may lie outside the generally accepted theoretical constraints of mainstream science. The resort ended up being built by other people on an adjacent property. The exercise still was somewhat fruitful in stimulating some fresh ideas.

For the past few years, I have been accumulating knowledge of futuristic technologies not commonly known among mainstream scientists. I have personally had the pleasure to know some of the top scientists and inventors involved with what has been referred to as a mostly unpublicized international “underground” science research network. Disregarding the scientific dogma taught by academia, these people have chosen to follow their own independent paths of scientific discovery to whatever they feel the genuine scientific truth may be.

I have selected several advanced technologies which seem to be usable for the foreign resort project. Their selection was based on their being available for purchase and are definitely past the research and development stage. Implementation of most of these technologies could occur anytime before, during or after the construction phase of the project. However, it should be noted that the electric station car and photo-luminescent therapy technologies ought to be adopted as soon as possible as they happen to substantially impact architectural design and construction. The electrical power infrastructure could also be affected by adopting one or more small-scaled electrical generation technologies. Retrofitting at a later date could be costly.

I also have selected a few advanced technologies which are still under development but may have potential applications for the resort project.

Please be warned that investments and purchases in any of these advanced technologies should proceed only after a thorough and cautious exercise in due diligence. Yet their developers usually do deserve respect and fairness. In most cases, I can not personally take responsibility for the accuracy and validity of my descriptions; I am only editing other people’s reports.

The literature on the devices which involve extracting energy from radioactive substances, the ether, hydrogen, etc. contains anecdotes of strangely behaving devices and explosions and, in some cases, of bodily injury and even death!

WARNING!

Before experimenting with such devices, protect yourself from harm! Please try to be well-informed of other experimenters’ experience with these strange devices and beware of danger.

Gary C. Vesperman

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
DAVIS TIDAL TURBINE	1
ELECTRIC STATION CARS.....	2
CRIME, SUBSTANCE ABUSE, AND BIRTH DEFECTS	3
PHOTO-LUMINESCENT THERAPY	5
VIRTUAL TELEMEDICS.....	9
POWR/MASTR INDUSTRIAL ENGINE	9
HYDROSONIC PUMP.....	10
PULSED ABNORMAL GLOW DISCHARGE REACTOR.....	10
ETHERIC WEATHER ENGINEERING	12
TESTATIKA FREE ENERGY MACHINE	15
GEOEXCHANGE HEAT PUMP	16
SEWAGE TREATMENT	16
HIGH-TEMPERATURE INCINERATOR	16
FOOD.....	16
MICROPOROUS SOLID GEL	18
COMPUTERIZED FIBER OPTIC SCHOOL NETWORK	18
TORSION FIELD-BASED COMMUNICATIONS.....	20
GRAVIMETRIC SENSORS.....	20
SMALL-SCALED ENERGY PRODUCTION	20
ADVANCED SELF-POWERED ELECTRIC VEHICLE CONCEPT	37

Davis Tidal Turbine

The worldwide electrical energy market has been estimated at \$800 billion (US) per year and rising. "There are 2 billion people who still lack electricity today, and the world demand in developing countries is doubling every eight years." (World Watch Institute, May 1997)

The Institute for New Energy maintains a database of 127 new energy production devices which includes a list based on commercialization criteria ranging from 0 (found to be lies) to 10 (proven prototype – ready for commercialization). (I know of several such devices that don't appear to be included in their database.) The Davis tidal turbine, invented by Canadian aerospace engineer Barry Davis, is one of only two new energy devices which have earned a ranking of 10. His company, Blue Energy Canada, Inc., owns one patent and has filed additional patent applications.

The Davis tidal turbine captures the power of ocean currents and tides to generate electric current in a module fitted with slowly rotating hydrofoils. The module does not emit gas of any kind, nor do the hydrofoils offer any threat to marine organisms swimming through them. With fixed rotor blades mounted in durable marine concrete caissons, the Davis tidal turbine's mechanical simplicity is profound. The basic concept is the multiple vertical-axis hydro turbine. They are large marine structures of reinforced concrete and steel that provide the necessary economies of scale. They generally can be installed in areas with a tidal regime of about 1 meter or more, or where velocities exceed about 2 meters per second. Standardized tidal turbine modules can be grouped to meet any site application from ocean to river in sizes that range from 7.5 megawatts to 15 megawatts for ocean use, and 5 kilowatts to 500 kilowatts for river use.

The Davis tidal turbine is a low-cost, eco-benign energy alternative. Fueled by the free forces of rivers and ocean tides and currents, tidal power can provide a significant amount of the world's energy needs. Energy costs with the Davis tidal turbine will be around \$0.06/kilowatt-hour and eventually should drop to \$0.035/kilowatt-hour for tidal fences in the 1000-megawatt range. Power outputs from the larger units can be accurately predicted to within 2% accuracy.

In many instances, tidal fences can double up with transportation corridors, providing dual infrastructure use with essentially single infrastructure cost. Coupled with existing grid prices and mounting social and environmental costs associated with conventional power generation (health care, climate change, etc.) tidal power is an outstanding and sustainable energy choice. Remote sites can also produce hydrogen, hydrogen peroxide, methane and other valuable energy intensive products for widespread distribution, as well as provide irrigation and desalination facilities.

Tidal energy sites in the world's oceans can provide a significant, viable and cost-effective source of reliable, inexhaustible energy. Many are strategically located close to populated areas where they can be economically harnessed using an ecologically benign, low-head technology. For example, British Columbia may have up to 50,000 megawatts of potential tidal power resource.

The Philippines Presidential Office had announced on December 20, 1997 a \$136,000,000 (US) order for a pilot tidal power generation facility which is likely to be in the Hinatuan Passage area just north of Mindanao. Its average power output will be 30 megawatts, and its peak power will be 55 megawatts. The pilot project is performance-coupled to the future development rights of a 1000-megawatt commercial project. The Philippines hope to become energy exporters.

Electric Station Cars

The Las Vegas Chapter of the Electric Auto Association appears to be one of the association's stronger chapters. I have attended over 80% of their monthly meetings for the past several years. I myself have written an Advanced Self-Powered Electric Vehicle concept (see end of this paper). The "super car" concept is a proposal for combining advanced technologies I have collected over the past few years into a futuristic self-powered car superior to conventional cars.

On November 20, 1997, at their November meeting, Martin J. Bernard III, Ph.D., Executive Director of the National Station Car Association, spoke on "Station Car Potential in Las Vegas". Of all the meetings I have attended, his talk was the most practical application of electric vehicles I have heard. Because I could see an obvious application of the station car concept to the foreign resort project, I thought I would list a few key points for further discussion:

Many pages of additional information and diagrams concerning electric station cars are available on the National Station Car Association's Web site (www.stncar.com). The Web site includes a photograph which shows some of the 40 electric station cars currently being used in conjunction with the Bay Area Transit District in the San Francisco Bay Area. There are a total of 60 other station cars in several other cities around the United States.

The resort project as presently planned probably allows for lots of parking space for gasoline-powered cars, gas stations, auto repair facilities, etc. Because the project is still in the planning stages, there is a high probability that it can be easily converted to emphasis on electric station cars. Only three simple changes would have to be made to the plans:

- A substantial reduction in paved parking space in exchange for a substantial increase in landscaping and preserved wildlife habitat. (I think Martin said up to 90% reduction.)
- Reductions in gasoline refueling stations and auto repair facilities.
- Installation of electric vehicle charging stations in the remaining parking lots.

In return, the resort would gain the following benefits:

- A more pleasant environment in the immediate vicinity of the resort's buildings, featuring silence (except noise from an occasional diesel or gasoline-powered truck), less dust and particles from vehicle exhaust, and zero runoff from oil dripping on pavement.
- More efficient use of the small country's electric power plants which otherwise can not be operated as efficiently in a small market as compared to huge markets such as the United States. When I looked up the country's power information on the Internet, I noticed that a new coal-fired power plant enters operation in mid-1999. It happens to be impractical to reduce power output in a coal plant during the middle of the night.
- Lower vehicular operating costs.
- Less pavement, more landscaping, and increased preservation of the resort's natural features and greenery.

Electric station cars are *not* owned by the drivers. Instead they are owned by an operator such as a municipality or transportation authority. They are intended for use at places featuring frequent usage and regular access such as train stations, airports, hotels, convention halls, and downtown areas.

A driver who has previously bought a smart card (similar to a credit card) swipes the card through a card reader which allows him access to the station car. He or she then unplugs the car from the charger, drives off, and leaves it either at the same charging station or a different charging station, which is then available for the next driver to drive. Arrangements can be made to leave it at home overnight providing it is driven again the following morning.

The cars are manufactured in Norway by a family-owned plastic manufacturer. The car body is a simple lightweight one-piece plastic shell framed with extruded rods made of recycled aluminum. It is surprisingly sturdy and can carry two passengers. The pack of nickel-cadmium batteries is hung underneath the body and range up to 65 miles.

It is reasonable to anticipate that a variety of sizes and improved models of electric vehicles will become available in a few short years. For instance, on October 23, 1997, a pre-production Sunrise prototype built by Solectria Corporation, Wilmington, Massachusetts, was driven from Boston to New York City on a single charge of its Ovonic nickel/metal-hydride battery with enough electricity left over to drive an additional 66 kilometers to Atlantic City for a total range of 405 kilometers (IEEE Spectrum December 1997). Power Technology, Inc., has a brand new battery, compared to lead-acid batteries, that is 30% to 50% lighter, insensitive to temperature, long-lived, cheaper, environmentally friendly, quickly rechargeable, and quadruples the range.

Blacklight Power, Inc., is developing a battery which weighs only 10 kilograms but can supply 150 horsepower for 1,000 miles. Blacklight compresses hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which is considerably more than the energy from chemical reactions but less than from nuclear reactions.

Each car is equipped with a commercially available electronic tracking device. The San Francisco Bay Area is ringed with 15 transmitting towers. Each car can be located with an accuracy of 4 feet in case it is stolen.

At each station, a driver returning a car is responsible for cleaning the car and plugging the car into a battery charger before leaving it.

Crime, Substance Abuse, and Birth Defects

In 1996, 10,510 crimes in Atlantic City, New Jersey were reported. Of that total, the number of crimes that had occurred on the floors of the city's 12 casino hotels was 5,705 (Las Vegas Review-Journal December 22, 1997).

One unpleasant memory I have of my stay in Honolulu, Hawaii about 15 years ago was the necessity to leave unessential valuables in a hotel lock box before venturing on to the streets and beaches.

Fortunately, once the root cause of crime and substance abuse is understood, a substantial reduction in social misbehavior could be surprisingly simple and inexpensive to achieve and require only moderate organizing. A relatively crime-free resort area should offer competitive advantages.

I own an interesting book "RARE EARTHS: Forbidden Cures" which substantiates the thesis that mineral deficiencies in food causes crime and substance abuse in addition to medical problems. The book's authors are Joel D. Wallach, BS, DVM, ND, and Ma Lan, MD, MS, and it can be ordered at 800-755-4656. One of their more authoritative sources of information and data was the U.S. Department of Agriculture (USDA). The USDA has been noticing with dismay statistical correlations between mineral depletion in soils and the combination of increased crime and declining mental and physical health among the U.S. population since at least the 1930's.

Veterinarians ensure nearly 100% healthy and strong livestock by adding trace elements to their feed. Research has found that people also equally need trace elements. The tally so far is 60 minerals including many obscure elements such as gallium, 16 vitamins, 12 amino acids, and 3 essential fatty acids. Furthermore, to be usable by the human body, the minerals in particular must be in a plant-derived colloidal suspension. Evidently, combination vitamin/mineral pills taken by many people are mostly useless as well as incomplete.

Decades of application of synthetic fertilizers have severely depleted agricultural soils of trace elements. One result of mineral deficiencies in food is increased disease such as cancer and heart disease. Not so obvious but proven are substantial increases in alcoholism, narcotic addiction, and violently anti-social behavior.

Studies have also proven that nutritionally complete diets from conception through college age ensure the raising of children who are taller, stronger, brainier, well-behaved, more energetic, longer-lived, and relatively free of birth defects and disease. 98% of birth defects are caused by nutritional deficiencies.

Some health food stores sell colloidal mineral dietary supplements. Mineral supplements could be added to the lunches that are served children in schools and colleges. Prisons and mental hospitals could easily add minerals to the diets of their inmates. Government-sponsored educational campaigns would be required to educate general populations.

Another Las Vegas company sells an inexpensive mineral fertilizer from the world's most complete deposit of trace elements. Enriching agricultural soils with their mineral fertilizer so as to add trace elements to foodstuffs would also help alleviate crime and substance abuse.

(Since the foregoing was written, questions have been raised concerning the effectiveness of colloidal mineral dietary supplements. The human body's need for trace elements remains undisputed; it's the delivery system using colloidal mineral suspensions that is being questioned. Some experts claim that chelated minerals offer more thorough absorption by the body, and that with chelated minerals, manufacturers are able to control which minerals are placed in their dietary supplements.)

Photo-Luminescent Therapy

For a couple of years, I have been accumulating information on alternatives to the unsatisfactory and expensive conventional cancer treatment methods of radiation, surgery, and chemotherapy. The following is a list of about two dozen cancer treatments that I sometimes provide in private to friends and relatives. To my knowledge, none of them have been legally approved for cancer treatment by the Food and Drug Administration. Please note that I am not a licensed medical practitioner. I can not legally recommend any of them for treating cancer.

- Induced remission therapy. Cancer practically never occurs in the small intestine even in very advanced cancer cases. The small intestine has its own fast-acting immune protection in the form of lymphocytes. They are necessary for destroying hostile organisms in food coming through from the stomach and also stopping bacteria from migrating up from the large bowel. Not surprisingly, they are extremely fast and thoroughly effective in killing cancer cells.
- Some diseases such as syphilis attack cancer tumors and cause them to disappear. After introducing syphilis, for example, antibiotics can then be administered to cure syphilis.
- Micro-colloidal silver. Kills 650 species of viruses and bacteria. The FDA has partially banned micro-colloidal silver because it was impacting veterinarian profits from antibiotics.
- White powder gold (also known as orbitally rearranged mono-atomic gold). Strangest material I ever heard of. For example, in its mono-atomic white powder state, gold loses 46% of its weight. When reheated, the gold gains back all its weight. Ingesting white powder gold corrects the body's implementation of its DNA coding and is apparently the secret of the long lives of Biblical figures such as Noah.
- Nature's Tea (sold by Enrich) and other herbs such as pau d'arco. It's a complicated subject.
- Powdered dried rattlesnake. Mexico's Yaqui Indian tribe use dried rattlesnake powder as a seasoning like salt and pepper and don't get cancer.
- Essiac tea. Also known as Ojibwa tea.
- Dimethyl sulfoxide (DMSO). I have heard that there is another version called MMS which offers the same potency as DMSO but without the negative side effects.
- Noni fruit juice. Used for its healing properties by the Polynesian Islanders for 2,000 years, I became a distributor of Tahitian Noni Juice™ for Morinda, Inc. I understand noni juice is also beneficial for numerous other ailments. I am currently circulating a handout comprising of my own one-page article on noni juice, Morinda's three-page article on scientific research studies of noni, and Morinda's four pages of testimonials. Noni may have been responsible for the shrinkage of my brother's lemon-sized lung tumor.
- Shark cartilage. According to a promotion for the monthly newsletter ALTERNATIVES, "... it is being used to totally eliminate cancer in thousands of cases once thought to be hopeless". However, some shark cartilage products are supposedly better than others.
- A local Las Vegas company told me April 1, 1997 that they know of a substance that can cure cancer in 10 days. It was undergoing testing, and they expected to be selling it late in 1997.
- Dr. William Koch's treatment for cancer and allied allergies focuses on blood purifying remedies.
- Dr. Jerry Jacobson's electromagnetic/relativistic cancer cure. An extremely weak but precisely calibrated electromagnetic field provokes oncogenes to revert to normal genes.
- Wilhelm Reich's orgone therapy.
- Helga Clark's intestinal parasite killer.
- Hydrogen peroxide. Hydrogen peroxide kills disease organisms as it spreads through tissue.

- Ozone blood treatment. Ozone infused into blood simply oxidizes molecules in virus shells.
- Vitamin C megadoses. Vitamin C creates extra hydrogen peroxide in the body.
- Rudolph Steiner's therapy.
- Dehydroepiandrosterone (DHEA). However, the April 1997 AARP Bulletin claims that "women who take DHEA have suffered hair loss, deepening of the voice and hair growth on the body, which may be irreversible. In men, DHEA may stimulate the growth of prostate cancer."
- Dr. Max Gerson's vegetable/fruit juice diet. I read a book on his apparently successful cancer treatments 20 years ago.
- Reikki. I almost cured someone terminally ill with cancer doing this a couple of years ago. I had a feeling I should go back and try again with another session, but didn't because I didn't know him (he was a friend of a friend), and a few days later he died from a pulmonary blood clot. But he did make an immediate and impressive short-term recovery.

All I do is rub my hands together for a few seconds, close my eyes, mentally say to myself "The mind has no providence for limitations", open my eyes, and then lay my hands on the patient's problem area. If I can feel heat flowing through my hands, I know it is working. When the heat stops, I either quit or move to another spot on the patient's body. I have cured elbow pain, headaches, and even my brother's shortness of breath for a short while.

Since 1989 when I learned Reikki, I have struggled to understand the underlying mechanism. I have repeatedly seen it work, but it's obvious Reikki's effects are hardly explainable by conventional science. Recently I finally picked up a clue from a French acupuncturist's report in www.keelynet.com/keely/belizal.text. The ancient Egyptians were able to correlate different wave forms with different geometric shapes. There is an implication that objects can store and transfer between them, when touching, subtle forms of information. So possibly when an ill or injured person is touched by healthy people with positive minds, information is somehow transferred to be used for correcting damaged tissue.

Monarch butterflies are unique in that migratory information is passed from generation to generation. They are somehow able to fly north for the summer from their winter homes in Mexico and certain Central California coastal areas such as Monterey and Santa Cruz and then able to fly back to their winter homes, passing along *precise* migratory information from generation to generation. It has been suggested that their migratory information is somehow embedded in their genetic code. Another possibility is that their migratory information is accurately retained by their physical bodies in more subtle form, possibly in the halo which appears in Kirlian photography, as the Monarch butterflies reproduce again, again, and again for thousands of generations with absolutely no loss of migratory information.

If true, an even more startling speculation arises: Many of the ancient peoples have acquired beliefs (colored by various religious symbols and rituals) that people don't just die and that's the end of them. Instead, the information and memories accumulated within each person as a result of genetic heritage and his or her living a life is retained in a very subtle form not normally perceivable by people still living. Their information packages are sometimes called "spirits", "ghosts", or "souls".

If the progression from Reikki healing and the association between waveforms and the shapes of objects to Monarch butterflies to a conscious being surviving the dying process is accepted, then perhaps we have physical evidence, however flimsy, of the existence of the soul.

- Lactoferrin. It's an immune stimulant - a protein in mother's milk.
- North poles of strong permanent magnets (for localized cancerous tumors only, I believe).
- Antineoplastins. Instead of being treated as a hero, the researcher was jailed by the FDA. However, he was later acquitted of all charges. Disgusting.
- Bob Beck's electronic pulse generator. Battery-operated, it is strapped on the wrists for minutes per day. Seems to kill a variety of parasites such as most viruses, infectious bacteria, etc. Information on three commercially available devices can be found at www.sota-inc.com, <http://www.action-electronics.com/ps.htm>, and <http://www.ioa.com/~dragonfly/vrs.html>.
- Royal Rife's electronic frequency instrument. The basic premise of the instrument is that each pathogen has a particular crystalline structure. When exposed to an electromagnetic frequency of the correct frequency and waveshape, the pathogen's crystalline structure will resonant and shatter in a manner similar to an opera singer shattering a glass crystal. The July 14, 1997 issue of Business Week has an article on how pathogens can trigger cancer. A business associate used one on her son several years ago and cured him of an otherwise untreatable virus-caused disease.
- Germanium. Organic germanium (bis-carboxyethyl germanium sesquioxide) increases the oxygen level in the body. Germanium is known to enhance the immune system by stimulating production of natural killer cells, lymphokines, interferon, macrophages and T-suppressor cells. Germanium deficiencies can result in immunity reductions, arthritis, osteoporosis, low energy as well as cancer.
- Non-invasive photo-luminescent therapy combined with a multiple range of frequencies. It is assumed with this therapy that cancer is a group of mutated cells that lack proper DNA programming. Includes use of super magnets, herbs, and cleaning of bowel, liver, gall bladder, and kidneys and also re-tuning the brain which organizes the immune system. The process is to hyper-oxygenate the entire body and create an alkaline environment in which pathogens can not survive.
- Grapes. Johanna Brandt's book "The Grape Cure" recommends starting with fasting to starve cancer. Then grapes or grape juice only. Then a very restricted diet.

I have been told that there are a total of 28 alternative cancer treatments worldwide. It has been predicted to me that in five to ten years, radiation and chemotherapy will be banned, and surgery greatly reduced because they are so brutal and ineffective as well as being excessively expensive.

It also has been explained to me that cancer must have two conditions in tissue to thrive — acidity and lack of oxygen. It does appear that the basis for some of these alternative cancer treatments is increasing the flow of oxygen through the body and increasing alkalinity. But it is not readily apparent what *all* of these cancer treatments may have in common.

I have some articles on the negative health effects of fluoridation of drinking water. Among them is "couch potato syndrome" which is the cute name for a not so cute physical condition induced by ingesting too much fluoride. One of the characteristics of couch potato syndrome is an overly docile personality. Because fluorine is a proven excitotoxin, there is a hypothesis that the fluoride which is part of poisonous chemotherapy compounds may reduce the will to live among cancer patients by destroying some of their brain cells.

It has been suggested that the machine also generates a strong Reikki-like healing effect which includes correcting the body's implementation of its DNA coding. (See Reikki discussion above.) It appears that only half an organism's blueprint is stored in its genes. The other half is stored in the organism's electromagnetic aura. Perhaps the machine tunes the body to match its electromagnetic design specifications.

The reality and effectiveness of photo-luminescent therapy is backed by many years of research and thorough documentation. More information can be found in the December 1997 issue of Nexus, www.kalamark.com/rife_conference, www.genesistherapy.com/index.html, www.rt66.com/~rifetech/, www.wj.net/dimshah, and www.cseti.org/bearden/aids/priore.htm. I have listened to a demonstration and lecture on the similar "resonant frequency therapy" by James E. Bare, D.C., at the 1995 International Tesla Society Symposium. Dr. Bare later authored an article on the therapy in the Jan/Feb/Mar 1996 issue of the society's Extraordinary Science.

One way to provide photo-luminescent therapy in the proposed resort complex would be to equip each hotel room with a photo-luminescent therapy unit. The electronics could be hidden inside a wall behind a keyed panel. A wall switch would be wired to the electronics. Guests would have the option, by simply flipping a wall switch, of using photo-luminescent therapy for attempting to treat any diseases they may have or just to feel energetic and healthy during their vacation.

A side benefit of installing photo-luminescent therapy machines in hotel rooms is that insects and spiders are irritated by the frequencies and leave the premises. The effective radius of insect control for each power level such as 250 watts or 500 watts was not known at the time of writing.

One variation would be to substitute a credit card reader and a timer for the wall switch. Then additional revenue could be earned from selling photo-luminescent therapy time which would also help pay for the equipment. A coin-operated timer could also be used but probably not without problems of currency convertibility and the extra expense of collection.

The easier to implement but less convenient way to make available photo-luminescent therapy would be to rent portable machines at the hotel's front desk.

Some of the guests could be so impressed with the results of their using photo-luminescent therapy that additional revenues could be earned by selling photo-luminescent machines. However, the machines may need to be disassembled before shipment to certain countries such as the USA for legal reasons.

Because the resort is located in a small, independent country, realistic claims could be made about curing various diseases without offending the U.S. Government's Food and Drug Administration. Thus the resort complex could gain an enormous competitive advantage.

Currently, photo-luminescent therapy in its various forms has not received serious study from medical scientists that it appears to deserve. People staying at the resort may be invited to participate in studies of the effects and possible benefits of photo-luminescent therapy. When they first check in, volunteers would be provided a free medical checkup to document ailments. When they leave, they would be tested again as part of a second free medical checkup. As time goes on, a data base on the medical effects, if any, of photo-luminescent therapy could be accumulated.

Virtual Telemedics

A demonstration virtual telemedics system to be show cased at the March 1999 annual convention of the American Telemedicine Association has been completed and funding is now being sought to support this initiative. The presentation budget has been set at \$100,000, with full build out of the prototypes expected to require upwards of \$250,000 over a period of six-nine months. This is the system which incorporates wireless broadband digital transceiver technology [802.11], Intel-based computer platforms, 10Base-T LAN systems, video conferencing software [H.320/ 323], digitized optical examination instruments [American Medical Devices] and a variety of FDA-certified pharmaceutical evaluation software into a single operating system. The system qualifies for Telemedicine billing under all five codifications and billing systems and has been pre-approved by Utah's Dept of Health and Family Services Division for use in remote and rural areas.

POWR/MASTR™ Industrial Engine

The commercially available POWR/MASTR™ is a high-efficiency, long-life industrial engine which is fueled by natural gas, propane or butane. A POWR/MASTR™ can be directly connected to gas company pipelines and so never needs refueling. Each POWR/MASTR™ unit can generate over 145 horsepower for mechanical power needs, or 100 kilowatts of electricity for electric power needs. POWR/MASTR™ units can be linked together in parallel and/or linked to utility company electricity to satisfy energy requirements of any size.

POWR/MASTR™ offers savings of up to 50% over other mechanical power costs, or up to 70% over utility company charges for electricity. A San Diego shopping center saves \$125,000 per year in electricity costs.

POWR/MASTR™ is environmentally friendly, using only clean burning gases at a maximum rate of 9 therms/900,000 Btu/900 cubic feet per hour of natural gas. When less power is needed than 100 kilowatts or 145 horsepower, POWR/MASTR™ automatically self-adjusts to use less fuel. Operating at less than a quiet 60 dB at 20 feet, POWR/MASTR™ sounds no louder than a new car engine at idle. It also produces far less harmful exhaust emissions than a typical gasoline-fueled automotive engine. POWR/MASTR™ is fully automated and designed for 60 months of continuous use with maintenance regularly scheduled every 1,500 hours.

Each POWR/MASTR™ unit weighs 3,200 lb., and its size is 8 feet long by 5 feet wide by 6 feet high. A POWR/MASTR™ unit can be transported on its own delivery trailer and installed by one person in about four hours after site preparation. No cranes, work crews, nor special foundations are necessary. An adjustable level platform system is built-in so that no poured nor perfectly level pad is required. Controls are included at no charge to allow more than one POWR/MASTR™ unit to deliver electricity with other power generation units or in conjunction with utility company power.

Hydrosonic Pump

The hydrosonic pump seems destined to become a billion-dollar invention with many applications. It is really a zero-pressure boiler, not a pump. The inventor has been calling it a pump so as to avoid entanglement with strict American Society of Mechanical Engineers boiler codes.

Mechanical input power rotates the shaft, and plain water is converted to steam without the need for hot surfaces. The process seems to be actually a form of fusion where collapsing microscopic bubbles momentarily create extremely high pressures and temperatures. The technical term for this phenomenon is “sono-luminescence”. The energy conversion efficiency is around 130%. (To prevent confusion, it should be clearly understood that the hydrosonic pump on the macro scale does *not* operate at high temperatures and pressures as is the case with nuclear or fossil-fueled boilers.)

One application is to use a windmill to turn the shaft. Out of the nozzle comes steam which drives a steam turbine to produce electricity. The steam then enters a condenser from which can be obtained potable water and hot water for space heating. For remote islands, for example, the hydrosonic pump would be very useful. One utility is reportedly already looking at increasing the efficiencies of its nuclear and fossil-fueled power plants by 3 - 5 percentage points.

Nevada has large underground reservoirs of useless mineralized water. The hydrosonic pump could be the centerpiece of a large-scale scheme to generate electricity, heat and potable water.

The hydrosonic pump is actually being commercially manufactured and sold. The inventor definitely is using the correct approach in that since the pump is such a new technology, for some time he has been simply building one unit at a time in various sizes and configurations. He has been purposely restricting their sale to local installations so he can closely monitor their performance and incorporate improvements and changes into future units.

As of May 1996, he had 14 units actually installed and operating. One application is for producing clean steam on demand for a commercial laundry. Based on feedback from customers' experience with them, he is evolving step-by-step in an organized manner towards eventual mass production of *fully validated* units. It seems to be much easier to obtain expansion capital for actual commercial units than “laboratory queens”.

Pulsed Abnormal Glow Discharge Reactor

A typical flashlight's light bulb is a glass vacuum tube where the flashlight's batteries force current through the bulb's filament, resulting in a power loss equal to the square of the current times the positive resistance of the filament. The power is then radiated out of the light bulb as light and heat.

Physicists have known for many years that the pulsed abnormal glow of a discharge tube has a negative resistance characteristic. What physicists have not appreciated, until the development of the PAGD reactor, was the real possibility or the knowledge of precisely how to go about extracting 'free' energy by exciting self-sustaining oscillations in the plasma discharge.

The pulsed abnormal glow discharge (PAGD) reactor (U.S. Patents 5,416,391, 5,449,989, and 5,502,354) is an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode overheating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of those tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing are currently under development. The inventors hope that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits. The inventors are presently engaged in negotiating licensing agreements with a view to development of the applications.

Etheric Weather Engineering

Etheric weather engineering is certainly one of the more spectacular products of the international “underground” science network. Unbelievable as it may seem, what looks like an ordinary tin can or handleless frying pan slowly being turned by an electric motor, in less than a half-hour, can cause heavy rain within 10 miles under conditions of high barometric pressure. (I have a video which shows about 20 demonstrations of etheric rain making.) I personally have seen etheric weather engineering effects at least twice in Las Vegas and twice in the Midwest.

So what is the secret of this crazy thing called “etheric weather engineering”? To begin understanding this most remarkable phenomena, we first take a look at just what is the “ether”:

Sound comprises of oscillating waves traveling through water, air, and solid matter. Light propagates through space also as a wavelike phenomenon having frequency and wavelength. Over a century ago, some physicists postulated that light is a form of electromagnetism which travels as an oscillating wave through a medium they termed “ether”. The famous Morley-Michelson experiment around that time determined that the speed of light is constant. So therefore, it was thought, there can not be an ether.

Subsequently, physics was led on a wild goose chase. For example, the mathematics of Einstein’s famous theories of relativity are mostly based on the assumption that the speed of light is constant. Astronomers commonly believe that the universe started with a big bang and is still expanding because the speed of light is thought to be constant.

It has been claimed that the physics of electromagnetism and gravity as presently taught in academia has over 20 serious flaws. Actual measurements with modern instruments have shown that the speed of light varies with both direction and time. (Morley and Michelson erred in measuring the speed of light with both interferometers in the horizontal plane. They should have instead placed one interferometer in the horizontal plane, i.e., orthogonal to gravity, and the other interferometer in the vertical plane, i.e., parallel to gravity.) Actual measurements of the speed of light as it varies by as much as 5 miles per second over time show that the ether is not static but, as the earth travels through space, seems to surge and ebb with both time and orientation with respect to the stars.

Contemporary physics does not answer some of the fundamental questions of magnetism and gravity. For example, just how do magnets attract and repel? What is gravity? How can magnets under specialized conditions produce anti-gravity? What is inertia?

The consensus of some physicists is that two basic changes need to be made to the theory of physics. The speed of light is no longer to be assumed constant. The other change is that admitting the existence of the ether helps to explain many physical phenomena not otherwise satisfactorily explainable by conventional mainstream physics. For example, some physicists are now claiming that the earth's relatively weak gravitational "pull" is actually the ether pushing objects such as the moon, satellites, and people into the shadow formed by the earth on the ether.

Etheric energy, also sometimes called "zero point electromagnetic radiation" and "vacuum field energy", is known as an energy that fills the fabric of all space. Technically, the etheric energy results from an electric flux which flows orthogonally to our perceived dimension or reality.

The energy density of the ether is essentially incomprehensible. The mass equivalence of etheric energy has been calculated by physicists to be on the order of 10^{93} (may not be correct) grams per cubic centimeter using Einstein's famous equation $E = mc^2$. To put etheric energy density in perspective, Nobel Laureate Richard Feynman and one of Einstein's protégés, John Wheeler, have calculated that there is more than enough energy in the volume of a coffee cup to evaporate all the world's oceans! We fail to easily recognize this immense energy source as it is analogous to trying to weigh a beaker of water underneath the ocean's surface.

Dan A. Davidson recently published a book "Shape Power: A Treatise on How Form Converts Universal Aether into Electromagnetic and Gravitic Forces and Related Discoveries in Gravitational Physics" reporting on his many years of measuring and studying the effects of the geometry of objects on the ether. In his book he explains how geometric forms, for example the famous "pyramid power", convert etheric energy into electromagnetic and gravitic forces.

Etheric weather engineering researchers not only claim but have demonstrated many times that precisely machined metal objects similar in shape to cones, tin cans, handle-less frying pans, etc., when slowly turned by an electric motor (but not simply rotated on the axis of their hollow interiors), bore holes in the ether and cause weather upsets and changes. Only by linking the enormously high energy density of the ether with etheric hole boring can the disproportionately immense leverage of small objects upon the weather be understood.

The foregoing is referred to as "active" etheric weather engineering. There is also a "passive" version which generally comprises of a box about two feet high, wide, and deep. The tops, bottoms, and sides are about an inch or so thick and comprise of a thick layer of electrical insulation sandwiched between two thin layers of an electrically conductive material such as aluminum foil. Pieces of a wrecked RV camper's shell sometimes have been used.

Along the four inside edges around the bottom of the box are four magnets. Each magnet is placed in the center of each inside edge. To make rain, the polarities of the magnets are set one way, and to cause fair weather, the magnets are reversed. (I have actually seen this demonstrated in the Midwest.) On the center of the bottom of the box is set a truncated concrete cone about a foot high and a little over a half-foot in diameter. The concrete contains some special materials including mono-atomic gold and is sometimes wetted.

I stuck my head inside the box and could detect a faint mustiness. The experimenter thinks there is something like 20 megawatts of etheric power vertically streaming through the box.

The weather control box is termed “passive” because it takes about a half-day for the weather to react in a large circle of several miles in radius as compared to the half-hour for several miles in radius of weather to react to the rotating metal objects. In the awesome demonstration of the weather control box I saw in the Midwest, an otherwise cloudless day went completely cloudy from horizon to horizon in about an hour, after a buildup of several hours in the morning. I could even see lines or bands in the clouds that were possibly caused by the horizontal aluminum sidings of the garage inside of which the weather control box was located. Then the magnets were reversed, and the clouds had dissipated by the end of the afternoon. I was overwhelmed by seeing, for the first time, etheric weather engineering. It was simply magnificent.

It has been suggested that the precision of etheric weather engineering could possibly be increased by using both passive and active forms of etheric weather control in a mode of operation similar to alternately pressing the gas and brake pedals of a vehicle.

Some of America’s Indian tribes were able to break up droughts by dancing counter-clockwise around a circle, or to stop rain by dancing clockwise around a circle. To illustrate, the summer of 1931 Nevada was suffering through a drought. An elderly Shoshone Indian, Wagon Jack, suggested to the tribal members living in the vicinity of Austin, Nevada that they devote some time to a rain dance. With considerable skepticism, Indians from all over central Nevada showed up beginning August 14 for continuous rain dancing plus of course feasting and political meetings. On August 19, the skies clouded over and rain began coming down in torrents. After four days of heavy rainfall, flooding caused extensive damage. (Nevada Historical Society)

I remember reading another story when during a severe two-year California drought during the mid-1970’s, an environmental group in San Francisco just for fun decided to hold a rain dance in nearby Marin County. They had to cut it short because it started raining! Of course, I didn’t understand then what was really happening and why.

Etheric weather engineering research Trevor James Constable has produced a video “Etheric Weather Engineering” on his weather engineering experiments. Thomas J. Brown has authored a book on etheric weather engineering titled “Loom of the Future: The Weather Engineering Work of Trevor James Constable”.

It was reported in Brown’s book that in September 1994, Hurricane Iniki was bearing down on Honolulu. Constable’s ship happened to be located between the hurricane and Honolulu so he was able to divert Iniki. Unfortunately, the hurricane ended up damaging the island of Kauai instead.

Installing local etheric weather engineering capabilities, probably under contract to an etheric weather engineering researcher, should be a relatively trivial expense. One weather control machine or box should be able to cover the entire resort area. By being able to cause rain or sun on demand, the resort project could achieve a competitive advantage.

I do not know whether local weather control, set to sun, would be sufficient to break up a hurricane should one approach the resort complex. It is possible that weather control machines would have to be installed on ships or planes and located in the path of the hurricane such as happened with Iniki. Being able to break up or at least divert hurricanes should noticeably reduce insurance costs.

Testatika Free Energy Machine

The Testatika free energy machine was developed over a 20-year research period in Switzerland. It resembles a Wimshurst electrostatic generator commonly seen in high school physics labs. Other documents may refer to it as the "Swiss M-L converter" or "Thesta-Distatica." The inventor of this superb machine, Paul Baumann, claims its running principle was found by studying the effects of lightning.

Testatika not only runs on its own energy but produces also a huge amount of excess power. A video shows a demonstrator unit producing at least 3 kilowatts of power. Yet the machine is only about 70 cm wide, 40 cm deep, and about 60 cm tall. It delivers DC voltage ranging from 270 to 320 volts, only depending on the dryness of the air. At this voltage it can supply at least 10 amperes of DC current.

Testatika is not a perpetuum mobile, but an energy machine that collects its "free" energy from the charged and ionized air particles. Some technological tricks are implemented to overcome the normal drag-resistance of a conventional Wimshurst machine, which is still the secret of the Swiss group. However, progress is being made by several researchers in the underground science network in deducing and explaining the basic mechanisms of this remarkable machine.

The initial high voltage, at high frequency, is produced by twin counter-revolving electrostatic disks made from magnetic stainless steel. The magnetic disk segments provide an electromagnetic speed control for the disks, while functioning as electrostatic elements to provide the very high voltage.

The solid-state amplification subsystem consists of polarized sections of barium-iron permanent magnets with multiple coil arrays, as first introduced by Hans Coler in Germany during the 1940's. This subsystem increases the amperage level about 20 times from the 150 watts from the twin electrostatic disks up to about 3000 watts at the output terminals.

An independent feedback subsystem provides the electromagnetic force to power a small DC motor to revolve the twin electrostatic disks continuously. This arrangement consists of two horseshoe magnets with coil sets wound fully around each magnet leg. This feedback method provides that the Testatika free-energy machine is a fully standalone system, with no external power input. Once the two disks are turned by hand, they continue to revolve on their own, producing free energy.

The Testatika machines (some smaller units also exist which only deliver about 200-300 watts) are not yet mass-production type models. They are still laboratory prototype units, although they are built with a very good craftsmanship. No maintenance is required with these units.

GeoExchange Heat Pump

A refrigerator is a one-way heat pump that cools the inside of the box by removing heat, which is then pumped someplace else. Cold air is not pumped into refrigerators.

Conventional air conditioners pump hot air from the inside of a home into the outside air. Because the outside air is already so hot in the summer, the difficulty of pumping hot air into air that is already hot results in low efficiency and high energy costs.

GeoExchange Heat Pumps are electrically-powered devices that use the natural heat storage ability of the earth or the earth's ground water to heat and cool a structure. They are being promoted by the Geothermal Heat Pump Consortium which claims that they can reduce greenhouse gas emissions by 40% or more over traditional air conditioners.

At the Bella Vivente subdivision of Lake Las Vegas, Henderson, Nevada, their GeoExchange system pumps heat into and out of homes with one loop of pipe which is connected to the lake. Residents save an average of \$150 per month in heating and air conditioning bills. Other advantages include eliminating noisy and unattractive outdoor condensers and cooling towers.

The following technologies may not be commercially available at this time. However, they may have potential applications for the resort project.

Sewage Treatment

A new method of treating sewage has been patented by a retired federal government employee.

High-Temperature Incinerator

This simple process reportedly incinerates garbage, sawdust, and wood chips at such an unbelievably high temperature that even thermocouples at 3200 degrees burn up. So little odor and smoke is produced that a prototype was tested indoors. Very little waste is left behind which needs to be trucked away. The high-grade heat from this type of incinerator can be used for generating electricity and producing process heat.

Food

About 20 years ago, I read an unforgettable article on Hong Kong's comprehensive and efficient food system. I tried in vain a couple of years ago to find the article or similar information.

As I remember it, the restaurants and institutions in Hong Kong carefully scrape waste food off plates and bowls into bins. The bins are trucked to pig farms. The waste from the pigs is dumped into fish ponds. I think there was another step or two involved in all this. It was impressive how so much additional food could be raised in Hong Kong rather than allowed to go to waste.

I propose that a similar scheme be implemented in the resort complex. In addition, there are refinements that could possibly be made as a result of some research I conducted some time ago on an “aquaponic food factory”. Below is the original write-up of the aquaponic food factory:

Merger of tilapia culture with soil-less culture for plants. 220-foot long, 16-foot wide polyethylene sheet-enclosed building with round fish tank in one end. Plants are grown in 2-foot-square plastic foam pads floating in long shallow water tank. The plants start as seedlings at one end of the tank, moved along as they grow, and harvested 3-4 times per week at the other end when mature.

What was difficult to perfect was balancing the chemistry of both tanks as nutrients and water cycle between the tanks. Unskilled labor maintain and harvest several times per week consistently high quality, clean, undamaged, organically-grown produce and tilapia.

No weeding, hoeing, tilling, spraying, hail insurance, etc., are necessary. Water consumption is 50 times less than required by dirt farms. Productivity per acre is about 10 times per acre of dirt farming. A head of lettuce, for example, costs about 5 to 9 cents to produce and brings a higher price than dirt-raised lettuce.

(End of write-up.)

Some of the claims of the above aquaponic food factory write-up may have to be adjusted, particularly in regards to production cost and insect control.

For a while, a group of us were considering installing a similar system in central Nevada except that the project was to be expanded in three respects: One change was to take advantage of the plentiful pure cold water at the site and begin with raising trout and salmon. The overflow from the trout and salmon tanks was then to be piped to tanks of tilapia and shrimp which are not as fussy about water quality and require warmer temperatures.

The second change was to increase productivity and lower costs by taking advantage of the cheap energy to be provided by plasma-injected transmutation thermal reactors and other new sources of energy. Also, a company we are associated with would supply mineral fertilizer from the world's richest mineral deposit of trace elements.

The third change was, in conjunction with the aquaponic food factory, to build a prototype 21st century city for the workers, taking advantage of our access to a long list of advanced technologies. An eminently qualified architect had been selected as the architectural consultant for this unique real estate development. The architect in turn was understood to have access to an extensive network of technologists and financiers. New ideas in construction, community layout, sewage treatment, transportation, communication, alternative medicine, entertainment, recreation, education, landscaping, and home gardening were to be explored.

The site was considered to be ideally suited for the world's first large-scale aquaponic food-production facility with ultimately thousands of acres of greenhouses and fish tanks capable of supplying several western states, western Canada, and Japan with fish and fresh produce.

Some of these ideas and plans could be adopted to help supply the resort complex with locally raised fresh produce and fish. There are islands in the east Caribbean which already have greenhouses supplying fresh produce to passing cruise ships as well as local markets.

Installing photo-luminescent therapy machines in the greenhouses offers two potential benefits of improved plant growth and insect control. There has been some indication of improved plant growth in the presence of the machines. Insects and spiders are irritated by the frequencies and so therefore would be repelled some unknown effective radius. Paybacks are elimination of insect damage, eliminating the cost of insecticide spraying, and easier certification as organically grown produce which in turn usually brings higher prices. One potential problem is the repelling of pollinating bees.

Microporous Solid Gel

Ultrasonic energy blends and hardens gel of polyester resin and water into very hard and strong sheets. Water content varies from 5% to 95%. Markets include on-site fabricated wall panels, plastic pallets, boat flotation inserts, insulation, and packaging.

Computerized Fiber Optic School Network

One dozen to four dozen junior and senior high schools in each large metropolitan area were to be linked with fiber-optic cables into a single network with an average cost of \$100,000,000. The recent advent of the Internet possibly offers drastic cost reductions.

The network's three-layer computer system would comprise of a network coordinating and scheduling computer as the top layer, an administrative computer in each school as the middle layer, and personal computers as the bottom layer. The network's customized software would include network management and coordinating functions for the system manager, two layers of software for the teachers to support 100 different functions, and 25 different functions for the students, only one of which is computer-assisted instruction. Each personal computer would have a monitor capable of also displaying telecast or recorded classes.

The typically huge scale of a school network would economically justify the simultaneous teaching in parallel of all week-long segments of each course year round with no seasonal constraints. Segmented courses would still include the standard features of conventional courses such as classes, graded examinations, and academic load standards. Short quizzes on each segment with pass/fail grading would provide quality control. Other nonstandard features of segmented courses include modified versions of the project management tools PERT and CPM, unique statistical techniques for selecting series of two or three local/televised classes for weekly scheduling, nearly unlimited self-pacing, student interest groups, and optimum utilization of the superlearning technique.

The computerized fiber optic school network is my own design. The proposal contains approximately 180 pages and describes several small-scale research projects which should be funded in varying amounts to gain additional information on its workability. Marketing such a radical and complicated program to bureaucratic metropolitan school districts presents an unusually difficult marketing challenge.

The country has a large city near the resort complex which could be a good place to build a prototype network. Its schools may be much more flexible and open-minded than American schools. A multipurpose optic fiber cable could be laid between this large city and the resort complex. Then a satellite campus in the resort complex could be a part of the school network and provide high-technology education to the children of the people working and living at the resort complex.

An optional feature of the school network would be a “virtual reality occupation simulator”. There ought to be a huge market, but the technical requirements for such a machine appear almost impossible to meet. The same machine would have to simulate for example a dentist pulling a tooth, laying an oil pipeline across Siberia, welding, carpentry, drafting, the mechanics of a stockbroker buying and selling stock, golf course maintenance, valet parking, etc.

After a person is wired up and fitted with position sensors, pressure actuators, etc., the computer would then have to generate an initial mathematical model of the person’s geometry and coordinates. As the person moves and reacts to pressure, sounds, and visual images, the computer would have to instantaneously respond accordingly with signals to the pressure actuators, earphones, goggles, etc.

So a student “drilling” a virtual reality tooth in a virtual reality dentist’s office would feel and hear the vibration as he or she moves the drill around the virtual reality patient’s tooth. There would have to be safety limits built into the software so that the student doesn’t receive unvirtual reality injuries from, for example, getting bit in the fingers by a virtual reality patient who suffers an unexpected virtual reality epileptic seizure!

The required computer would have to be cheap and yet be in the supercomputer class with an enormous instant access data storage device. No such machine now exists. However, ACC Labs expects to commercialize within a few years several computer technologies which together should be able to comfortably meet the extreme requirements of the virtual reality occupation simulator.

Twelve of its 90-gigabit transcapacitor (T-CAP) storage devices will be able to store over one trillion characters (bytes) in a space the size of a flashlight battery. One variation would be a “neural network array” based on 24 billion software configurable nodes.

ACC Labs’ liquid addressable memory device (LQ-RAM) would have a capacity of about 10,000 to 100,000 times the density of today’s S-DRAM DIMM memory, with longer refresh rates, lower power consumption, and a much higher speed - on an order of 3-800 gigahertz cycle times and even faster. Using both T-CAPs and LQ-RAMs, the entire contents of the Internet’s World Wide Web can be stored in a desk-sized storage device, and then retransmitted in a few moments.

Torsion Field-Based Communications

Practically unknown to Western science, several groups of Russian scientists have been developing torsion field physics and apparatus in secret for over three decades. A torsion field is a scalar product of two electromagnetic fields under special conditions. For example, a torsion field can be generated at the interface between two magnetic fields sweeping past each other. Torsion fields come in at least three different types – E fields, S fields, and G fields.

Russian astronomers have determined that torsion fields are transmitted at a speed of one billion times the speed of light. Physicists at Los Alamos National Laboratory have transmitted Mozart's 40th Symphony at 4.7 times the speed of light using torsion field generators and torsion field sensors. The European physics laboratory CERN has determined that torsion field information can be transmitted through 20 miles of mountain without attenuation.

Several first-ever torsion field patent applications have been submitted. A unique design has been developed for a counter-rotating torsion field generator based on a newly patented micro-solenoid technology, counter-rotating mono-polar magnetic plates, mono-chromatic standing wave lasers, and some scalar parallel processor technologies from the Swiss Institute of Technology in Zurich. A commercial version is scheduled for demonstration by late 2000 which will be able to universally transmit information through the entire earth at many times the speed of light with a bandwidth wide enough to allow transmission of three-dimensional holographic video on 16.7 million separate channels.

Gravimetric Sensors

The grand design for a working model of a highly directional and very inexpensive gravimetric sensor device has been developed. Its purpose will be to provide people with a way to detect large objects in space and plot their position in real time. This will make it possible to develop a baseline from which we can then extrapolate the rate at which this information is conveyed via transverse gravitational waves - expected to be greater than 1,000,000,000 times the speed of light. This will provide a cogent baseline to support the concept of superluminal velocities in data transmission via torsion field devices. This project could use some capital - probably in the \$75-100K range and has the potential to set a whole new standard for astronomical observation techniques.

Small-Scaled Energy Production

Large-scaled centralized electrical generation facilities typically require costly fuel, pollute, use up large areas of land for generators and power lines, are unsafe in the case of nuclear, have limited operating lifetimes of a few decades, and inherently subject large regions to blackouts. The country where the resort complex is to be located currently is expanding its electricity generating capacity by building large-scaled fossil-fueled power plants.

Small-scaled decentralized electrical generating units ideally do not require any costly fuel, do not pollute, only require a square meter or two of floor space, are standalone and do not interlock with a power grid, and are dependable.

What are referred to as “renewable” energy sources are receiving much attention and R&D support. They include producing and using hydrogen as a fuel, fuel cells, solar, and wind. Some types are already in use such as windmills, solar water heaters, and solar box ovens for cooking. (I myself own and use a solar box oven with excellent results, particularly with baking delicious potatoes.) While the intent is laudable and much clever engineering has been accomplished, solar and wind, for example, are inherently not completely satisfactory sources of energy.

The international science network seems to focus mostly on developing unconventional new sources of energy. The basis of many of their devices is extracting energy in some fashion from the ether (see Etheric Weather Engineering above).

The hydrosonic pump (see above) is a rare example of an unconventional new source of energy which is actually being commercially manufactured and sold. The pulsed abnormal glow discharge reactor is one of many examples of unconventional new sources of energy that, to my knowledge, are not currently being commercialized.

The country’s people may be interested in starting up a massive new industry specializing in researching and commercializing new sources of energy, particularly etheric energy. They could follow a path similar to Taiwan becoming a strong computer manufacturer, for example, even though Taiwan is merely an out-of-the-way island.

Since such an organization is a new concept with me, what follows are some thoughts I have come up with:

Our first task should be to try to define somewhat just what is it the new organization is supposed to research and commercialize. The mission of Ether and Charge Cluster Engineering, Inc., (which seems as good a name as any other) would be to take advantage of this small country’s freedom from scientific dogma and pioneering entrepreneurial spirit in researching and commercializing applications of etheric energy, the existence of which is pooh-pooed by practically all physicists.

The potential applications of etheric energy are diverse. Major categories I can think of are:

- Over-unity gain energy conversion by rotating magnets and electronic circuits
- Plasma-injected transmutation for radioactivity amelioration, thermal energy production, and manufacture of scarce elements out of more plentiful elements
- High-density charge clusters
- Radiovoltaic, petrovoltaic, and super-capacitor batteries
- Self-powered electric vehicles
- Niches in agricultural technology
- Medical treatment devices
- Self-powered heating, air conditioning, and ventilation equipment
- Stand-alone power supplies for appliances, office equipment, instruments, etc.
- Anti-gravity

Weather control
Shape power
Space flight
Archaeology
Machine tools
Electrical power generation

Ether and Charge Cluster Engineering, Inc., should establish a close relationship with the local university's engineering departments for two reasons: One would be to build up, organize, and document the theoretical underpinnings of ether engineering. The other would be to train and inspire young engineers in the exciting new field of ether engineering.

There was a similar situation during the 1950's and 1960's where Stanford University's electrical engineering faculty helped start the computer and semiconductor companies of the now fabulously successful Silicon Valley. I see a similarly wealthy "Ether Valley" starting up in the country's capital city. It could be a sound business decision for several reasons:

- The country could get rid of its coal-fired power plants.
- The country could ensure its long-term financial and energy survival by commercializing new sources of energy and other applications of etheric energy while its primary electrical energy generation and distribution business gradually disappears.
- Ether and Charge Cluster Engineering, Inc., could greatly enhance the livability of employees, customers, friends, relatives, and shareholders who live in the country by eliminating smog, reducing living costs, improving health standards, controlling the weather, and removing unsightly power lines and transformers.

PacifiCorp Holdings, Inc., an Oregon public utility holding company and the third largest power utility west of the Mississippi River, has already set a precedent by investing \$1,000,000 in Blacklight Power, Inc., of Malvern, Pennsylvania. Blacklight Power is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. Blacklight has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

Blacklight is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. Blacklight Power, Inc., also claims on its Web site that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles. Parked in a garage, it would seem that the car's battery charger could feed electricity back into the electric power grid and help pay for the car. However, generators in homes and small businesses pose a safety problem for power company workers who normally assume the power is off from the central generating stations when there is a blackout.

The price of Blacklight Power's stock in private offerings has increased from \$.75/share in 1991 to \$1,500/share in 1996 (not publicly listed). A recent stock offering sold \$5,000,000 in one week and may close at \$10,000,000. Because energy is one of the world's largest industries, Blacklight Power offers an example of how lucrative a validated new source of energy can be.

As a public service, I would be happy to work part-time as an advisor to Ether and Charge Cluster Engineering, Inc. Film Funding, Inc., for whom I consult, is experienced at incorporating new Nevada corporations and has worked with many startup companies.

I am acquainted with many of the key scientists and inventors who have done so much to create physical etheric devices as well as develop ether physics. I think I can easily line up an advisory board of highly qualified technical consultants.

There seems to be a high likelihood of productive ether engineering research that could be accomplished for two or three more decades. The initial emphasis of Ether and Charge Cluster Engineering, Inc., should be to commercialize an existing inventory of devices and technologies that are at least close to being ready to market and to which Ether and Charge Cluster Engineering, Inc., could acquire licenses and rights. It should be reminded that commercialization of any inventions is contingent upon acquisition to patents, licenses, rights, territories, application fields, etc.

I am certain that a modest amount of advertising in publications which cover the ether and charge cluster engineering fields such as New Energy News, Electrifying Times, Journal of New Energy, Exotic Research, Planetary Association of Clean Energy, Space Energy Journal, Nexus, and Infinite Energy - Cold Fusion and New Energy Technology would attract additional inventors.

However, it is crucial that Ether and Charge Cluster Engineering, Inc., first establishes a reputation for being fair and responsible when negotiating with inventors for the rights to their inventions. It is also crucial that Ether and Charge Cluster Engineering, Inc., recruits competent staff not only for engineering and management, but also for evaluating the reality and economic worth of ether-related inventions.

The human species has laboriously pulled an impressively diverse mix of new energy technologies out of the dark hole of its ignorance. (I have counted about 50 new sources of energy in this report.) Sometime in the future, Ether and Charge Cluster Engineering, Inc., could conceivably find a particular energy technology it has commercialized in competition with some other energy technology. By simultaneously commercializing a variety of ether-related energy technologies, I am confident that profitable niches in the immense energy business as well as applications of etheric energy to industries unrelated to energy production can be found for many years to come.

What follows is a sampling of energy inventions - at least nearly all of which could be candidates as small-scaled energy production units and, in some cases, even as off-grid electricity generators. Please keep in mind that some may require additional development and/or verification.

High-Density Charge Cluster Technology. Nearly solid-state electrical energy converter (U.S. Patent 5,018,180) with a stable over-unity power conversion gain of approximately 5. The gain can be cranked up to a maximum of approximately 30 but then loses stability. A fax sent August 1996 reported that it now “appears capable of providing 1 kilowatt of thermal energy plus 1 kilowatt of electrical output per cubic inch with a power supply (small) and heat exchanger”. The high-density charge cluster device also offers ease of manufacture as well as compactness. It is thought that this new technology is so fundamental that ultimately 1,000 doctorate theses could be researched and written by academia. For example, one university is researching flat-panel displays based on high-density charge cluster technology. High-density charge cluster technology

appears to be a credible candidate for an advanced self-powered electric vehicle's on-board battery charger.

Low-Energy Nuclear Transmutation - A Primer for Non-Physicists. The physics of high-density charge cluster technology can be explained somewhat by the following which was written primarily for non-scientists. Low-energy nuclear transmutation is thought by some to be the basis for these technologies mentioned elsewhere in this compilation of advanced technologies: pulsed abnormal glow discharge reactor, cold fusion reactor with thermal-to-electric conversion, fiber-based cold fusion power cell, hybrid cold-fusion hydrogen reactor, and gas-phase catalytic fusion.

Atoms comprise of negatively charged electrons whirling around a relatively small nucleus of neutrons and positively charged protons. Protons have a mass 1836 times the mass of electrons. A neutron is a combination of an electron and a proton with zero net electrostatic charge. An atom's number of protons and its equal number of electrons determine its type of element. Only when a positive ion (such as a proton or nucleus of a helium atom) penetrates an atom's nucleus does the atomic nucleus become another element (or another isotope of the same element) or becomes unstable and splits (fissions) into two or more elements.

For decades, physicists have assumed that changing (transmuting) elements always requires high energies. Elaborately expensive machinery was required to accelerate a positively charged particle of less than atomic size to a high enough energy to overcome the electrostatic repulsion of an atom's nucleus and penetrate its interior.

The inaccurately named "cold fusion" is only one of several types of physical phenomena which indicate the existence of a mechanism by which elements could be changed to other elements without seemingly requiring very high energies. However, the secret of cold fusion's excess heat had remained a mystery until September 13, 1996 when Kenneth Shoulders explained how the fracturing of palladium loaded with hydrogen (deuterons) could produce high-density charge clusters and cause nuclear reactions. Based on this evidence and on the pioneering work of Rod Neal and Stan Gleeson, a trio of physicists, Hal Fox, Robert W. Bass, and Shang-Xian Jin, finally deduced a more complete theory of the nature of the mechanism which extends beyond the discovery of cold fusion. The magnitude of their fundamental scientific discovery can best be appreciated by considering that Hal Fox's Fusion Information Center, Inc., has collected over 3,000 papers on cold fusion since its discovery in 1989 without anyone being able to offer a complete understanding of just how cold fusion works.

What follows is a simplified explanation of their remarkable concept using an analogy of electrons as ping pong balls and protons as bowling balls. Visualize a room with one wall as the positive plate connected to the positive terminal of a battery, and the opposite wall as the negative plate connected to the battery's negative terminal. Each ping pong ball is negatively charged and when released at the negative wall, electrostatic repulsion/attraction will cause the ping pong ball to fly across the room to the positive wall. Each bowling ball is positively charged and when released at the positive wall, it will roll slowly in the opposite direction across the room to the negative wall.

Both the ping pong ball and the bowling ball have an equal but opposite electrostatic charge. So therefore they both draw the same amount of electrical energy from the battery as they fly or roll from one wall to the opposite wall. But because the ping pong ball is so much lighter than the bowling ball, the ping pong ball will strike the opposite wall at a much greater speed than the bowling ball.

Now assume that 1,000,000 ping pong balls are released as a cluster at the negative wall. (At a high enough density, electrons will forget their mutual electrostatic repulsion and cluster in the same manner as ball lightning. Mother Nature sometimes pulls weird tricks.) Embedded in the ping pong ball cluster are 10 bowling balls. Because there are so many more negatively charged ping pong balls, the positively charged bowling balls are going to stick with the ping pong balls and ignore the attraction of the negative wall and the repulsion of the positive wall. So therefore the bowling balls hitch a free ride along with the ping pong balls. When the bowling balls hit the positive wall along with the ping pong balls at the same speed as the ping pong balls, the bowling balls will hit the positive wall with enormously greater energies than if they had hit the negative wall, rolling slowly alone, in the opposite direction.

In the same manner, protons (and other types of positive ions) in “low-energy” nuclear reactions are hurled into the nucleus of atoms by their “piggy-back” ride on high-density electron charge clusters with sufficient energy to split or transmute atoms. This mechanism apparently is the secret of cold fusion’s excess heat, eliminating radioactivity, transmutation of common elements into scarce elements, and powerful new atom smashers small enough for college physics laboratories. If the new theory holds up to scrutiny by other physicists, it might win a Nobel prize in physics.

Cold Fusion Reactor with Thermal-to-Electric Conversion. These are small reactors similar to electrolytic cells which produce more thermal energy than their electrical energy input. Power gains have reportedly been measured as high as several hundred. When atoms are being transmuted under specialized low-energy conditions, thermal energy is released. The heat can be directly converted to electricity. The electricity could then be transmitted to another geographically separate site and used to power two or more reactors. Reactors could in theory be cascaded indefinitely. Two drawbacks of cold fusion are the requirement for water and the need to occasionally replace electrodes. Some cold fusion researchers have changed the terminology to “low-energy nuclear transmutation”.

Hybrid Cold-Fusion Hydrogen Reactor. This reactor is intended to be an economical super-efficient heater for homes and as a hot water heater. The device is so new that its potential ultimate electrical input-to-thermal output conversion gain is yet to be experimentally determined. Applications could include heating homes and other buildings, greenhouses, and fish tanks. The electrodes are made of nickel. Because the country has nickel deposits, it could manufacture its own hybrid cold fusion hydrogen reactors.

Gas-Phase Catalytic Fusion. Activated carbon catalysts are loaded with various precious metals (by weight, in the range of 0.1% to 0.5%). Palladium works best so far. When these catalysts are heated, considerable excess heat is produced reliably when such catalysts are exposed to several atmospheres of heavy hydrogen gas (deuterium gas). Pairs of deuterium atoms are fused to produce waste helium-4 atoms plus abundant clean heat. No lethal radiation is released. One cubic kilometer of ocean water contains enough deuterium that when catalytically fused, the energy released equals the chemical combustion energy in all of the earth’s known oil reserves. With suitable insulation, the process, once started, is self-heating. Temperatures can rise well above the boiling temperature of water. Engineered with efficient heat exchangers, thermal/electrical energy generators can be built in sizes for applications ranging from mobile homes to large centralized generating stations. No electrolysis is involved nor are finicky electrodes required as with some other types of low-energy nuclear transmutation devices. However, the device’s requirement for rare precious metals such as palladium could hinder widespread use.

Fiber-Based Cold Fusion Power Cell. This is a cold fusion reactor which is highly competitive with the Patterson Power Cell™. Patents have been applied for. Demonstration products could be manufactured and prototypes readied for distribution within six months after funding. International Nickel Company is considered a strong strategic partner. (The resort’s country has nickel deposits.)

Light-Polarizing Photovoltaic Film. The light-polarizing photovoltaic film known as LUMELOID™ is a stretch-oriented polymer film about 0.3 microns thick which mimics photosynthesis. Light energy is absorbed in a molecular antenna which converts it to electron energy. The electron energy is then rectified by a molecular tunnel diode comprising an electron donor, an insulating space and an electron acceptor. Voltage and current is generated in the plane of the film parallel to the stretch axis.

Conventional silicon photocells are 25% efficient in theory, but in practice attain only 4-10%. The silicon concentrator cell theoretically has a 32% efficiency, but in practice has reached only 15%, and is too expensive.

LUMELOID™ has a theoretical efficiency of 72%. Initially its efficiency is expected to be comparable to existing photocells. However, because of the film’s high theoretical efficiency, with further R & D, LUMELOID™ is expected to soon surpass conventional photocell efficiency. More importantly, the low cost per watt of LUMELOID™ represents a tremendous cost decrease over presently available sources of solar energy and would facilitate its early acceptance in the energy market.

The projected cost of the basic LUMELOID™ thin film is \$1.00 per square meter, and the assembly which comprises a LUMELOID™ film on a substrate with microelectronics circuitry, is about \$5.00 per square meter. Its capital investment cost is about 30¢ per watt. This is a fraction of all conventional electric energy producing technologies. The capital cost of fossil fuel generation from large power plants is over \$1.50 per watt, nuclear energy is more than \$6.00 per watt, and present semiconductor photovoltaic devices are more than \$4.00 per watt.

LUMELOID™ will be available in rolls at low cost, affording easy transportation, and any amount of power during sunlight hours by just rolling it out flat on any surface. Eventually with the development of QUENSOR™, which is like a very thin battery (see below), a combined LUMELOID™-QUENSOR™ sheet may be spread out on a roof or on the ground, and will provide electric power day and night, available on demand.

"Diad" is an acronym for donor-insulator-acceptor-device which acts as a diode. Molecular diads have been chemically synthesized. LUMELOID™ incorporates diads in a stretch-oriented electrically conductive polarized film. The linear polarizing molecule in the film acts as antennae to absorb a resolved component of the energy of the light photons in the plane of the film. Diads are essential in LUMELOID™ to convert the energized electrons to unidirectional (DC) electric power.

When two polarized films are positioned with their stretch axes perpendicular, light is almost completely absorbed. Using two crossed films with electrodes connected in series or parallel, ordered diads in LUMELOID™ enable the conversion of light to electric power at 72% theoretical efficiency. This principle was demonstrated at the Jet Propulsion Laboratory by converting microwave to DC electric power using rectifying antennae at 82% efficiency.

Femto Diode Photovoltaic Glass Sheet. The LEPCON™ femto diode concept is similar in principle to LUMELOID™, which provides a technology mimicking photosynthesis, absorbing light energy with a molecular antennae structure, and rectifying the electron energy by the known phenomena called electron tunneling. In contrast to LUMELOID™, however, LEPCON™ comprises the durable materials of sub-micron metal on a glass substrate sheet. (A "femto" is one quadrillionth (10^{-15}).)

A device for fabricating LEPCON™ photovoltaic sheets in commercial production is called "Supersebter", an acronym for Super Submicron Electron Beamwriter. The Supersebter utilizes 100,000 rows and 100,000 columns to position 10 billion electron emitters on a square meter sheet by a lithographic process. This process produces 10 billion electron beams simultaneously to write the nanostructure patterns of femto diodes on the sheet. A square-meter LEPCON™ photovoltaic sheet could be produced in twenty seconds at a cost of about 50¢ per watt and a lifetime expectancy of over 50 years.

LEPCON™ panels could be utilized by utility companies in solar farms. It has been calculated that LEPCON™ panels covering a 150-kilometer x 150-kilometer area in a desert region could produce over 250,000 MW of electric power, enough for most of the United States.

This successful commercial fabrication of the LEPCON™ femto diode structure should lead to many other advanced nanostructure devices. For example, computer circuitry could be miniaturized 100-fold, efficient laser lighting devices could be produced, and vast improvements could be made on high-definition 2D to 3D TV flat-panel displays. (The 1993 Alvin Marks patent on a monomolecular resist significantly increases the resolution of the nanostructures.)

Quantum High Energy Density Storage or Retrieval Device. Essentially a very thin battery, the solid-state Quantum High Energy Density Storage or Retrieval Device (QUENSOR™) has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

A composite photovoltaic LUMELOID™ and QUENSOR™ panel may be used for the storage or retrieval of solar-electric energy day or night on demand.

Eight patents protecting the LUMELOID™, LEPCON™, and QUENSOR™ technologies have been issued, and additional patent applications have been filed.

Buried Contact Multijunction Thin Film Solar Cell. In the past, to produce high-performance solar cells, expensive high-quality solar cell material were required. This new solar cell approach produces high efficiency cells but with the use of much lower quality material than previously possible; material 100-1,000 times lower in quality than the worst presently used in commercial silicon cells. Using this approach, the major material costs in making the modules becomes the cost of the glass used in the modules.

The approach involves the deposition of a very thin layer of silicon upon the glass cover. During deposition, fluctuations are introduced in the properties of these layers to produce a multilayer structure. Three separate ideas are combined:

The first new idea is to use a multilayer structure, which provides the tolerance to the use of low quality material; material 100-1,000 times poorer than the worst used in present commercial cells. The second is using a laser grooved approach which allows correct contacting to each of the layers in the cell. The third is the automatic series interconnection of the cells which results from the laser grooving approach and greatly simplifies module fabrication, contributing to low processing costs.

High efficiency can still be obtained by this approach but with material costs not appreciably higher than the glass used in the modules. In the normal approach, material costs alone are over \$2 per watt of electrical output. In the new approach, material costs are only about 10 cents per watt, about 20 times smaller. Total solar power costs are expected to be cheaper than fossil or nuclear power.

Solar Hydrogen Producer. This simple device efficiently uses all solar wavelengths to make hydrogen in abundance. The hydrogen could replace natural gas in pipelines, and be a base for the so-called “hydrogen economy”.

Hydrogen Tank. A hydrogen tank was developed by the same inventor (now dead) of the above solar hydrogen producer that is so safe it can be punctured with rifle bullets.

Super-Steam Technology. This machine combines compressed air, untreated or even polluted water, and almost any combustible fuel to produce steam at any pressure or temperature. The response is instant compared with a conventional boiler taking hours to reach operating pressure and temperature. The efficiency is over 90%, which compares favorably with a conventional boiler's efficiency of 40%. Maintenance costs, fuel consumption, and air pollution all go way down. 3500 applications have been found for super-steam technology. Electricity can be generated for 1 cent per kilowatt-hour. Super-steam technology can be scaled from the size of a one-pound coffee can to a house.

Super-steam technology could be combined with the aforementioned solar hydrogen producer and hydrogen tank for on-site renewable energy uses.

Double-Exposure Flat-Plate Solar Collector. Apparently combines photo-voltaic and solar thermal collecting.

Environmental Heat Engine. Has some similarity to refrigerator or heat pump. Working fluid of ammonia or carbon dioxide is expanded by propane heater, cold fusion thermal reactor, or environmental heat to move pistons. Applications include vehicle engines, small-scale on-site electrical generators, and large-scale water lifters for dams and canals. (Could double electrical output of Hoover Dam.) This is a variation of Dennis Lee's low-temperature phase-change engine which the inventor (now dead) claimed is superior to Lee's engine.

Brown Nuclear Battery. Small “nuclear” battery uses tritium to power small circuits and electrical devices for several years. Tritium is a radioactive isotope of hydrogen with a half-life of 12 years. These nuclear batteries use beta emitters which are similar to devices used in smoke detectors and to illuminate wrist watches. The key approach is the methods used by the inventor to “funnel” the emitted beta particles (electrons) into the affiliated circuits so that a useable voltage is produced.

The Brown nuclear battery has many uses, especially for computer-chip applications. A very small “nuclear” battery can be used to power a computer chip or computer chip set for several years. The battery could be about the same size as the packaged chip and be mounted directly on or adjacent to the chip. Many other applications are available. The nuclear radiation consists of beta particles which are electrons and can do no harm unless the battery material is ground up and swallowed.

Perpetual Battery. The hyper-cap E-converter is a thick quarter-sized battery which would put out .001 watt “forever” for such applications as critical components inside fail-safe computers, cellular telephones, etc. The energy comes from tapping ether fluctuations.

Clem Over-Unity Vegetable-Oil Engine. Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine’s durability, the only working model of the Clem engine has been continually running on his son’s farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump at the resort area could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop in the resort’s country for manufacturing hollow shafts and cones. Off-the-shelf components could be shipped in for subsequent commercial assembly and sale of Clem over-unity engines. Hydrosonic pumps could be either shipped in or locally manufactured under license and then combined with Clem engines into desalination units. The market for efficient self-powered desalination units ought to be enormous. Unfortunately, I have no idea as to the maximum practical size that self-powered desalination units could be built.

Water Engine. Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank’s pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. The existence of zero-point electromagnetic radiation was discovered in 1958 by Dutch physicist M. J. Sparnaay. Zero-point electromagnetic radiation is the same as the electromagnetic waves radiated from radio and television antennas except that the frequencies are random, incoherent, are present everywhere in the universe, and vary from zero cycles per second to infinity. Other names include “zero-point energy field”, “vacuum field energy”, “etheric energy field”, and “ether”.

Mr. Sparnaay had continued the experiments carried out by Hendrik B. G. Casimir in 1948 which showed the existence of a force between two uncharged parallel plates which arose from electromagnetic radiation surrounding the plates in a vacuum. This force has since been named the "Casimir effect" to honor the discoverer. (See "Casimir Effect Self-Charging Energy Cell" below.)

Mr. Sparnaay discovered that the forces acting on the plates arose from not only thermal radiation but also from another type of radiation now known as classical electromagnetic zero-point radiation. Mr. Sparnaay determined that not only did the zero point electromagnetic radiation exist in a vacuum, but also that it persisted even at a temperature of absolute zero. Because it exists in a vacuum, zero-point electromagnetic radiation is homogeneous and isotropic as well as ubiquitous.

In addition, since zero-point electromagnetic radiation does not vary, the intensity of the radiation at any frequency is proportional to the cube of that frequency. Consequently the intensity of the radiation increases without limit as the frequency increases. The result is an infinite energy density for the radiation spectrum. (See "Etheric Weather Engineering" above for additional discussion.)

The special characteristics of the zero-point electromagnetic radiation of having a virtually infinite energy density and that it is omnipresent even in outer space make it very desirable as an energy source. However, the high energy densities only exist at very high frequencies. These large energies can be collected with small antenna-like structures (frequency is inversely proportional to size). But the frequencies are so high that they are unusable for practical energy uses.

With two antennas of very slightly different sizes, the converter collects zero-point electromagnetic radiation of two very slightly different frequencies. The converter then superimposes the two frequencies which results in a far lower beat frequency. The energy contained in the beat frequency is then transformed to practical electrical power which can be made available in any location on earth or in space. Applications include transportation, heating, cooling as well as many others.

Water-Fueled Internal Combustion Engine with Garrett Electrolytic Carburetor. Henry "Dad" Garrett and his son, Charles H. Garrett, in 1935 patented and exhibited an automobile that ran on water substituted for gasoline. Actually, the fuel was hydrogen after the water was broken down by electrolysis. The only items needed to convert a gasoline-powered auto to a water burner was an electrolytic carburetor and installation of a generator of double normal capacity for the breaking down of the water. Instant starts in any weather, no fire hazards, cooler operation and plenty of power and speed were claimed.

Rather than store the inflammable hydrogen, the same process makes the gas without a storage chamber in which the flames from the motor's cylinders might react. Water is broken down into its component gases by passage of an electric current through it from electrodes immersed in the water. Hydrogen collects at the negative pole, and oxygen collects at positive. The hydrogen is then mixed with air and introduced directly into the cylinders. For an ordinary automobile, an electrolysis chamber of about a quart in capacity is big enough.

In summary, this simple process can provide:

- Heat - through the burning of hydrogen/oxygen.
- Power for local energy generation - the explosive energy to drive a piston to drive a shaft to power a generator. The generator then charges a battery network which feeds an inverter (converts DC to AC) to run your house.
- Motive power for transport power - explosive energy drives the piston to drive your vehicle.
- Light - condoluminescence - hydrogen/oxygen exposed to phosphor-coated surfaces for light generation.
- Sound amplification - flame speakers where flame is electrostatically deflected at audio rates to produce sound. The hydrogen/oxygen mix is generated *locally* rather than using bottled gases such as propane, butane, etc.

Papp Engine. Joseph Papp was granted US Patent #3,670,494 for his “Noble Gas Plasma Engine”. A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

A demonstration of the Papp engine to representatives of the Stanford Research Institute resulted in killing one person and injuring another. Papp himself is believed to have died from apparent neutron radiation from his engine.

Jim Kettner of the Space Energy Association recently stated in a letter to me that this is the best self-running device he knows of which can produce substantial amounts of power. A variation of the Papp engine is currently being built by Jim Sabori and, if sufficiently funded, was to have been ready by the end of 1998.

In a recent letter from Hal Fox of Trenergy, Inc., Fox states that he believes that the Papp engine works but hopes that much simpler ways of making energy can be developed. There are several groups working on versions of the Papp engine. It seems to keep recycling through the new-energy community.

Muller Motor/Generator. Electrical generators in common use require external torque from gas, hydroelectric, and steam turbines, for example, to overcome back electromotive force. Bill Muller's magnetic motor/generator eliminates back electromotive force. The coils are removed from the rotor and instead wrapped around powerful magnets equally spaced around the stator. Magnets are also equally spaced around the rotating disk. However, the number of rotor magnets is one more than the number of stator magnets.

A typical commercial motor involves pushing and pulling magnetically where in the Muller motor/generator only the magnetic pulling effect occurs. A perfectly balanced arrangement of the magnets results in a disk-like rotor that can be turned with no effort at all. The completely reversible result is if current is applied to the stator coils, the rotor turns. If the rotor is turned, the stator coils can generate current to be supplied to a load.

The stator coils are wrapped around cores made of inexpensive Muller-patented amorphous material which eliminates heat-producing hysteresis and eddy current losses. Because of instantaneous saturation and permeability, much less wire is needed for the stator coils which greatly reduces both ohmic resistance losses and inductance losses. No brushes are needed like in conventional direct current generators and motors which wear out. Bearing friction losses are greatly reduced by both weight reduction and using Muller's cone-shaped magnetic bearings (patent applied for).

Electrical Generator. Two pairs of electromagnets warp permanent bar magnet's magnetic fields across field coils to achieve over-unity electrical energy conversion gain, the magnitude of which is unknown. Requires additional resonant circuit components. Appears to be a potentially robust generator of electricity.

Self-Contained Power Supply. Uses tightly wound coil spring, flywheel, and magnets to achieve over-unity energy conversion gain. Potential market is as a battery pack replacement.

Motor/Generator. Incorporates permanent magnets which provide the drive torque by pulling rotor and stator poles together with an electromagnetic *opposed* excitation input pulsation used to weaken that magnetic pull to allow the poles to separate. Power output claimed to be 3 times power input.

WIN Zero Point Electrical Energy Converter. Extracts AC current with an output power over input power gain as high as 268.6%. It generates electricity by collecting electrons between E-dam cermet in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimir effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input.

Conversion of Aluminum Internal Combustion Engines to Magnetic Motor. Heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle. If the electric motor is replaced with a Muller magnetic motor (see above), the combined energy conversion gain is projected to be about 300.

Searl Effect Generator. The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don't touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a "governor", either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG's primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small "inverse gravity" vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue.

The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

A German power company is reportedly considering replacing a nuclear power station with eight fuel-less SEGs costing a total of about \$4.5 million and generating a total of 240 megawatts with no pollution.

Gravito Magnetic Device. The gravito magnetic device (GMD), also known as the David Hamel machine, is a cheap version of the Searl effect generator (SEG) (see above) that can be built with off-the-shelf components. The GMD has magnets attached to radial spokes or arms that are jointed. These magnets are floated in a magnetic housing and when properly biased, continue to spin, gaining momentum and speed with each rotation and achieving the same tremendous electrostatic buildup on the outside rim as the SEG.

The parts inside the GMD are configured in such a way as to promote an enclosed constant variation of opposing magnetic fields. In the resting state, the moving cones are balanced and stabilized in a magnetic field repulsion, like a magnetic bearing. The startup of the GMD is initiated by lowering a magnet at the center top of the shell, inside the shell, towards the momentarily magnetically balanced moving cones.

As the center magnet, which opposes the one attached at the center of the upper moving cone, is lowered inside the GMD, it forces the upper cone to move sideways, shifting the magnetic balance between the cones inside the GMD. The cones stay offset to each other for a short while and then plasma-like energy starts to build up around the GMD. This energy built up creates a shift of colors from red-orange to light blue and then white. Following this effect the GMD starts to lose weight and quickly generates an upper lift in a greater ratio than its total weight.

It should be emphasized that the power generated, surrounding the GMD, is extremely powerful and radiates, causing interruptions of electron flow in normal electrical systems, i.e. lights, cars, transformers, and interferes with electromagnetic transmissions. So it is without saying that this machine has to be operated with serious caution when completed and activated. However, if a control system is in place, it is easy to stop its effect. One of the main purposes of GMD research is to understand the effects of enclosed opposing magnetic fields that have varying vector angles.

The GMD is potentially a versatile, useful technology which also generates antigravity. The GMD has a powerful upward thrust causing it to rise in the air in a manner similar to a Searl effect generator (see above). (The first assembled model after two hours of increasing spin velocity unexpectedly crashed through the roof and escaped.) When the inner workings of what causes the secondary electrogravitational fields are understood, it is probable that various devices can be created providing plentiful energy of different types.

It should be noted that all building materials for the GMD are readily available almost anywhere in the world, and the cost is relatively cheap. A lot of hand work is required but nothing that is unreasonably unattainable. No special machining or parts are required. Only patience and devotion is needed.

Casimir Effect Self-Charging Energy Cell. In the above article on etheric weather engineering, the force of gravity is described as the ether weakly pushing two objects such as a book and the earth into each other's shadow. Gravity can also be thought of as the long-range version of the Casimir effect. The Casimir effect predicts that two metal plates close together will attract each other.

Consider the plates set at a certain distance apart. In the space between the plates, only those ether (vacuum) field fluctuations for which a whole number of half-waves just spans the distance can exist, just like waves formed by shaking a rope tied at both ends. Outside the plates, the fluctuations can have many more values because there is space. The number of modes outside the plates, all of which carry energy and momentum, is greater than those inside. This imbalance PUSHES THE PLATES TOGETHER.

The proprietary Casimir effect self-charging energy cell contains many extremely thin layers of carbon, magnesium, chromium oxide, and a couple of other elements and compounds. The result is analogous to a boat that has some rather large leaks. More water pours into the boat as fast as water is bailed out. Likewise, as electromagnetic energy is drawn out of the Casimir effect self-charging energy cell when inserted in an electrical circuit, energy is drawn in from the surrounding ether. Physically and functionally, the Casimir effect energy cell is like a solid-state battery that recharges itself with some valuable features such as simplicity and compactness.

Switched Reluctance Motor. The switched reluctance motor is a motor design that has been around for many decades but has never been commercialized. The inventor of the Casimir effect self-charging energy cell is also developing an efficient commercial version of the switched reluctance motor specifically designed with modern switching components. The intended end use is for powering electric vehicles. The switched reluctance motor has the key advantages of ease of manufacture, simplicity, and allowing complete vehicle motion control. No claims are being made that it is capable of over-unity power conversion.

Most self-powered electric vehicle power train concepts involve combining an over-unity motor (to extend the range between battery charges) with an on-board battery charger and a pack of batteries or super-capacitors. The Casimir effect self-charging energy cell offers some important advantages such as much simpler mounting of one to several battery-like cells in the vehicle's engine compartment and greatly increased maintainability and dependability. With the cells' self-charging capability, the efficiency of the vehicle's electric motor thus becomes less of an issue. Electric motor features such as controllability, manufacturing cost, simplicity, and reliability can thus be given much greater consideration.

This particular self-powered electric vehicle power train combination may be the best one. If plugged into the electric grid while parked in the owner's garage, the revenue from running the electric meter backwards could eventually pay for the vehicle's purchase cost.

Joe's Energy Cell. The Joe's energy cell basically comprises of two metal containers, one inside the other. Both containers are filled with specially charged and cleaned water with the inner container perforated to allow water to freely move between the inside and outside of the inner container. The outside container is electrically connected to the anode of a battery, and the inner container connected to the battery's cathode. The outside container is closed except for an orifice to which a thin pipe is attached. The other end of the pipe is attached to the outside housing of the carburetor of a gasoline engine. Gas/energy is transferred to the carburetor through the pipe. The entire cell including the pipe must be electrically insulated from the engine.

Various designs and shapes of both containers have been experimentally built. The original and simplest comprised of both containers as long pipes with the inner pipe, which was perforated, inside the outer pipe.

At least fourteen vehicles in Australia have been fitted with different versions of Joe's energy cells to be driven without fuel nor battery charging. The engine, radiator and exhaust pipe stays cold enough to freeze water – warranting replacing water in the block with transmission fluid. The timing does have to be advanced between 25 and 80 degrees, depending on the type of engine, to allow the engine to run smoothly. The engine's power doubles over that when petrol-fueled.

The Joe energy cell is not explainable using conventional mainstream physics. It is not even known if the process inside the cylinders is implosion, explosion, or both. No gasoline is mixed with air inside the carburetor. It appears that zero-point energy is somehow drawn from the ether and converts the air entering the cylinders into some kind of fuel. The inventor claims the process increases the frequency and energy of the air.

For converting existing gasoline-powered vehicles into self-powered vehicles which don't require fuel nor battery charging from a local electric utility, adding the Joe's energy cell seems to offer by far the easiest modification. Nearly the entire engine is left alone. A separate heater would have to be provided since the engine runs cold. The vehicle will not rust, and paint will not oxidize.

Guy McCarthy guy@twelvestar.com has provided the following insightful analysis of the Joe energy cell from a biodynamics perspective:

[0.1] The "Joe Cell" (described in NEXUS magazine, Aug-Sep '98, pp. 43-46) is an electrical device attached to the carburetor of an ordinary automobile engine which allegedly enables it to run for extended periods with the fuel line disconnected.

[0.2] Biodynamics is a science of natural forces and agriculture inspired by the Austrian philosopher Rudolf Steiner. It pre-dates "Organics" as the original alternative to chemical/industrial agriculture. Biodynamics has achieved limited recognition in the United States and Canada, but is widely practiced in Europe, New Zealand, and Australia.

Main Text:

[1.0] The Joe cell uses water as a storage medium, which, when charged above a certain threshold, collects additional energy as needed by the engine. The initial charge is not depleted as the engine runs, but will dissipate under certain conditions. This matches a key attribute of the biodynamic ether, which attracts more ether to itself once the local concentration reaches a certain threshold. Without adequate boundaries (or storage conditions) the etheric charge build-up will dissipate.

[2.0] The motive reaction in the engine seems to be *implosion*, since the ignition timing must be advanced so far into the compression stroke. (Note that 80 degrees is nearly 2/3 of a typical compression cycle, which totals about 135 degrees in a 4-stroke engine.) Implosion may be considered equivalent to "a sudden condensation of the ether" which is also thought to be the motive reaction that creates lightning and thunder in the atmosphere. According to biodynamic researchers, condensation is a state change from a more rarefied ether into a less rarefied one, releasing energy in the process.

[2.1] Biodynamics deals with four states of ether which are equivalent to the four elements intuited by ancient philosophers:

Warmth Ether corresponds to the Fire element

Light Ether corresponds to the Air element

Tone Ether (or "Chemical Ether") corresponds to the Water element

Life Ether corresponds to the Earth element

[2.2] In the physical world, substance tends to flow from a high potential to a low potential. This is what the concept of "entropy" and the Second Law of Thermodynamics are based on. But in the etheric world of living energies, the inverse is true. Ether is naturally attracted to itself and flows from low potential to high potential. This is why living organisms continue to draw nutrients and life forces into themselves while the rest of the world is supposedly running down. Ether penetrates substance, and substance influences ether. This dynamic interplay is essential to life on the physical plane.

[2.3] Under favorable conditions, the following etheric condensations will occur:

Warmth Ether --> Light Ether, releasing energy as lightning

Light Ether --> Tone Ether, releasing energy as thunder

Tone Ether --> Life Ether, releasing energy as biological manifestation

[2.4] Recall that lightning and thunder sometimes occur independently of each other (as in "heat lightning" and "rolling thunder"), while at other times they are closely linked. Clearly any reasonable explanation for these phenomena must allow for both cases. The common notion that lightning and thunder are caused by static discharge between air masses is clearly untenable. A buildup of static charge in such magnitudes could only occur under extremely dry conditions; the typical thunderstorm is certainly not dry.

[2.5] The biodynamic researcher points to a well-defined cumulus cloud in mid-summer as the ideal collector of etheric energy. Hour by hour it grows, drawing abundant warmth ether from the atmosphere into itself as well as particles of dust and moisture. The cloud builds itself taller and taller - its boundaries sharply distinct from the rest of the sky. Eventually the cloud becomes saturated - turning darker and forming a mighty thunderhead. At this point, anyone who is familiar with weather patterns in open country is headed for shelter. They know that a violent thunderstorm could be unleashed at any moment.

[2.6] Just a few months ago the author observed such a phenomena in central Maryland. The top of the cloud was puffy and brilliant white, illuminated by the late afternoon sun. In contrast, the bottom was flat and dark, laden with moisture. Great bolts of lightning began to crackle about its upper regions. The air felt clear and energized while all around trees were bending and twisting in sudden gusts of wind. When the storm finally broke it was both fearsome and beautiful, a mighty discharge of lightning, thunder, and rain.

[2.7] We can surmise that the Joe cell becomes highly charged with etheric energy, and that this charge is transferred through the carburetor to the air entering each cylinder. As the compression stroke begins the volume of air is compressed, causing a further concentration of etheric charge. Soon the air becomes saturated with ether. At this point conditions in the cylinder are similar to those within the thunderhead. The ignition spark, far advanced into the compression stroke, serves to catalyze a condensation reaction of the compressed ether. This sudden change of state causes the air mixture to contract sharply, generating power through the remainder of the compression stroke. Therefore the air mixture in each cylinder undergoes a structural change, not a chemical one, and the flywheel is driven by *suction* rather than combustion. With the exception of small amounts of vapor from engine oil and perhaps trace elements from the engine and muffler, the exhaust should be of substantially the same quality as the air intake.

[2.8] Since warmth ether is the most rarefied ether, condensation will have the effect of reducing or consuming warmth. Therefore implosion is a cool process, which tends to absorb heat rather than release it. This matches observations of the Joe cell in which the engine runs cold. Unlike combustion, implosion is a "living" process, and as such produces no waste heat or by-products.

[3.0] All three styles of Joe cell are based on concentric, insulated cylinders. This is similar to the classic "orgone accumulator" discovered by Wilhelm Reich. Reich found that metals tended to conduct ether while organic materials tended to absorb it. By layering the two types of materials together, Reich caused a directional flow of ether to occur. The orgone accumulator was a six-sided box constructed with alternating layers of metal and non-metallic materials.

[3.1] The inclusion of a 1.5-volt battery to maintain the charged condition (and a 12-volt battery to create it) is an interesting variation on the orgone accumulator design. There is precedent for this idea in electrogravity documentation that has become available in recent years. (See the USAF report "Electrogravitic Systems" that was released in 1995 as well as patents by T. Townsend Brown.) The basic idea is that a charged condenser exhibits a tendency to move towards its positive terminal. This is thought to result from a net movement of ether in the opposite direction (from positive to negative). Therefore a static electric charge stimulates a directional flow of ether.

[3.2] The Joe cell design implies a net movement of ether from positive to negatively charged terminals (i.e. towards the center of the cell and towards the engine).

[4.0] The transfer of energy to the carburetor is accomplished by several different conductors including plastic, copper, aluminum and rubber tubing. The common material in all of these configurations is the *air* inside the tubing. This is consistent with the biodynamic view that oxygen is an excellent carrier of etheric forces. (Fertile soils are said to contain 50% air for just this reason.) The metallic carburetor housing would conduct the etheric energy to its interior surfaces, where incoming air would absorb it and carry it into the cylinders.

[5.0] In conclusion, the Joe cell offers a compelling view of how ordinary combustion engines might be modified to run on natural etheric energy. This could be an important direction for future research. Validation of the concept could be approached in three phases:

[5.1] Collecting a high concentration of etheric charge. For some ideas on how to accomplish this, see "Geometric Energy Fields" at <http://www.twelvestar.com/sourceworks/> which includes specific instructions for building resonant etheric devices.

[5.2] Stimulating a sudden condensation of ether by means of electric spark and measuring the implosion effect in a pressurized container.

[5.3] Achieving reproducible evidence of successive implosion events within a small engine mounted for laboratory testing.

Advanced Self-Powered Electric Vehicle Concept

Electric vehicles are clean, quiet, powerful, require much less maintenance than gasoline or diesel-fueled vehicles, and inherently much simpler and easier to manufacture. Their drawbacks have been a short range, long battery recharging time, and a heavy, bulky battery pack. Clearly, self-powered electric vehicles, if they could somehow be designed and manufactured at a reasonable cost, would be a commercial success. Forbes January 25, 1999 compares golf carts (400,000 already sold) with personal computers.

<http://www.forbes.com/forbes/99/0125/6302088a.htm>

Self-powered electric vehicles at minimum must satisfy four requirements: The battery ideally should not have the disadvantages of conventional lead-acid batteries such as temperature sensitivity, low charge-to-weight ratio, toxic materials, and finicky slow recharging. The electric motor should be durable and highly efficient. Heating and air conditioning must be provided. The really key difference from conventional electric vehicles is having an on-board battery charger.

Electric bicycles with only one battery are inherently more practical than conventional electric cars or trucks carrying a half-ton or so of batteries stuffed into every available nook and cranny of the vehicle. When just one battery out of one or two dozen batteries fails, the dead battery can be time-consuming to find before replacement. Once a dead battery is replaced, it could be a short time before another battery fails again. Besides weighting much less and with the batteries taking up much less space, a self-powered electric vehicle with an on-board battery charger would require at most only a few batteries.

What follows is a discussion of candidate technologies which could be combined into a reliable, commercially successful advanced self-powered electric vehicle.

BATTERY

Alvin Snaper's **Power Technology Battery**. Las Vegas resident Alvin Snaper (600 patents and new products) through his company, Power Technology, Inc., is developing a superior new battery with none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally friendly than lead. (For more information, see www.powerpwtc.com/business_of_issuer.htm.)

Maxwell Technologies **Ultra-Capacitor**. Since there is no heat nor waste product buildup as with electrochemical batteries, ultra-capacitors can easily last many hundreds of thousands of extremely rapid and deep charge/discharge cycles. They can supply repeated bursts of power for fractions of a second to several minutes. They are especially useful for supercharging power for accelerations or climbing. With their quick recharge capability, ultra-capacitors can easily capture regenerative braking energy, extending the range of the vehicle. For increased safety, they can be stored, assembled, maintained, and transported while completely discharged. Since the energy stored is directly related to the voltage, the amount of available energy can be easily monitored. This precision eliminates the need for sophisticated state-of-charge algorithms. Other advantages include temperature insensitivity and low maintenance.

Capacitors are inherently more capable than electrochemical batteries of withstanding quick discharges of electricity to the motor when the driver demands high acceleration by stepping on the throttle. It is conceivable that ultra-capacitors could be combined with batteries to take advantage of the best performance characteristics of both types.

Maxwell Technologies' commercially available PowerCache™ ultra-capacitors pack up to 100 times the energy of conventional capacitors and can deliver ten times the power of ordinary batteries. Their ultra-capacitor is a double-layer capacitor incorporating a unique metal/carbon electrode and an advanced non-aqueous electrolytic solution. As a potential is applied across the terminals, ions migrate to the high-surface-area electrodes. The combination of available surface area and proximity to the current collector provide an ultra-high capacitance for this electrostatic process.

Ukrainian Capacitor-Like Battery. The I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, has invented an entirely new type of battery. Emtech LTD., Mississauga, Ontario is commercializing the battery and has applied for 11 patents. A set of conventional lead-acid batteries can propel a small electric car for 100 miles or so, require several hours to recharge, and weigh 1000 lb. An equivalent set of Ukrainian batteries is expected to weigh approximately 200 lb., provide a much greater range of up to possibly 200-300 miles, require 15 to 30 minutes to recharge, and maintain full voltage until 94% discharge. The Ukrainian battery operates well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the Ukrainian batteries is that they are made only of proprietary materials which are environmentally friendly, plentiful, and inexpensive. (Dated 1993; claims currently are not considered credible. Emtech LTD, which had the commercialization license, recently went bankrupt. Nu Omnicomm Technologies, Inc., of Salt Lake City, which has close ties to the I. N. Frantsevich Institute for Problems of Materials Science, may be able to revive the Ukrainian battery.)

A Ukrainian battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as one molecule. Since capacitance is inversely proportional to thickness of the separation between layers, the practical consequence of the Ukrainian battery is to electrically function in a manner similar to that of a giant capacitor.

Ed Baldwin's **Super-Capacitor**. Similar in electrical function to the Ukrainian battery, Ed Baldwin's solid-state multi-layered "super-capacitor" has a very high dielectric constant. It is believed ultimately capable of ten times the electrical energy storage capacity per pound of lead-acid batteries.

Yasunori Takahashi's **ultra-capacitor**. The Takahashi ultra-capacitor is rated at approximately 20 farads at 25 volts in a volume of about one cubic centimeter.

Blacklight Power's **hydrino battery**. Blacklight Power is completing a 10-kilogram battery using hydrinos which can supply 150 horsepower for 1,000 miles.

ON-BOARD ULTRA-CAPACITOR/BATTERY CHARGER

The famous inventor Dr. Nikola Tesla reportedly modified and drove a Pierce Arrow automobile in 1931. Tesla's car required neither gasoline nor external battery charging. The power source was an array of vacuum tubes apparently similar to photo-multiplier tubes. Before and since then, dozens of other inventors claimed to have developed or are developing devices for converting relatively small input power to larger output power.

It is generally inaccurate to say that their devices produce more energy than they consume which would violate the widely accepted physical law of the conservation of energy. The accurate statement to make would be that a small external energy input causes very large internal energy to be transformed into large external energy output (electrical, thermal, and/or mechanical).

An on-board charger is required to keep the ultra-capacitor/batteries fully charged while the vehicle is parked as well as when the vehicle is motion. Parked in a garage, the car's battery charger could feed electricity back into the electric power grid and help pay for the car, if it were not for potential safety problems for power company workers. Descriptions of some of the more promising on-board charger technologies follow. (If only mentioned, see additional details above.)

Blacklight Power's "**hydrinos**". It is an exotic new source of clean energy from ordinary water.

Ken Shoulders' **high-density charge clusters** device (U.S. Patent 5,018,180). A nearly solid-state device, it ultimately may put out one kilowatt of electricity and one kilowatt of thermal energy per cubic inch. Its gain can be increased so that it puts out 30 times as much power as its input electrical power. However, the device's power conversion gain is more stable with the gain at about 5 times. (Still being researched.)

Trenergy's **plasma-injected transmutation**, Dr. Case's **gas-phase catalytic fusion, fiber-based cold fusion power cell**, and the **hybrid cold-fusion hydrogen reactor** have electric-to-thermal energy conversion gains as high as well over 100 to 1. Their energy comes from high-density clusters of electrons carrying small numbers of protons at very high velocities to target nuclei using relatively low voltages.

W. A. Lambertson's **WIN zero point electrical energy converter** extracts AC current as high as 9.908 amperes using an input current of only 0.2596 amperes. It generates electricity by collecting electrons between "E-dams" in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. Solid-state with no moving parts and no size restrictions, individual units may eventually be built to power a 15-kilowatt home or a 20-megawatt arc furnace with an efficiency of 1000% or ten times the external input power.

The Correas' **pulsed abnormal glow discharge reactor** is an over-sized glass vacuum tube which uses high-density charge clusters to produce useful positive AC-to-DC electrical power conversion gains such as 483%.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. Converts very high frequencies of natural fluctuations of the universal electromagnetic radiation field to usable electrical power at much lower beat frequencies.

John Searl's **Searl effect generator** has three concentric rings of magnetic rollers. Brushes positioned around the outer ring of rollers pick up electricity.

Frank Richardson's **electrical generator**. Two pairs of electromagnets warp permanent bar magnet's magnetic fields back and forth across field coils to achieve over-unity electrical energy conversion gain. Requires additional resonant circuit components.

ELECTRIC MOTOR

Of the many types of electrical rotating machines that have been developed, of particular interest are those which are claimed to incorporate permanent magnets in order to develop more mechanical output power than their electrical input power. Such claims are considered suspect by many skeptics since they apparently violate the so-called law of conservation of energy. Skepticism is often reinforced by frequent power gain measurement errors. However, it has also been suggested that the key to over-unity power conversion gain in such motors is to use super-powerful permanent magnets at a very high rotating speed. A so-called "super-efficient" electric motor, besides providing motive power, could also act as an on-board capacitor/battery charger whether the vehicle is cruising, idling, or parked.

Perm-Mag Motor. An over-unity energy converter claimed to have a gain of up to several times of shaft rotational power over electrical input power, the super-efficient “perm-mag” motor generates 1 horsepower per pound of weight. Used in a self-powered electric vehicle, a 50-pound, 50-horsepower electric motor is equivalent to a 250-horsepower gasoline-fueled engine.

The perm-mag motor’s inventor, Ronald Brandt, has successfully demonstrated a 10-pound, 10-horsepower prototype. Further research is expected to lead to a substantial increase in energy conversion gain over the reported gain of 400%. A 50-pound, 50-horsepower model (equivalent to a 250-horsepower gasoline-fueled engine) is currently being mounted in a Chrysler New Yorker for testing. Its companion controller, which is required to complete the resonant circuit for achieving over-unity gain, has been designed. It is not known yet whether a separate on-board battery charger will still be needed for a completely self-powered electric vehicle.

It should be noted that just because a motor can produce more mechanical power than its electrical input power does not necessarily mean that it is suitable for powering an electric vehicle. An electric vehicle motor ideally should have a number of other characteristics such as reversibility, complete variable power control, complete variable speed control, braking, and stepping. It is understood that the perm-mag motor meets all performance requirements for powering electric vehicles. It is not known how the perm-mag motor specifically compares with other types of over-unity motors.

Other Over-Unity Magnetic Motors. There are several other types of magnetic motors claimed to have over-unity energy conversion gain such as the ones that have been developed by Aspden, Reed, Watson, Bergman, Johnson, Labine, Tewari, and Marinov. For example, Teruo Kawai of Tokyo, Japan recently obtained U.S. Patent 5,436,518 for his “Motive Power Generating Device”. The patent’s key statement is as follows: “Electric power of 19.55 watts was applied to the electromagnets at 17 volts and 1.15 amperes. . . . an output of 62.16 watt was obtained.” Dividing the output power by the input power yields an efficiency of 318%. However, as stated above for the perm-mag motor, such motors may not necessarily have all the characteristics needed for powering electric vehicles. Power gain measurements also can be misleading.

COMPRESSED AIR-DRIVEN AIR CONDITIONER/HEATER

Alvin Snaper has patented a compressed air-driven air conditioner/heater. It relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air.

The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 CFM at 40 PSI. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its efficiency is nearly 30%.

The vehicle would have a redundant pair (for increased reliability) of air compressors for pressurizing the vehicle’s tubular frame which would also serve as a storage chamber. The heavy (no fuel economy requirement) and strong (for safety) tubular frame would help distribute compressed air to the power steering, power brakes, power seats, power windows, windshield wipers, door locks, air conditioner/heater, and a computer-controlled air ride suspension system.

CONTINUOUS CLIMATE-CONTROL SYSTEM

Since the vehicle’s on-board super-capacitor/battery charger is expected to keep the super-capacitor/batteries charged even while the vehicle is parked, the vehicle’s interior temperature could be thermostatically controlled at a comfortable room temperature 24 hours per day, seven days a week regardless of the exterior temperature.

LOW-TEMPERATURE DIAMOND COATINGS

Durability would be enhanced by coating parts such as shock absorbers with diamond using a new nondestructive low-temperature coating process which also was patented by Alvin Snaper.

ADVANCED COMPUTER-CONTROLLED SUSPENSION SYSTEMS

Computer-controlled hydraulic shock absorbers as well as the computer-controlled air ride suspension system would be supplied by Aimrite Systems International, Inc., which owns the patents. Aimrite's Computer-Optimized Adaptive Suspension Technology (COAST) system replaces a vehicle's conventional shock absorbers with specially designed hydraulic shock absorbers. The COAST system utilizes a sophisticated computer and position sensors to monitor the vehicle's level at each corner. The computer's microprocessor checks the sensors 240 times per second and optimally regulates the damping on all four shocks based on this input. The firmware used in the microprocessor is patented and represents the most important element in the COAST system. It controls nine dynamic and static parameters of motion (roll, pitch, sprung natural frequency, unsprung natural frequency, pumping down, stored energy, topping out, bottoming out, and height).

The COAST system is not only totally automatic, but it monitors and controls the vehicle's ride performance on a continuous basis providing soft and stable ride characteristics at all times as needed. The ride is comparable to active systems without the need for pumps nor high-speed servo-valves.

Each shock absorber is actually a complementary pair of shock absorbers mounted in opposing vertical compression/rebound modes. The computer sends signals to valves to release pressure as required. Aimrite considers its shock absorbers more durable and react faster than competing computer-controlled shock absorbers which apply pressure when needed. A built-in safety factor is that if the computer fails, the result is conventional damper operation, and failure of an individual damper is equivalent to failure of a conventional shock absorber.

Aimrite's air ride suspension system replaces a vehicle's front coil springs and rear leaf springs. The air suspension comprises of a high-quality control subsystem that includes the aforementioned dual redundant air compressors, air dryers and filters, position sensors, computer-controlled solenoid valves, and a dashboard-mounted control to ensure proper operation and a long and reliable life of the air suspension in all weather and driving conditions. While stopped or driving, the control subsystem allows the operator to easily maintain the correct ride height under all loading conditions. For example, the chassis can be raised for a bumpy ride and lowered for stable highway driving. The vehicle body is automatically leveled at all four corners, even when parked on an uneven surface.

Aimrite's suspension provides a full air suspension ride, with increased comfort and control. Built-in safety capabilities are provided that virtually eliminate traditional problems associated with air ride suspension systems.

Combining Aimrite's two computer-controlled suspension systems would offer a luxurious ride with sports-car control and additional features at a reasonable price.

MONOCOQUE (UNIBODY) BASALT/CARBON FIBER FOAM BODY/FRAME

Developed by the I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. Test vehicle made with basalt/carbon fiber foam parts was only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

MARKETING

By combining these superb new technologies into an advanced self-powered electric car that would be superior to any other car even envisioned, it is evident that it should not be very difficult to sell a reasonably priced car which would offer the following features:

- Continuous climate control even while parked.

- Computer-controlled luxurious ride with sports-car control and automatic leveling even while parked.
- Powerful but quiet and emission-free electric motor.
- Much less hassle with bothersome and costly maintenance such as oil changes, tune-ups, etc.
- No dangerous gas tank taking up space.
- Only a few maintenance-free lifetime environmentally benign super-capacitors/batteries.
- Heavy pressurized tubular frame and basalt/carbon fiber foam body for increased safety.
- And, above all, never requires refueling nor electricity recharging.

HYDRO-MAGNETIC DYNAMO

The hydro-magnetic dynamo is a recent addition to this compilation of advanced technologies. The dynamo appears to be this report's only large-scaled emission-free electrical generator which does not require external fueling. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at \$500 per kilowatt which is competitive to nuclear power's capital costs of \$5,000 per kilowatt, windmill capital costs of \$4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street \$4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ballpark of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent
IPC H 02 K 44/00 "Method of deriving of electrical energy and organization of Gritskevich's MHD-generator for its realization":

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water's friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavitational-vacuum structures (probably same phenomena used by the hydrosonic pump – see above), and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10043.

Comment Date: February 20, 2011 22:34:49PM
Solar Energy Development PEIS
Comment ID: SolarD10043

First Name: Gary
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Privacy Preference: Don't withhold name or address from public record
Attachment: Invention nominations.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments. For example, attached is my compilation of "Inventions Nominated for Federal Assistance". It contains two categories titled "Energy" and "Advanced Self-Powered Electric Vehicles".

I am confident that developing some of these inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Inventions Nominated for Federal Assistance

Inventions nominated for federal assistance by Gary C. Vesperman, 588 Lake Huron Lane, Boulder City, NV 89005-1018, 702-435-7947 garyvesperman@yahoo.com.

One source of these inventions was Vesperman's compilation of "Advanced Technologies for Foreign Resort Project" which is in <http://www.icestuff.com/~energy21/advantech.htm> and <http://www.linux-host.org/energy/advantech.htm>.

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
CATEGORY – HOMELAND SECURITY	1
Wireless Video Conferencing.....	1
Dialog Language Replacement System	1
Torsion Field Communications.....	1
CATEGORY – MEDICINE	2
Electronic Frequency and Pulse Generators.....	2
Electronic Brainwave Tuners for Permanent Elimination of Substance Addiction.	4
Bio-Energetic Spheres.....	4
Electrolyzed Oxidizing Water	6
CATEGORY – ENERGY.....	7
Electronically Shaded Photo-Voltaic Glass	7
Collective Ion Acceleration Treatment of Radioactive Waste Materials.....	8
Pulsed Abnormal Glow Discharge Reactor	8
Hutchison Self-Charged Battery	9
WIN Zero Point Electrical Energy Converter.....	9
Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy.	10
Borrowdale’s Motor/Generator	10
Conversion of Aluminum Internal Combustion V-8 Engine to Magnetic Motor.....	10
Richardson Generator	11
Hawking’s Generator	11
CATEGORY – ADVANCED SELF-POWERED ELECTRIC VEHICLES	12
Quantum High Energy Density Storage or Retrieval Device	14
Quantum High Energy Density Storage or Retrieval.....	14
Nickel-Iron and New Lead-Acid Battery	14

TABLE OF CONTENTS (Cont'd)

<u>Title</u>	<u>Page</u>
Ukrainian Capacitor-Like Battery.....	14
Blade-Less Tesla-Type Steam Turbine.....	15
Closed-Cycle Freon/Rotary Turbine	15
Compressed Air-Driven Air_Conditioner/Heater	16
Monocoque (Unibody) Basalt/Carbon Fiber Foam Body/Frame	16
Advanced Computer-Controlled Suspension Systems	18
Low-Temperature_Diamond or Titanium Nitride Coating of Vehicle Parts	19
CATEGORY – DIAMOND SEMICONDUCTOR DEVICES	19
CATEGORY – EDUCATION.....	20
Computerized Fiber Optic School Network	20

CATEGORY – HOMELAND SECURITY

Wireless Video Conferencing

The Wireless Video Conferencing system makes it possible to conduct fully duplexed, high-resolution video conferencing with audio, telemetry and data components using a proprietary wireless radio-frequency transceiver integration, portable computers and patented magnetic resonance antennas. This system has specific utility in applications such as municipal catastrophe management, in cases where damage is extensive and no conventional infrastructure survives. For instance, in real-time, a disaster headquarters will be able to see what a field agent is seeing, to talk with the agent over a non-telephone wireless link, and even have the GPS coordinates of the agent's current location reported.

The system is patent protected and ready for prototype construction and testing. Two US Government applications are homeland security and disaster management. One inventor is Gary Vesperman's partner David Yurth of Salt Lake City.

Dialog Language Replacement System

The Dialog Language Replacement System uses advanced software algorithms and proprietary hardware integrations to replace the words spoken in one language with idiomatically correct linguistic equivalents in other languages, while at all times retaining the attributes of the original speaker's voice. Even the mouth and face movements of a speaker are linguistically translated. In real-time applications, the latency is 1 to 3 seconds, and the linguistic accuracy is 95 to 97%.

It has been designed for use in movie production, multi-lingual broadcast and telephone applications. Two other applications of possible interest to the US Government are homeland security and translating school curriculums into other languages.

This system is ready for full development and testing. It is patent protected. One inventor is Gary Vesperman's partner David Yurth of Salt Lake City.

Torsion Field Communications

Practically unknown to Western science, several groups of Russian scientists have been developing torsion field physics and apparatus in secret for over three decades. A torsion field is a scalar product of two electromagnetic fields under special conditions. For example, a torsion field can be generated at the interface between two magnetic fields sweeping past each other. Russian astronomers have determined that torsion fields are transmitted at a speed of one billion times the speed of light. The European physics laboratory CERN has determined that torsion field information can be transmitted through 20 miles of mountain without attenuation. Physicists at Los Alamos National Laboratory have transmitted Mozart's 40th Symphony at 4.7 times the speed of light using torsion field generators and torsion field sensors.

A unique design has been developed for a counter-rotating torsion field generator based on a newly patented micro-solenoid technology, counter-rotating mono-polar magnetic plates, mono-chromatic standing wave lasers, and some scalar parallel processor technologies from the Swiss Institute of Technology in Zurich. The theoretical maximum capacity of torsion field communications is 40 billion channels of three-dimensional holographic television at one billion times the speed of light through the entire earth without attenuation. Torsion field communications is expected to eventually displace all forms of electronic communications including telephones, television, radio, fiber optic cable, and communications satellites, plus the entire Internet backbone.

Homeland security applications include secure communications completely separate from current communications channels. Gary Vesperman invented a major advance which is part of the first-ever patent application in torsion field communications. One co-inventor is David Yurth of Salt Lake City. The cost of completion of prototype development and testing is estimated to be \$500,000.

CATEGORY – MEDICINE

Electronic Frequency and Pulse Generators

“Electronic medicine” can be defined to be the process of exposing a sick or injured person, plant or animal to some kind of a harmless, electrically-generated signal with the hope of a positive outcome. One pioneer was Royal Rife who during the 1930’s experimentally tried to cure cancer and other diseases with his inventions of an ultramicroscope, the world’s most powerful optical microscope, and a manually adjustable electronic frequency generator.

Rife’s hypothesis was that each species of bacteria or virus has a unique crystalline structure. With his ultramicroscope, he would view living samples of a particular species of virus or bacteria. He would then spend hours adjusting the frequency, wave shape, and amplitude of the electromagnetic wave generator until he found the specific combination that would resonate with the critter’s crystalline structure and shatter it. With his ultramicroscope he could actually see a species of virus or bacteria dying once he found the correct frequency, etc. Reportedly he cured 16 terminally ill cancer patients in San Diego by exposing to them his frequency generator when it was tuned to a cancer-killing frequency.

There are basically two modern versions of such instruments available for purchase. One is a computer-controlled electronic frequency generator costing in the neighborhood of a couple of thousand dollars. The resonant frequencies of the crystalline structure of various species of disease-causing organisms are stored in the computer’s memory. The computer reads out the digital code of each frequency one at a time. For some seconds or minutes other electronics generate the code’s electrical frequency which is radiated out to a person or animal via hand-held electrodes or one or two tubes filled with one or more noble gases such as argon, neon, and xenon. The computer may be programmed with selectable modes of frequency sequencing and duration.

A Las Vegas manufacturer’s “Genesis frequency generator” can be seen on www.genesistherapy.com. Visitors are welcome by Genesis co-inventor Norman Howard. There seems to be a couple of other commercially available brands of frequency generators. (Gary Vesperman is credited with being the middleman whereby lucky circumstances enabled two inventors to meet at a conference in 1996 and begin their collaborative efforts in engineering the Genesis frequency generator.)

The other version of electronic devices for generating signals for experimental medical purposes is the much less expensive pulse generator, more commonly known as the “zapper”. Powered by a standard nine-volt battery, a zapper periodically generates an extremely narrow electrical pulse. The pulse is sent by wires to a pair of copper electrodes. The electrodes can be a pair of hand-held copper tubes or a pair of thin stiff wires about two inches long fitted under elastic strips on a person’s body such as the wrists. The electrical pulses are harmless. Zapper manufacturers include Sota Instruments (see www.sotainstruments.com/), Jaguar Electronics, and the Dr. Clark Research Association (see www.drclark.com). Gary Vesperman uses a \$50 zapper with convenient copper handholds made by Jane Kolar (see www.huldazapper.com).

The zapper’s medical effect, if any, is thought to be the same as the frequency generator. Fourier frequency analysis of a zapper’s pulses shows that a large number of higher sinewave frequencies are added together to make up an electrical pulse. The sharper the pulse, the higher are the frequencies needed for the pulse. The difference is that the frequency generator is programmed to generate specific tuned frequencies. The zapper’s “shotgun” effect is to randomly generate numerous frequencies with the expectation that a few will sooner or later resonate with the crystalline structures of a person’s accumulation of disease organisms and kill them.

An easy, completely harmless way to demonstrate the zapper’s ability to kill a disease-causing organism is to arrange for an obese person to hold a zapper for perhaps 15 minutes twice daily for a few months while watching television, etc. The zapper apparently kills the obesity virus (see <http://www.ioa.com/~dragonfly/fatvirus.html>). The zapper’s inventor Robert Beck claimed to have lost 100 pounds in about six months. Gary Vesperman himself lost about 10 pounds of fat after a few months of zapping with no change in lifestyle nor food intake.

Currently the Food and Drug Administration does not allow any claims of positive medical effects from using electronic frequency and pulse generators. However, there seems to be a sufficient number of positive anecdotes and testimonials to warrant a formal, scientifically irrefutable investigation of using these devices for medical purposes.

For example, the inventors of the aforementioned Genesis frequency generator, after five years or so of intensive research, have finally programmed it with the resonant frequency of the crystalline structure of each and every known disease-causing organism. The federal government should award a grant to methodically expose a number of victims of each and all diseases to the Genesis frequency generator and record the results. The same protocol should be applied to each of the other similar electronic signal generators as well as zappers.

Once it has been irrefutably determined that a specific electronic frequency or pulse generator positively effects a specific disease, especially since it would not induce negative effects like with radiation, knives, and drugs, its manufacturer should then legally be permitted to make claims of medical effectiveness in his advertisements just like pharmaceutical manufacturers are permitted to advertise medical benefits from using their sometimes dangerous chemicals.

Electronic Brainwave Tuners for Permanent Elimination of Substance Addiction

Addiction to alcohol and narcotic substances such as heroin and cocaine causes enormous social upheaval as well as economic and medical harm. Electronic brainwave tuners evidently can easily and permanently eliminate a patient's substance addiction in a couple of weeks. Gary Vesperman selected from his collection of brainwave tuner reports the following scientific explanation. It seems possible to tune an aforementioned electronic frequency generator for brainwave tuning for removal of substance addiction. If brainwave tuning can be irrefutably proven to eliminate substance addiction, the federal government could provide incentives for the states to vigorously implement programs to cheaply and completely eliminate substance addiction.

Alpha-theta brainwave training and beta-endorphin levels in alcoholics.

Peniston, Eugene G., and Kulkosky, Paul J.

Veterans Administration Medical Center, Fort Lyon, Colorado 81038, and
University of Southern Colorado, Pueblo, CO 81001.

An alpha-theta brainwave biofeedback training program was applied as a novel treatment technique for chronic alcoholics. Following a temperature biofeedback pretraining phase, experimental subjects completed 15 30-min sessions of alpha-theta biofeedback training. Compared to a nonalcoholic control group and a traditionally treated alcoholic control group, alcoholics receiving brainwave training showed significant increases in percentages of EEG record in alpha and theta rhythms, and increased alpha rhythm amplitudes. Alcoholics receiving brainwave tuning showed a gradual increase in alpha and theta brain rhythms across the 15 experimental sessions. These experimentally treated alcoholics showed sharp reductions in self-assessed depression (Beck's Depression Inventory) compared to the control groups. Alcoholics receiving standard medical treatment (abstinence, group psychotherapy, antidepressants) showed a significant elevation in serum beta-endorphin levels at the conclusion of the experiment. This neuropeptide is an index of stress and a stimulant of caloric (e.g., ethanol) intake. Application of brainwave treatment, a relaxation therapy, appears to counteract the increase in circulating beta-endorphin levels seen in the control group of alcoholics. *13-month follow-up data indicate sustained prevention of relapse in alcoholics who have completed alpha-theta brainwave training.* (Italics added.)

Bio-Energetic Spheres

Bio-energetic spheres are made of a special ceramic and then kilned to an extremely high temperature. Bio-energetic spheres collect life force energy (i.e., chi, or qi) and transfer it to the water in which they are immersed. They may not at first look like much of anything to get excited about. But they apparently offer major quality of life and medical benefits.

Bio-energetic spheres can be used in three ways:

1. Bio-energized water can be made by leaving 3 or more spheres in distilled or filtered water for 24 hours, or boil the water with the spheres in a saucepan for 3 minutes. Either way, drink a recommended eight 8-ounce glasses of bio-energized water per day and use to make tea, coffee, etc. And don't forget your pets' drinking water – they'll lap it up – literally.

Bio-energized water differs in many ways from the original water:

§ Alkaline-producing when your body processes it

- § High levels of far infrared energy
- § Lower surface tension (for easier bodily absorption)
- § Left-hand atomic spin (rather than the unhealthy right-hand spin)
- § Enhanced negative ion count
- § Low level of deuterium oxide

2. Bio-energized water can be made by leaving three or more spheres in water for a month, or simmering the water with the spheres for 20 minutes. Then the bio-energized water can be sprayed on skin, the coats of pets, and the leaves of houseplants. Plants can also be beneficially watered with bio-energized water.

3. Bio-energetic spheres can be worn on the body, much like people who carry crystals in their pockets. A person wearing bio-energetic spheres reportedly will receive infrared and life-force energy benefits.

Key Benefits of Bio-Energized Water:

Most of the human body consists of water, but the water drunk from the faucet contains very low levels of life force energy and seems to actually deplete the human body's own energy level. So it is thought that the more tap water a person drinks, the weaker the person gets.

The bio-energetic spheres transfer life force energy to the water, introduce far infrared energy, lower its surface tension, and convert harmful deuterium oxide into water. All this has the following benefits:

Alkaline-producing means that the water flushes harmful acidic wastes from your body, which are contributory causes of aging, cancer, arthritis, obesity and kidney disease.

Higher levels of far infrared energy increases oxygen levels in your body, warms fats and toxins so that they can be more easily eliminated, and reduces the body's acidity.

Lower surface tension means that the water can be more readily absorbed by bodily tissues, which better hydrates muscles, organs and skin. This leads to better muscle tone, so muscular strength increases, eyesight may improve, and organs simply work better.

In matter with less than 6,500 Bovis units of life force energy, atoms have a right spin. Bio-energized water has up to a million units and a left spin, which it imparts to toxins, thus rendering them harmless. It also ensures that all body tissues have a left spin.

Unhealthy environments such as offices with many computers running abound with positive ions. Healthy environments, such as beside the ocean abound with negative ions, and usually people live in a balance. In bio-energized water, that ion balance is tipped towards negative ions, which is much better for human body chemistry since it runs on "negative electricity."

Contact with the ceramic spheres removes harmful deuterium oxide. Ordinary tap water contains one deuterium oxide molecule per 6,000 water molecules. Deuterium oxide inhibits cell mitosis or division, which causes aging and the abnormal growth found in cancers.

The foregoing is a summary of the interesting, lengthy text found in www.biorays.com which is operated by Las Vegas inventor Norman Howard. John Martens and Gary Vesperman are well acquainted with Howard's research. Norman Howard is a co-inventor of the aforementioned Genesis frequency generator.

Currently the Food and Drug Administration does not allow any claims of positive medical effects from using bio-energetic spheres. However, there seems to be a sufficient number of positive anecdotes and testimonials to warrant a formal, scientifically irrefutable investigation of using bio-energetic spheres for medical purposes.

The federal government should award a grant to methodically treat a number of victims of each and all diseases with bio-energetic spheres and bio-energized water and record the results. Once it has been determined that bio-energetic spheres and/or bio-energized water positively effects a specific disease, especially since they would not induce negative effects like with radiation, knives, and drugs, a manufacturer or marketing company should then legally be permitted to make claims of medical effectiveness in its advertisements just like pharmaceutical manufacturers are permitted to advertise medical benefits from using their sometimes dangerous chemicals.

If and when positive medical effects are proven beyond doubt, bio-energetic spheres should be provided to all federal employees and clients such as veterans and prisoners in order to significantly reduce medical insurance claims.

Electrolyzed Oxidizing Water

Recently John Martens and Gary Vesperman were introduced to the versatility of electrolyzed oxidizing water from RPA Biotech, Inc. (see www.rpabiotech.com). This special form of *water* kills bacteria, fungi, viruses, molds and mildews with absolutely no harmful side effects. It will not even injure eyes nor mucus membranes. When sprayed on as a topical skin or plant surface treatment and disinfectant, electrolyzed oxidizing water has been proven to also simultaneously enhance the natural healing process in humans, animals and even plants.

Electrolyzed oxidizing water is water that has been processed by equipment that at least triples water's energizing electric potential, reduces the pH factor to less than 2.7 pH, and compresses water molecules which enables much easier transfer through body tissue and cell walls. A very mild saline (salt) solution is used to aid the electrolysis process. *No other chemicals are added.*

Is electrolyzed oxidizing water a new product? No. Electrolyzed oxidizing water products have been marketed in Japan and China for over ten years. It has been extensively researched, lengthy scientific reports have been presented at symposiums, clinically tested, and found to be highly effective and totally safe. Products made with electrolyzed oxidizing water are used by doctors and hospitals throughout Asia for the treatment of all types of skin conditions and the general sterilization of wounds, cuts and abrasions.

Asian-produced electrolyzed oxidizing water remains stable and effective for only up to 19 hours. In contrast, RPA Biotech, Inc., (see www.rpabiotech.com) has patented a stabilizing process which produces equally effective electrolyzed oxidizing water which can be conveniently packaged with a shelf life after purchase of approximately nine months. RPA Biotech, Inc., is one of the first companies to bring electrolyzed oxidizing water products into the US and Canadian markets.

RPA Biotech's primary markets are in animal healthcare, personal healthcare, agriculture, and the restaurant and food preparation industries. RPA Biotech, Inc., makes and packages its electrolyzed oxidizing water in several different convenient products. They contain no caustic, toxic or other ingredients that are harmful to humans, animals, plants or the environment. All of its products are all-natural, totally safe to use, non-toxic, bio-degradable, and safe for the environment. Testimonial to electrolyzed oxidizing water's safety and effectiveness is a 97% reorder rate.

RPA Biotech, Inc., is arranging for other companies to take over its marketing efforts

Currently the Food and Drug Administration does not allow any claims of positive medical effects from using electrolyzed oxidizing water. However, there seems to be a sufficient number of positive anecdotes and testimonials to warrant a formal, scientifically irrefutable investigation of using electrolyzed oxidizing water for medical purposes.

The federal government should award a grant to methodically treat a number of victims of each and all diseases with electrolyzed oxidizing water and record the results. Once it has been determined that electrolyzed oxidizing water positively effects a specific disease, especially since the water would not induce negative effects like with radiation, knives, and drugs, a manufacturer or marketing company should then legally be permitted to make claims of medical effectiveness in its advertisements just like pharmaceutical manufacturers are permitted to advertise medical benefits from using their sometimes dangerous chemicals.

If and when positive medical effects are proven beyond doubt, electrolyzed oxidizing water should be provided to all federal employees and clients such as veterans and prisoners in order to significantly reduce medical insurance claims.

CATEGORY – ENERGY

Electronically Shaded Photo-Voltaic Glass

By laminating a specially designed layer of liquid crystal material between panes of either clear glass or clear polycarbonate materials, which have been coated with an ITO or transparent metallic conductive film, a window transparency control system has been created which enables the viewer to darken the window pane [or other application] electronically, without the aid of shutters, blinds or curtains. The panel also rotates polarity up to 90 degrees from the vertical and substantially reduces infrared transmissivity. Buildings with windows made of electronically shaded photo-voltaic glass should have significantly lower air conditioning loads because they offer full blockage of infrared radiation. Buildings should additionally have lower net electrical power consumption because windows facing the sun will be able to generate usable photo-voltaic electricity.

CRL Opto has built and is testing the initial proof-of-concept prototypes. This application is ready for production and is patent protected. One inventor is Gary Vesperman's partner David Yurth of Salt Lake City.

Collective Ion Acceleration Treatment of Radioactive Waste Materials

The Collective Ion Accelerator has been designed, developed to the point of bench testing in the laboratory, completely documented, submitted to DOE, and is ready for full laboratory testing, prototype construction and testing. Radioactive waste treatment would eliminate the need for geological storage of radioactive waste inside Yucca Mountain. One inventor is Chinese plasma physicist Shang Xian Jin, Ph.D. Gary Vesperman has met Dr. Jin several times. Gary Vesperman's partner David Yurth of Salt Lake City works closely with Dr. Jin. Development phases II and III each needs \$2.5 million. Phase IV would involve on-site field testing of a transportable system suitable for remediation of radioactive emissions in both liquid and solid wastes.

Pulsed Abnormal Glow Discharge Reactor

The Pulsed Abnormal Glow Discharge (PAGD) Reactor is an over-sized glass vacuum tube constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the PAGD reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The PAGD reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode over-heating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of PAGD reactor tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing had been under development. The inventors had hoped that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits.

Gary Vesperman has attended a lecture by the inventors Paulo N. and Alexandra N. Correa, a married couple, on their PAGD reactor. Due to lack of financial support, the inventors reportedly were forced to stop their development efforts April 2002. They hold US Patent 5,416,391 for Electromechanical Transduction of Plasma Pulses, US Patent 5,449,989 for Energy Conversion System, and US Patent 5,502,354 for Direct Current Energized Pulse Generator Utilizing Autogenous Cyclical Pulsed Abnormal Glow Discharges.

Hutchison Self-Charged Battery

The Self-Charged Battery generates a perpetual Direct Current (DC) voltage without external recharging. By stacking enough self-charged batteries into a single DC generator, the generator's DC voltage can be converted to regulated Alternating Current (AC) electricity and thereby silently electrify a house without fuel nor emission of pollutants. The DC voltage could also power an electric vehicle's DC motor. The inventor is John Hutchison.

Casimer-effect self-charging batteries are also separately being researched by Mike Windell and Nevada inventor Matt Schadeck. Gary Vesperman has documented several of Mr. Schadeck's inventions. David Yurth of Salt Lake City works closely with Matt Schadeck.

WIN Zero Point Electrical Energy Converter

The WIN Zero Point Electrical Energy Converter extracts AC current with an output power greater than input power. It generates electricity by collecting electrons between E-dam cermet in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimer effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input. 12 sizes of generators are currently being built – one of which would be a 1500-watt unit to generate useful heat and electricity. The inventor is Wingate A. Lambertson, Ph.D. His proposed first-year budget is \$1.25 million.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy

The Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy utilizes the special characteristics of the zero-point electromagnetic radiation of having a virtually infinite energy density and that it is omnipresent even in outer space. However, the high energy densities only exist at very high frequencies. These large energies can be collected with small antenna-like structures (frequency is inversely proportional to size). But the frequencies are so high that they are unusable for practical energy applications.

With two antennas of very slightly different sizes, the converter collects zero-point electromagnetic radiation of two very slightly different frequencies. The converter then superimposes the two frequencies which results in a far lower beat frequency. The energy contained in the beat frequency is then transformed to practical electrical power which can be made available in any location on earth or in space. Applications include transportation, heating, cooling as well as many others. Franklin B. Mead, Jr., Lancaster, California and Jack Nachamkin, Poway, California hold US Patent 5,590,031 for System for Converting Electromagnetic Radiation Energy to Electrical Energy.

Borrowdale's Motor/Generator

The Borrowdale's Motor/Generator incorporates permanent magnets which provide the drive torque by pulling rotor and stator poles together with an electromagnetic opposed excitation input pulsation used to weaken that magnetic pull to allow the poles to separate. Its power output is claimed to be 3 times power input. Gary Vesperman and Las Vegas businessman Gary Davis have seen this invention in operation but not performance tested. Inventor is Brian Borrowdale.

Conversion of Aluminum Internal Combustion V-8 Engine to Magnetic Motor

The Conversion of Aluminum Internal Combustion V-8 Engine to Magnetic Motor has its heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on a shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As the crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle or rotating electrical generator. If the electric motor is replaced with a Muller magnetic motor, the combined conversion gain of output power over input power is projected to be about 300.

Gary Vesperman and Las Vegas businessman Gary Davis have seen a partially built prototype. One side of four cylinders had a crankshaft with four super-magnets mounted on it. The inventor is Brian Borrowdale.

Richardson Generator

Two pairs of electromagnets warp a permanent magnet's magnetic fields back and forth across output field coils to induce a DC output voltage. The faster the switching speed, the higher is the DC output voltage, up to the point of magnetic saturation, which is then converted to an AC voltage. Some of the output power is fed back to provide input power for the switching electromagnets and associated signal generator and switching transistors. When the entire circuit is optimally tuned by adjusting variable capacitors to achieve resonance, more output power is generated than is needed for the input power, as claimed by inventor Frank Richardson. A Richardson generator less than the size of a garbage can could generate enough electricity for an average-sized residence with no noise, no fuel, and no emission of pollutants.

Frank Richardson died some years ago. However, Gary Vesperman himself had done some engineering work on Richardson's generator. Vesperman and some Las Vegas inventors have talked about resurrecting the Richardson generator with the help of engineering documents inherited by Mr. Richardson's son who lives in St. George, Utah. Frank Richardson held US Patent No. 4,077,001 for Electromagnetic Convertor with Stationary Variable-Reluctance Members.

Las Vegas businessman Gary Davis owns the rights to the Richardson generator. Davis owned and managed Natural Environmental Solutions, Inc., a Nevada corporation. Gary Vesperman researched and wrote most of the company's Small Corporate Offering Registration for \$500,000 of stock to be publicly sold to investors in 1994(?).

Hawking's Generator

The Hawking's Generator results from feeding high voltages oscillating at optimally 150,000 hertz to two 4-inch fluorescent lights. Each fluorescent tube has a strong permanent magnet attached to its center – north pole on one side, and south pole on the other side. The magnetic field between the two poles deflects the electrons in the tube off to one side. The tube is now no longer capable of generating hot electricity. Instead only *cold* electricity is extracted from the zero point energy field by the tube. The cold electricity comes from the other end of the tubes which are each wired to a brass electrode. A 6 to 8-inch white spark of cold electricity 4 inches in diameter is produced between the two brass balls.

Cold electricity can not be measured with ordinary voltmeters and ammeters since there are no electrons. However, cold electricity can power lamps, etc. Totally different applications could result from the observation that materials inserted in a spark of cold electricity sometimes change to elements of higher density.

Gary Vesperman has a video of an earlier version of the Hawking's generator where the dazzling white spark of cold electricity is only about the size of a peanut due to a much lower frequency being used. A weird "singing" noise heard in the video indicates that energy is being extracted from the omnipresent zero point energy field. Even Nicola Tesla himself long ago observed the same connection of singing noise to energy extraction.

The Hawking's generator, although fairly simple and can completely be made with commonly available components, is still in its earliest stages of development. Gary Vesperman's friend Henry Curtis was the one who brought the Hawking's generator to Vesperman's attention and provided him with a video. Curtis has been investigating and attending conferences on new energy technologies for over 15 years. Curtis thinks the Hawking's generator is the most exciting fuel-less energy source he has ever seen. Vesperman has talked with some Las Vegas engineers about building their own prototype for testing.

Frankly, "cold electricity" is still very much a huge mystery. Gary Vesperman has a BS degree in electrical engineering from University of Wisconsin-Madison and has become familiar with all sorts of weird devices. Even he has no idea as to how mathematical formulas could be written describing the most fascinating phenomenon of cold electricity. Hot fusion has received billions of research dollars with no hope of a practical electricity generator for decades to come. Surely studies and development of cold electricity and new energy devices such as the Hawking's generator are equally deserving of massive funding by the US government, if not more so than hot fusion.

CATEGORY – ADVANCED SELF-POWERED ELECTRIC VEHICLES

In Sept 8-9, 2000 for the Institute of New Energy Symposium, Salt Lake City, Utah, Gary Vesperman lectured on his "Advanced Self-Powered Electric Vehicle Concept". His paper was later published in Proceedings of INE-2000, Vol. 5, No. 2 of Journal of New Energy, P.O. Box 58639, Salt Lake City, Utah 84158-0639. Its abstract is as follows:

"Candidate technologies were originally combined into an advanced self-powered electric vehicle concept in 1993. The power train of the concept's current version includes a modern version of Edison's nickel-iron battery or one of four super or ultra-capacitors, a closed-cycle blade-less Tesla-type steam turbine or one of several over-unity magnetic motors, and one of several possible types of on-board battery chargers. Miscellaneous innovations include computerized shock absorbers and air ride suspensions, lightweight basalt/carbon fiber foam for body/frame, parts non-destructively coated with diamond or titanium nitride, and compressed air-driven air conditioner/heater."

By combining these superb new technologies into an advanced self-powered electric car that would be superior to any other car even commonly envisioned, it evidently should not be very difficult to sell a reasonably priced car featuring:

- Powerful but quiet and emission-free electric motor, possibly with over-unity power conversion gain.
- Only a few maintenance-free lifetime environmentally benign batteries.
- Never requires refueling nor electricity recharging due to on-board battery charger.
- Continuous climate control with compressed air-driven air conditioning/heating, even while parked.
- Computer-controlled luxurious but economical ride with sports-car control and automatic leveling even while parked.
- Much less bothersome and costly maintenance including no oil changes, no tune-ups, no radiator, no refrigerant-based air conditioner, and no fuel tank.
- Numerous parts non-destructively coated with diamond or titanium nitride for increased durability and safety.

- Exceptionally tough, crash-resistant basalt/carbon fiber foam body/frame, lighter than fiberglass, for increased safety with lower weight.

Las Vegas, Nevada is uniquely blessed with an active electric car club with at least a half-dozen members who have actually built electric cars. They could design and build engineering prototypes of advanced self-charged electric vehicles as well as kits for converting existing vehicles to self-charged electric. Alvin Snaper, who is the prolific inventor of an advantageous new nickel-iron battery, compressed air-driven air conditioner/heater, and low-temperature process for coating automotive parts, tools, etc with diamond or titanium nitride for greatly increased durability, even lives and works in Las Vegas.

To minimize initial capital outlays, advanced self-charged electric car features would be introduced in phases rather than simultaneously at great up-front cost. The profits earned from each phase would help finance the next follow-on phase. For example, at the beginning existing golf carts could be fitted with on-board battery chargers, and propane generators in RVs replaced with fuel-less battery chargers. Somewhat later, existing cars and trucks could have their engines, radiators, and fuel tanks replaced with electric motors, a few batteries, and fuel-less on-board battery chargers. Standalone businesses selling auxiliary technologies, especially low-temperature coating of parts, tools, etc with diamond or titanium nitride, could be very profitable, fast-growing ventures.

Currently in California, every electric vehicle sold that meets requirements earns 4 EV credits that can be resold to the major automobile makers for \$20,000. Even if the company only breaks even on its cars, the total profit on each car sold in California would still be \$20,000. So therefore, nearly all new self-charged electric vehicles, not existing vehicles converted to self-charged electric, would be sold in California – a huge market. Other states are considering similar EV credits. For the first 10,000 self-powered vehicles sold nationwide, the federal government should provide an additional credit of \$10,000 specifically for each vehicle proven to be self-powered or self-charged with no external fuel nor electricity needed and zero emissions.

The last chapter of Gary Vesperman's aforementioned compilation of "Advanced Technologies for Foreign Resort Project" in <http://www.fortunecity.com/greenfield/bp/16/advantech.htm> is titled "Advanced Self-Powered Electric Vehicle Concept".

Gary Vesperman has written a 15-page preliminary business plan for a startup company which has the mission to lead to the eventual design, manufacture, and sale of advanced self-charged electric vehicles.

The following are descriptions of electric vehicle inventions. All of them by themselves appear to be deserving of federal aid as part of an overall effort to develop prototype advanced self-powered vehicles for demonstration. See the Energy Category above for additional candidate fuel-less emission-free vehicle power sources.

Quantum High Energy Density Storage or Retrieval Device

Essentially a very thin battery, the solid-state Quantum High Energy Density Storage or Retrieval (QUENSOR™) device has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed. If the upper limit of 15 kilowatt-hours per kilogram is assumed, a 60-pound QUENSOR device can supply an electric car, in round numbers, 20 horsepower of electric power at 50 miles per hour for 30 hours, or a total of 1500 miles on a single charge.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

Nickel-Iron and New Lead-Acid Battery

Las Vegas inventor Alvin Snaper is currently developing and patenting a modern version of the century-old Edison nickel-iron battery through his Las Vegas company Power Technology, Inc. (See http://www.powerptc.com/business_of_issuer.htm.) His new nickel-iron battery will have none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally benign than lead.

During an August 2002 visit, one of Snaper's researchers told Gary Vesperman that their lead-acid battery already has the world's highest energy density, and they hope to increase it even higher. It uses some of the components of the nickel-iron battery which has been delayed.

Alvin Snaper holds US Patent No. 6,060,198 for Electrochemical Battery Structure and Method. He may already have obtained one or more additional battery patents.

Ukrainian Capacitor-Like Battery

The I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, has invented an entirely new type of battery. Emtech LTD., Mississauga, Ontario is commercializing the battery and has applied for 11 patents. A set of conventional lead-acid batteries can propel a small electric car for 100 miles or so, require several hours to recharge, and weigh 1000 lb. An equivalent set of Ukrainian batteries is expected to weigh approximately 200 lb., provide a much greater range of up to possibly 200-300 miles, require 15 to 30 minutes to recharge, and maintain full voltage until 94% discharge. The Ukrainian battery operates well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the Ukrainian batteries is that they are made only of proprietary materials which are environmentally friendly, plentiful, and inexpensive.

(These performance claims are dated 1993 and currently are not considered credible without an updated report. Emtech LTD, which had the commercialization license, recently went bankrupt. Nu Omnicomm Technologies, Inc., of Salt Lake City, which has close ties to the I. N. Frantsevich Institute for Problems of Materials Science, may be able to revive the Ukrainian capacitor-like battery.)

A Ukrainian battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as one molecule. Since capacitance is inversely proportional to thickness of the separation between layers, the practical consequence of the Ukrainian battery is to electrically function in a manner similar to that of a giant capacitor.

Gary Vesperman's partner David Yurth of Salt Lake City has personally worked with the IPMS on their Ukrainian super-capacitor battery. Famous Indy 500 race car driver Rodger Ward's American Electric Car Company had planned to use these batteries. Unfortunately, the IPMS was unable to keep its battery prototype delivery commitments. Gary Vesperman researched and wrote most of the company's Small Corporate Offering Registration for \$1,000,000 of stock to be publicly sold to investors in 1993(?).

Blade-Less Tesla-Type Steam Turbine

A powerful blade-less Tesla-type steam turbine was developed by Frank Richardson. This turbine has a closed-loop cycle which he claimed is far more efficient than the electric motor in terms of converting electrical energy into rotational energy for application to a vehicle's drive wheels. The water is heated with radio frequencies like a microwave oven into steam which is then forced through two disks in sequence. The two disks are perforated in such a manner as to prevent cavitation (bubbles) even at high rotational velocity. Since steam offers a 1,000-to-1 expansion ratio compared with gasoline's expansion ratio of approximately 300 to 1, the turbine is extremely powerful. An 18-inch diameter prototype's output power was measured at approximately 1,000 horsepower.

By combining his turbine with the aforementioned Richardson electrical generator, Richardson had built a self-powered modified beetle-shaped Volkswagen automobile which he had operated during the early 1970's.

Closed-Cycle Freon/Rotary Turbine

DiMatt Industries's DiMatt Wankel Generator integrates a Freon-based wankel engine and generator system. The system relies on the extremely high expansion coefficient demonstrated by certain Freon formulations to drive the internal rotary piston system embodied by the Wankel. This system has been shown to produce 40-80 brake horsepower (as tested on a fully instrumented dynamometer) without consuming fuel or producing any exhaust. The engineering design specifications, patent application and underlying component patents have been developed for the construction and testing of a transportation platform which relies on a closed-cycle Freon/rotary turbine design to supply power to electric motors with no consumption of fuel and no emissions. Its efficiency is lower in colder temperatures.

One inventor is Nevada inventor Matt Schadeck. Gary Vesperman has documented several of Mr. Schadeck's inventions. Gary Vesperman's partner David Yurth of Salt Lake City works closely with Matt Schadeck.

Gary Vesperman has a videotape and drawings of deceased Las Vegas inventor Robert Stewart's low-temperature phase-change engine which relies on the same basic principle but seems to be a different design.

Compressed Air-Driven Air Conditioner/Heater

The compressed air-driven air conditioner/heater relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air.

The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 cubic feet per minute at a pressure of 40 pounds per square inch. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its laboratory-certified efficiency is nearly 30%. Gary Vesperman has seen during demonstrations conducted in inventor Snaper's garage on a hot Las Vegas summer day temperature measurements of the air blowing out of the cold end at around 0 degrees Fahrenheit.

While the patent on the compressed air-driven air conditioner/heater has recently expired, it is still available for commercialization. Combined with an on-board battery charger, the advanced self-powered electric vehicle would have the exceptionally nice feature of continuous climate control, even while parked! Parked on a cold winter day, the interior of the vehicle would always be toasty warm. On a hot summer day, the vehicle's interior would always be refreshingly cool. Alvin Snaper holds US Patent No. 4,407,134 for Air Conditioning System.

Inventor Alvin Snaper in August 2002 showed Gary Vesperman a Chevy S-10 pickup truck he had bought without air conditioning. He has a budget of \$550,000 maximum to do "sweat engineering" of a complete prototype air conditioning system to be installed in the S-10. Alvin is still looking for a more nearly ideal air compressor.

Monocoque (Unibody) Basalt/Carbon Fiber Foam Body/Frame

Developed by the I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. A test vehicle made with basalt/carbon fiber foam parts was reportedly the only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

Dave Yurth's Sept 3, 2002 email to Gary Vesperman is as follows:

From : dyurth <dyurth@xmission.com>
To : "Gary Vesperman" <vman@skylink.net>
Subject : Re: Basalt/carbon fiber foam for EV
Date : Tue, 03 Sep 2002 09:36:14 -0600

Hi Gary:

Thanks for the note...Matt and I have also been working on a variation on a theme for an EV...we've found a digital variable reluctance motor which marries the best of torque characteristics and energy utilization efficiency in a single unit – no windings at all. The shaft is married directly to the motive element – in the current use, it is used to drive a wood lathe. In our design, it would connect directly to the wheel and, on the other side, to a brake/energy conversion device which converts momentum into recharging current like the BART system.

The basalt fiber material is manufactured by the Institute for Problems of Materials Science (IPMS) in Kiev, Ukraine. If you are interested in utilizing this technology to create an automobile enclosure, three technologies are needed:

1. The basalt fiber technology can only be found at the IPMS. I believe there may still exist some spools of the stuff in or around Kiev, but it has been ten years since I worked with them so we'll have to re-establish contact. The principal value of the material is that it has a softening temperature of 805 degrees centigrade.
2. The Russians used powdered metallurgy to alloy their strategic metals – the ideal mix of metal powders would be aluminum and magnesium, since both can be found in finely particulated powders and when mixed together in the right ratios, these two metals form a material which is utterly resistive to corrosion and which has excellent tensile strength.
3. The powdered metals are mixed in a chamber like dry cake mix and then applied using a third technology – in IPMS documents, this technology is referred to as a "High-Temperature Gas Plasma Detonator". The metal powder is poured into a ceramic container, which funnels it into a specially designed high temperature containment vessel which is also surrounded by super magnets, arranged in a very precise order to create a compressive effect. When the powdered metal is brought into the chamber, high voltage, high pressure and extreme magnetic fields reduce the metal powder to a plasma, which is then expelled through a nozzle and onto a target – in this case, the woven basalt fiber which creates the shape of the vehicle.

When the metallic plasma collides with the basalt fiber material, it has a temperature of about 1600 degrees centigrade. This causes the basalt fibers to soften and partially melt – but the cooling gradient for this material is so steep that it cools almost immediately below 800 degrees centigrade, at which point the fibers reconstitute. This creates a basalt fiber reinforced metal alloyed shell which is extremely strong, very light weight and can be polished to a high sheen.

This is the technology the Russians have used for 25 years to create fuel cells for their huge rocket boosters – and it is the reason their boosters are so light, have no gaskets or seams and can be reused over and over again.

Dave”

Advanced Computer-Controlled Suspension Systems

Computer-controlled hydraulic shock absorbers as well as the computer-controlled air ride suspension system would be supplied by Aimrite Systems International, Inc., which owns the patents. Aimrite's Computer-Optimized Adaptive Suspension Technology (COAST) system replaces a vehicle's conventional shock absorbers with specially designed hydraulic shock absorbers. The COAST system utilizes a sophisticated computer and position sensors to monitor the vehicle's level at each corner. The computer's microprocessor checks the sensors 240 times per second and optimally regulates the damping on all four shocks based on this input. The firmware used in the microprocessor is patented and represents the most important element in the COAST system. It controls nine dynamic and static parameters of motion (roll, pitch, sprung natural frequency, unsprung natural frequency, pumping down, stored energy, topping out, bottoming out, and height).

The COAST system is not only totally automatic, but it monitors and controls the vehicle's ride performance on a continuous basis providing soft and stable ride characteristics at all times as needed. The ride is comparable to active systems without the need for pumps nor expensive high-speed servo-valves.

Each shock absorber is actually a complementary pair of shock absorbers mounted in opposing vertical compression/rebound modes. The computer sends signals to valves to release pressure as required. Aimrite considers its shock absorbers more durable and react faster than competing computer-controlled shock absorbers which apply pressure when needed. A built-in safety factor is that if the computer fails, the result is conventional damper operation, and failure of an individual damper is equivalent to failure of a conventional shock absorber.

Aimrite's air ride suspension system replaces a vehicle's front coil springs and rear leaf springs. The air suspension comprises of a high-quality control subsystem that includes the aforementioned dual redundant air compressors, air dryers and filters, position sensors, computer-controlled solenoid valves, and a dashboard-mounted control to ensure proper operation and a long and reliable life of the air suspension in all weather and driving conditions. While stopped or driving, the control subsystem allows the operator to easily maintain the correct ride height under all loading conditions. For example, the chassis can be raised for a bumpy ride and lowered for stable highway driving. The vehicle body is automatically leveled at all four corners, even when parked on an uneven surface.

Aimrite's suspension provides a full air suspension ride, with increased comfort and control. Built-in safety capabilities are provided that virtually eliminate traditional problems associated with air ride suspension systems.

Combining Aimrite's two computer-controlled adaptive suspension systems would offer a luxurious ride with sports-car control and additional features at a reasonable price.

The air conditioner/heater as well as the air-ride suspension both require compressed air. There has been some talk of using compressed air also for other vehicle applications such as stiffening tubular frame members, windshield wiper motors, etc.

US Patent No. 5,056,811 for Actively Controlled Automotive Suspension System with Adjustable Rolling-Stability and/or Pitching-Stability. US Patent No. 5,735,372 for Variable Constant Force Hydraulic Components and Systems. US Patent No. 4,634,142 for Computer Optimized Adaptive Suspension System. US Patent No. 4,722,548 for Computer Optimized Adaptive Suspension System having Combined Shock Absorber/Air Spring Unit. US Patent No. 4,468,739 for Computer Optimized Adaptive Suspension System having Combined Shock Absorber/Air Spring Unit. US Patent No. 4,468,050 for Computer Optimized Adaptive Suspension System. US Patent No. 5,529,152 for Variable Constant Force Hydraulic Components and Systems. All invented by James M. Hamilton, Solana Beach, California and Lonnie K. Woods, Jacumba, California. US Patent No. 4,651,838 for Air Spring Control System and Method. US Patent 4,783,089 for Air Spring Control System and Method. All invented by James M. Hamilton, Solana Beach, California, Lonnie K. Woods, Jacumba, California, and Michael W. Godwin, San Diego, California.

Gary Vesperman researched and wrote most of Aimrite's Small Corporate Offering Registration for \$1,000,000 of stock to be publicly sold to investors in 1993(?).

Low-Temperature Diamond or Titanium Nitride Coating of Vehicle Parts

Durability would be enhanced by nondestructively coating numerous parts such as shock absorbers with diamond or titanium nitride using Alvin Snaper's new low-temperature coating process. A multiple gun plasma arc deposition system allows controlled deposition of diamond and other diamond-like materials such as titanium nitride on a substrate. Deposition is controlled by controlling the time duration of pulses to a main gun, an acceptor gun and donor gun in a vacuum chamber that may contain a small amount of hydrogen. The deposition process is also enhanced with microwave temperature control and substrate dithering with a transducer.

The potential market for coating vehicle parts, machinery parts, tools, drill bits, etc seems to be enormous. Alvin Snaper holds US Patent No. 5,254,237 for Plasma Arc Apparatus for Producing Diamond Semiconductor Devices. About ten years ago, the business plan for Snaper's company Stratum Corporation had an estimate of \$3,500,000 to build a pair of coating chambers and working capital of \$1,000,000. While one chamber is coating objects placed inside it with diamond or titanium nitride, the other chamber would be emptied and reloaded with a fresh batch of objects to be coated.

CATEGORY – DIAMOND SEMICONDUCTOR DEVICES

The diamond deposition system and process can even be used to manufacture semiconductor devices made with diamond instead of silicon – another new industry for Las Vegas with possibly multi-billion-dollar potential.

CATEGORY – EDUCATION

Computerized Fiber Optic School Network

One dozen to four dozen junior and senior high schools in each large metropolitan area were to be linked with fiber-optic cables into a single huge network with an average cost of \$100,000,000. The recent advent of the Internet and even torsion field communications possibly offers significant cost reductions.

The network's three-layer computer system would comprise of a network coordinating and scheduling computer as the top layer, an administrative computer in each school as the middle layer, and personal computers as the bottom layer. The network's customized software would include network management and coordinating functions for the system manager, two layers of software for the teachers to support 100 different functions, and 25 different functions for the students, only one of which is computer-assisted instruction. Each personal computer would have a monitor capable of also displaying telecast or recorded classes.

The typically huge scale of a school network would economically justify the simultaneous teaching in parallel of all week-long segments of each course year round with no seasonal constraints. Segmented courses would still include the standard features of conventional courses such as classes, graded examinations, and academic load standards. Short quizzes on each segment with pass/fail grading would provide quality control.

Other nonstandard features of segmented courses include modified versions of the project management tools PERT and CPM, unique statistical techniques for selecting series of two or three local/televised classes for weekly scheduling, nearly unlimited self-pacing, student interest groups, and optimum utilization of the superlearning technique.

The computerized fiber optic school network is Gary Vesperman's own design.

During the winter of 1992, with the backing of the Clark County School District (Las Vegas, Nevada area), Gary Vesperman submitted to the New American Schools Development Corporation (NASDC) an application for a grant of \$11,897,400 to develop a prototype small version of a fiber-optic network of computer-based segmented courses. The NASDC was an off-shoot of President Bush's America 2000 program. Funded mainly by donations from large corporations, the NASDC was a private company chartered to fund the development of radically different schools.

They did not win a contract. There were 685 other competitors for 11 awards. Afterwards they received short descriptions of the winning proposals. None of them appeared to be anywhere as advanced as Gary Vesperman's design. Sometime afterwards, the Las Vegas Review-Journal newspaper had an article that raised the suspicion that one reason for their not winning was that Nevada was not important to President Bush's re-election!

Yet Vesperman has been authoritatively told more than once, although not recently, that no other design is close to his, and may be the only one that has a genuine chance to break the organizational logjam hampering our schools. All the other designs he has ever come across have flaws that his design doesn't have.

In fact a few years ago Vesperman came across an article claiming that educational computer experts have come to a dead end trying to make computers more useful in the schools. The basic systems engineering obstacle, which he believes he has surmounted, is that the answer lies in a completely different, complicated system which can not be arrived at in piecemeal fashion. His conclusion is that there is much more that could be done than just throwing a bunch of PCs into a school and then expect teachers to do some intelligent systems engineering with them.

The proposal (about 180 pages) included a development schedule which was tailored to the requirements as set forth by the NASDC. But Vesperman felt uncomfortable with their schedule. It was just too fast. It would have skipped first spending a year or so doing a few preliminary research projects which would examine the design from different angles. His intention was that since building a full-scale network for a metropolitan area would cost in the neighborhood of \$100,000,000, once the small projects were finished, we would all then have a better understanding of the costs, capabilities, and limitations of the design.

Assuming that equipment costs continued to come down, and that the pilot program worked well, the next step was to expand the pilot network into a prototype full-scale version. The engineering was to be done during the third year of the pilot program. It would then take at least a year to build, and another two years to fully make the conversion from the conventional system in all networked schools.

A cadre of experts would have eventually been built up in the Las Vegas area well-versed in all aspects of engineering and using school networks. A potentially multibillion-dollar business could then be spun off to market, configure, install, and maintain school networks around the world, each network averaging \$100 million.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10044.

Comment Date: February 20, 2011 22:42:28PM
Solar Energy Development PEIS
Comment ID: SolarD10044

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Henderson NLV Guideway Power Sources.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

For example, the attached "Power Sources for Regional Fixed Guideway" includes my suggestions on how to structure a sophisticated energy inventions development organization. I had submitted this comment to the record of hearings that were conducted in 2005 for a proposed mass transit train traversing the Las Vegas, Nevada metropolitan area from Henderson to North Las Vegas. For link, see <http://www.padrak.com/vesperman/>.

I am confident that developing some of these inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Power Sources for Regional Fixed Guideway

Dawn Oaks, Court Reporter
September 14, 2005

Please insert the following comments into the record of the Regional Fixed Guideway Public Meeting that was held September 14, 2005 in Green Valley Ranch, Henderson, Nevada:

High gasoline and jet fuel prices threaten Nevada's tourist industry. Our world uses a BILLION barrels of oil every 12 days. Yet only a puny 30 million barrels of new oil are typically found in the same time period. The global depletion rate runs at least 5% a year – perhaps at a shockingly higher rate as some major sources of oil are in serious decline. Oil production in Britain fell the steepest of any country in 2004, with production in the once fabled North Sea falling by 10% (230,000 barrels per day). Production in Alaska's Prudhoe Bay has fallen 75% since its peak in 1987. Iraq's oil production is still only half of what it was before the war. Mexico's production is declining so quickly it will have to start importing oil within the next 10 years. Even oil giant Saudi Arabia has begun underwater oil drilling.

Gasoline and diesel fuel are still needed for mining, preparing, and transporting coal to a high percentage of electricity generators. Food production, processing, packaging, and distribution are also heavily dependent on gasoline and diesel fuel. Running out of petroleum could likely result in mass starvation as well as leave millions of people literally in the dark and back to horses and buggies. Replacement of petroleum with alternative energy supplies might even be just plain too late.

Abundant new energy supplies are thus desperately needed that do not have the disadvantages of hot fusion, coal, solar, petroleum, uranium, falling water, and wind. Gary Vesperman's list of candidate new sources of energy includes the hydrosonic pump, pulsed abnormal glow discharge reactor, Davis tidal turbine, high-density plasma electron spiral toroids in neutron tube, GeoExchange heat pump, hydrino battery, metallurgical separation of hydrogen from water, high-density charge cluster device, hybrid cold fusion hydrogen reactor, electronically shaded photo-voltaic glass, Joe's energy cell, Clem over-unity vegetable-oil engine, super-steam technology, gas-phase catalytic fusion, wind-solar hemisphere power station, LUMELOID™ light-polarizing photovoltaic thin film, LEPCON™ femto diode photovoltaic glass sheet, solid-state Quantum High-Energy Density Storage or Retrieval (QUENSOR™) device, Tesla turbine combustor, buried contact multijunction thin film solar cell, fiber-based cold fusion power cell, solar hydrogen producer, Hawkings' generator of cold electricity, double-exposure flat-plate solar collector, low-temperature phase-change engine, Muller's magnetic motor/generator, hyper-cap E-converter, aluminum-water fueled hydrogen producer, converter of zero-point electromagnetic radiation energy to electrical energy, water-fueled internal combustion engine with Garrett electrolytic carburetor, noble gas plasma engine, metamatter for revolutionary energy sources and rocket engines, three versions of Casimer-effect self-charging battery, motionless electromagnetic generator, Q-cell, WIN zero point electrical energy converter, vortical energy, conversion of aluminum internal combustion engine to magnetic motor, motor/generator with electromagnetically separated magnetic poles, Searl effect generator, 2-to-1 cylinder noble gas power plant, fuel-less Richardson generator, cold operating start technology for 100 miles/gallon automobiles, Boyce hydrogen carburetor, continuous charger for batteries – flux shifter, magnetically powered rotary unit, DiMatt Wankel closed-cycle freon/rotary turbine and generator, fluid thrust diode, Russian electrochemical energy source, high-voltage injection of rain water into cold fog, SPARTEC vacuum triode amplifier, portable power supply solar unit for hot water for Sterling engine, advanced Stirling cycle power unit, vapor generator, gas-generating BingoFuel Reactor, remediating nuclear waste with electron-captured protons with significant net energy gain, Brown nuclear battery,

Brinsbury hydrogen steam rotary engine, hydro-magnetic dynamo, gate impulse turbine, flux capacitor, pressurized vapor driven rotary engine, self-restoring mechanical oscillator engine, electric rocket, energy buoyancy source, pulsed capacitor discharge electric engine, zero point energy modules, Swiss M-L converter, "negative" resistance in carbon fibers, neutrino voltaics, and plasma biomass gasification. Doubtless numerous other energy inventions can be added to this list.

Other energy researchers can provide similarly extensive compilations of new energy technologies. Tom Valone's Integrity Research Institute (see <http://users.erols.com/iri/>), Sterling Allan's <http://FreeEnergyNews.com/>, <http://www.infinite-energy.com/>, Jerry Decker's <http://escribe.com/science/keelynet/>, <http://www.newenergytimes.com/>, Bruce Meland's <http://www.electrifyingtimes.com/>, and Russia's <http://www.faraday.ru> have all accumulated large databases of reports and comments on energy. Robert A. Nelson, P.O. Box 19250, Jean, Nevada 89019 amassed 10,000 pages on energy inventions and other scientific and technological subjects in his www.rexresearch.com – the contents of which are available on a \$13 CD.

It seems likely that some of these inventions of new energy sources actually work as claimed and are suitably practical for worldwide deployment. An ideal energy source satisfies all these requirements:

- Is practical, economical, and scaleable from 1 kilowatt through 1000 megawatts.
- No rare elements for construction or fuel are needed.
- Operates standalone or needs minimal fuel or auxiliary energy input.
- Does not pollute.
- Can be stored and operated reliably and safely without burdensome maintenance outside in Death Valley during summer and at the South Pole during winter.
- Is silent.
- Inventor(s) is (are) reasonable to do business with.

Development and commercial manufacturing of a proven new energy source requires competent people, a doable business plan, integrity, and sufficient money to carry the enterprise until it reaches profitability. Each energy invention is burdened with the baggage of its own unique little tale. Some energy inventors may be brilliant, of course, but are otherwise incompetent businesspeople. Development may be hampered by unethical investors or associates, an inventor's illness or death, or suppression by existing energy industries and the tangle-footed US federal government. Shortcomings in the energy invention itself may need further research to be mitigated or eliminated, if possible. New energy sources typically do not qualify for financial support from venture capital, large corporations restricted to operating within their chosen missions, and governments unaware of or even hostile to unconventional energy sources. The International Brotherhood of Electrical Workers even has a long track record of fighting against renewable energy sources, new technology and distributed electricity generation as exemplified by its successful campaign to stop in California's State Assembly legislative bill SB1. See http://www.renewableenergyaccess.com/rea/news/story;jsessionid=aocWhN_NdANb?id=36396. Enactment of SB1 was to advance widespread deployment of solar energy in California.

To overcome such obstacles, perhaps in keeping with Nevada's frontier spirit of independence and eccentricity, Nevada should implement its own Plan for Energy Action Now! which would proactively find, verify and deploy new non-mainstream sources of energy at a World War II-styled pace. Nevada's Plan for Energy Action Now! would embrace an alliance of Nevada elected officials, a for-profit Nevada corporation, limited liability companies, a non-profit energy research institute, agreements with energy inventors and consultants, and grassroots support by millions of people who are angry at increasingly higher energy prices.

The for-profit Nevada corporation will be a new company incorporated in Nevada with a name such as “Nevada Energy Corporation” or whatever. Nevada Energy Corporation will comprise the organization’s executive directorate and provider of managerial, technical, marketing and financial resources to new energy inventions.

Each new energy invention will be individually owned by a new Limited Liability Company (LLC) chartered to develop and commercialize the invention as rapidly as permitted by circumstances and available funds. Ownership of each energy invention developer LLC will initially be split fifty-fifty between the energy invention’s inventor(s) and Nevada Energy Corporation.

Key managerial, technical, and financial consultants may be employed by either Nevada Energy Corporation or another LLC named Nevada Energy Consulting Group LLC. Nevada Energy Consulting Group LLC will be 100% owned and managed by Nevada Energy Corporation. Nevada Energy Consulting Group LLC, in addition to being paid fees by an energy invention developer LLC for consulting services, will have the option of ownership of up to 5% of the invention’s LLC.

Nevada Energy Consulting Group LLC will in turn wholly own and operate, with managerial oversight by Nevada Energy Corporation, Nevada Energy Institute, a 501c[3] non-profit corporation with federal tax-exemption status. Nevada Energy Institute will be chartered to grow the organization’s library of books, articles, and other literature relating to alternative energy sources. Nevada Energy Institute may be commissioned by Nevada Energy Corporation and other companies and governmental agencies to thoroughly study new energy inventions with impeccable accuracy and honesty. Videos of interviews with energy inventors will be recorded and stored for posterity. Besides supporting scholarly research of energy inventions and issues, Nevada Energy Institute will also conduct symposiums, seminars and classes on energy issues and inventions. Nevada Energy Institute may elect to publish an energy journal or newsletter, or more likely buy an existing alternative energy publication. Alliances with the University of Nevada, Nevada State Colleges, and the Desert Research Institute are expected.

A very significant part of Nevada Energy Institute will be its Technical Advisory Board. Nevada Energy Corporation will be primarily responsible for finding, evaluating, verifying, selecting, negotiating, and planning the development of new energy inventions. As indicated above, the actual development, manufacture, and marketing of an energy invention will be carried out by its owner LLC. Nevada Energy Institute’s Technical Advisory Board will employ as part-time or full-time consultants as many as a half-dozen highly qualified experts in new sources of energy, of which there seems to be a total of only a few dozen in the United States.

The main function of Nevada Energy Institute’s Technical Advisory Board will be to screen and research the technical and commercial merits of new energy sources. While both Nevada Energy Corporation and Nevada Energy Consulting Group LLC also will separately find and preliminarily study new energy sources, the Technical Advisory Board would provide supplementary detailed evaluations with a high degree of credibility and defensibility – hopefully independent of the more commercial bias of Nevada Energy Corporation. The success of the alliance’s commitment to find and develop a useful portfolio of massive new sources of energy will depend hugely on thorough, accurate, and fair evaluation, and then careful selection of new energy inventions.

Before incorporating an energy invention developer LLC, Nevada Energy Corporation will draw up and co-sign with the invention’s inventor(s) the LLC’s Operating Agreement, and a contractual Intellectual Property First Right of Refusal.

With each inventor and consultant, Nevada Energy Corporation and Nevada Energy Consulting Group LLC may co-sign one or more of the following agreements:

- Master Energy Invention Purchase Agreement
- Member Confidentiality Non-Compete and Development Agreement
- Energy Invention Developer LLC Amended and Restated Operating Agreement
- Energy Invention Developer LLC Subscription Agreement
- Employee Confidentiality Non-Compete and Development Agreement
- Assignment of Proprietary Rights Agreement

In addition, Nevada Energy Consulting Group LLC signs its own Consulting Agreement with each Consultant. As indicated above, Nevada Energy Consulting Group LLC will provide consulting services to Nevada Energy Corporation and each individual energy invention developer LLC. Nevada Energy Corporation may also give consultants some ownership shares of its stock.

The overriding objective of this possibly unique organizational structure is to provide each inventor and consultant a small share of all the other inventors' successes and failures. Thus the success of the collective expertise of the energy invention development organization's key employees, consultants and inventors can be somewhat fairly shared as well as synergistically utilized.

To meaningfully fulfill Nevada's bold "Plan for Energy Action Now!", Nevada Energy Corporation should raise a ballpark \$100,000,000. The urgent need for enormous new energy supplies demands much speedier financing than customary government grants, venture capital, and registering and selling stock.

Harnessing the purchasing power of Nevada's 40,000,000 visitors per year – nearly all of whom are likely to be upset by increasingly higher gasoline prices and galvanized into personally doing something, Nevada Energy Corporation will try to sell 10,000,000 T-shirts at an average profit of \$10. Each T-shirt will be priced at \$9.95 plus a suggested additional contribution of what the buyer considers to be the price of a quarter tank of gasoline! Another price could be a half-tank of gasoline with a minimum price of \$3.95.

The front of the T-shirt would have an eye-catching drawing or photograph. Somewhere would be printed two lines of text. The top line would be "Energy Action Now!", and the bottom line would be "Nevada Energy Corporation". Perhaps worthy of consideration is printing on the T-shirt's back side a photo of Planet Earth. Two lines of text would be printed in that photo's black field above the planet. The top line of text would be "Save Our Planet", and the bottom line "Energy Action Now!".

A small brochure would be provided with each T-shirt. The brochure would show a copy of the front of the T-shirt. The energy invention development mission of Nevada Energy Corporation, the recipient of funds from T-shirt sales, and its allied LLC's would be described. A list of candidate energy inventions similar to the above list would be included. If Nevada's current Governor (and the future Governor to be elected in 2006) is agreeable, the brochure would include his photograph and a message of endorsement from him.

The foundation of Nevada's Plan for Energy Action Now! is the vigorous participation by many of Nevada's tourist service companies and airports in selling Nevada Energy Corporation's T-shirts with brochures. When people step off their jetliners into an airport, they should encounter advertising that alerts them to Nevada's energy crusade. Each gift shop selling T-shirts should have signs imploring tourists to support Nevada's Plan for Energy Action Now! by buying Nevada Energy Corporation T-shirts. Even restaurants, stores, radio stations, and gas stations with a little extra effort and missionary zeal may be able to sell millions of T-shirts.

One idea for signs is a small truncated wedge-shaped cardboard cutout to be placed on desks and cashier counters, and a large cardboard cutout to be placed on the floor. Both cutouts would show the aforementioned eye-catching front of the T-shirt. Above the T-shirt drawing or photograph, there would be three lines of text: "Fed Up with High Gas Prices?", "Buy Energy Action Now T-Shirts!", and "\$9.95 Plus One-Quarter Tank of Gas". Below the photograph would be four lines of smaller text printed on the lower small truncated end of the wedge-shaped sign: "Nevada's Plan for Energy Action Now!", "All profits to develop new energy inventions", "Nevada Energy Corporation", and "www.Nevadaenergy.com".

Hopefully numerous Nevada conventions will allow or even donate a booth where Nevada Energy Corporation T-shirts can be sold. Many truck drivers are hard hit by rising fuel costs. The Teamsters Union may easily be persuaded to join Nevada's energy crusade by buying and selling T-shirts. Nevada's casino companies, airports, and the Las Vegas Convention and Visitors Authority may also be persuaded to provide free floor space for Nevada Energy Corporation floor signs. Other possible venues include shopping malls, conservation and student organizations, sporting events, and concerts.

To fail to sell 10,000,000 Nevada Energy Corporation T-shirts may well condemn Nevada's booming tourist industry to a bust not very many years from now. Nobody else seems willing and able to develop new unconventional energy inventions except fun-loving free-spirited unconventional Nevada!

Several energy inventions have been identified as candidates for development and support by Nevada Energy Corporation and its allied LLC's. During the next year or so, additional energy inventions are anticipated to be added to the list of apparently viable candidates.

Some years ago Frank Scott was a member of the Board of Directors of Nevada Power. One of his projects was a high-speed train between Las Vegas and Anaheim, California. We worked together on a couple of other high-tech projects. Mr. Scott told me that it would be much easier and cheaper if the high-speed train could somehow generate its own power rather than obtaining its power from overhead electric power lines.

A lower-speed electric train between Henderson and North Las Vegas could be constructed and operated more cheaply and easily if it also does not need cumbersome, expensive overhead electric power lines. The train's locomotive would then need its own internal fuel-less power source. The following is a list of energy inventions that appear to be candidates for the power source:

Pulsed abnormal glow discharge reactor, high-density plasma electron spiral toroids in neutron tube, hydrino battery, metallurgical separation of hydrogen from water, Clem over-unity vegetable-oil engine, solid-state Quantum High-Energy Density Storage or Retrieval (QUENSOR™) device, low-temperature phase-change engine, Muller's magnetic motor/generator, aluminum-water fueled hydrogen producer, nickel-iron battery, converter of zero-point electromagnetic radiation energy to electrical energy, water-fueled internal combustion engine with Garrett electrolytic carburetor, noble gas plasma engine, metamatter for revolutionary energy sources and rocket engines, Q-cell, three
Regional Fixed Guideway Power Sources -5- September 14, 2005

versions of Casimer-effect self-charging battery, motionless electromagnetic generator, WIN zero point electrical energy converter, 2-to-1 cylinder noble gas power plant, fuel-less Richardson generator, continuous charger for batteries – flux shifter, magnetically powered rotary unit, DiMatt Wankel closed-cycle freon/rotary turbine and generator, fluid thrust diode, Russian electrochemical energy source, high-voltage injection of rain water into cold fog, gas-generating BingoFuel Reactor, Brinsbury hydrogen steam rotary engine, hydro-magnetic dynamo, gate impulse turbine, Searl effect generator, Swiss M-L converter, flux capacitor, pulsed capacitor discharge electric engine, zero point energy modules, “negative” resistance in carbon fibers, thin-film electrolytic cells, and plasma biomass gasification.

Several of these energy inventions are described as follows:

Metallurgical Separation of Hydrogen from Water

Alternate Energy Corporation (AEC) is launching a device in 2006 for producing hydrogen from water with positive net energy output. AEC (see www.cleanwatts.com) owns a metallurgic formulation which separates hydrogen from water at low cost, requiring no electrical energy or external input, and without utilizing or producing any hazardous waste materials. AEC's process involves chemical reactions between a proprietary metal alloy mix and the liquid solution. These metals are plentiful, stable in cost and produce effective, highly purified hydrogen utilizing a catalytic process.

AEC’s demonstration units power a hydrogen-fueled internal combustion engine and Astris Energi's model E8 2.4-kilowatt alkaline fuel cell. These demonstrations substantiate AEC’s ability to generate hydrogen and electricity to power a variety of devices such as electric cars and heat pumps at very competitive prices. AEC has already received \$1.5 million in funding and is registering stock for sale to provide additional funding.

High-Density Plasma Electron Spiral Toroids In Neutron Tube

Several thousand neutron tubes are in use in the US today that safely collide hydrogen ions to produce neutrons, which in turn are used for medical testing, industrial process control, and homeland security. An ion source produces hydrogen ions (deuterium), which are accelerated to 110 kilovolts, then directed to hit a hydrogen target (also deuterium), which produces neutrons, and also heat as a waste product. Neutron tubes today produce neutrons and a low level of heat energy. The low density of the hydrogen ions limits the amount of energy produced.

In the 1970's, Dr. Wells at the U of Miami collided two plasma toroids to produce low-level fusion energy in the TRISOPS system. The amount of energy produced was limited by the short duration time of the plasma toroids used, as well as their low density and their low level of energy. Electron Power Systems, Inc., (see www.electronpowersystems.com) has discovered a plasma electron spiral toroid that remains stable without magnetic confinement, by using background gas pressure for confinement instead. These new plasma toroids are observed to remain stable for thousands of times longer than classical plasma toroids, which opens the way for new clean energy applications.

The Company’s new stable plasma electron spiral toroids will overcome each of the neutron tube’s limitations, and will potentially result in fusion with no magnetic containment required, thus producing a practical micro-fusion reactor. The Company’s challenge is to adapt the new stable plasma toroid to the TRISOPS method.

The micro-fusion reactor invention, owned by Electron Power Systems, Inc., adapts the Electron Spiral Toroid (EST) Spheromak to the neutron tube design. The EST Spheromak is patented jointly with MIT scientists who also have published papers confirming the EST Spheromak physics and data. The EST Spheromak will overcome the neutron tube limitations by increasing ion density by 2500 times. A metal containment can be used for efficient heat energy collection and conversion.

The EST Spheromak micro-fusion reactor will be less than three feet in length, the same as for present neutron tubes, and small enough to fit in an electric car. Elimination of the need for magnetic containment allows this power supply to be small and compact. A micro-fusion reactor will use hydrogen/boron to produce clean energy without neutrons. One pound of hydrogen/boron replaces 250,000 pounds of gasoline. Hydrogen and boron are plentiful and will not run out, as oil is projected to do in the 21st century.

The EST Spheromak micro-fusion reactor is scaleable from 1 kilowatt to 1000 megawatts, and operates safely, reliably and silently at both extremely high and low outdoor temperatures. Electron Power Systems, Inc., has developed preliminary designs for a 10-kilowatt supply that will heat and power a house, and for a 100-kilowatt supply suitable for powering an electric car. Electron Power Systems, Inc., has a preliminary design for a model and can provide calculations that support the 1000-megawatt application.

The company first plans to make a small EST Spheromak furnace to heat homes and buildings at one-tenth the cost of oil, gas, or today's electric heat. The Company next plans to make a non-polluting car engine since an EST Spheromak-based car would cost 10% less to buy and 90% less for fuel than today's gasoline cars, and will be silent and pollution free.

The cost to produce a 10-kilowatt EST Spheromak electricity generator would be about \$1100 in production quantities. The EST Spheromak generator would have fewer parts than a comparable Sears generator.

Electron Power Systems, Inc., does not have a working prototype. The company has identified the instrumentation and needs another \$100,000 for laboratory work. With \$2,000,000, the company expects to have in two years a demonstrable prototype. In an additional year for \$8,000,000 a production prototype is expected to be built. Remember, each piece of the project uses technology others have demonstrated. It is hoped that a funded Nevada energy development alliance can force feed a faster World War II-styled timetable to commercial production – so dire is the need for new, economical large-scaled energy supplies.

Zero Point Energy Modules

http://pesn.com/2005/06/17/9600113_MagneticPowerInc_Pre-Production/ describes progress being made by Magnetic Power, Inc., developing standalone petroleum fuel-less electrical generators which could provide electricity for buildings and self-powered electric vehicles. MPI has a number of designs under development, and has built a few working prototypes including rotating as well as solid-state, no-moving-parts devices.

Pre-production stage zero point energy modules built with off-the-shelf components are expected to generate electricity anywhere, any time, for less than 1 cent per kilowatt-hour. One-kilowatt modules are expected to be ready for market early 2006. A one-kilowatt module would power ten 100-watt light bulbs, for example. Most homes can operate with approximately a dozen one-kilowatt zero point energy modules.

Pulsed Abnormal Glow Discharge Reactor

A typical flashlight's light bulb is a glass vacuum tube where the flashlight's batteries force current through the bulb's filament, resulting in a power loss equal to the square of the current times the positive resistance of the filament. The power is then radiated out of the light bulb as light and heat.

Physicists have known for many years that the pulsed abnormal glow of a discharge tube has a negative resistance characteristic. What physicists have not appreciated, until the development of the PAGD reactor, was the real possibility or the knowledge of precisely how to go about extracting 'free' energy by exciting self-sustaining oscillations in the plasma discharge.

The pulsed abnormal glow discharge (PAGD) reactor is an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode over-heating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of those tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued: US Patent 5,416,391 for Electromechanical Transduction of Plasma Pulses. Paulo N. and Alexandra N. Correa, Concord, Ontario, Canada. US Patent 5,449,989 for Energy Conversion System. Paulo N. and Alexandra N. Correa, Concord, Ontario, Canada. US Patent 5,502,354 for Direct Current Energized Pulse Generator Utilizing Autogenous Cyclical Pulsed Abnormal Glow Discharges. Paulo N. and Alexandra N. Correa, Concord, Ontario, Canada. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing are currently under development. The inventors hope that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits. The inventors are presently engaged in negotiating licensing agreements with a view to development of the applications.

Hydrino Battery

Blacklight Power is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called “hydrinos”. When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. Blacklight has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

Blacklight is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. Blacklight Power, Inc., claimed some years ago that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles.

Quantum High-Energy Density Storage or Retrieval Device

Essentially a very thin battery, the solid-state Quantum High-Energy Density Storage or Retrieval Device (QUENSOR™) has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed. If the upper limit of 15 kilowatt-hours per kilogram is assumed, a 60-pound QUENSOR device can supply an electric car, in round numbers, 20 horsepower of electric power at 50 miles per hour for 30 hours, or a total of 1500 miles on a single charge. A 20-horsepower electric car is as powerful as a 100-horsepower gasoline car.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

Low-Temperature Phase-Change Engine

Has some similarity to refrigerator or heat pump. Working fluid of ammonia or carbon dioxide is expanded by propane heater, a thermal reactor, or environmental heat to move pistons. Applications include vehicle engines, small-scale on-site electrical generators, and large-scale water lifters for dams and canals. (Could double electrical output of Hoover Dam.)

Clem Over-Unity Vegetable-Oil Engine

Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine's durability, the only working model of the Clem engine has been continually running on his son's farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop for manufacturing hollow shafts and cones.

Aluminum-Water Fueled Hydrogen Producer

Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank's pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Water-Fueled Internal Combustion Engine with Garrett Electrolytic Carburetor

Henry "Dad" Garrett and his son, Charles H. Garrett, in 1935 patented and exhibited an automobile that ran on water substituted for gasoline. Actually, the fuel was hydrogen after the water was broken down by electrolysis. The only items needed to convert a gasoline-powered auto to a water burner was an electrolytic carburetor and installation of a generator of double normal capacity for the breaking down of the water. Instant starts in any weather, no fire hazards, cooler operation and plenty of power and speed were claimed.

Rather than store the inflammable hydrogen, the same process makes the gas without a storage chamber in which the flames from the motor's cylinders might react. Water is broken down into its component gases by passage of an electric current through it from electrodes immersed in the water. Hydrogen collects at the negative pole, and oxygen collects at positive. The hydrogen is then mixed with air and introduced directly into the cylinders. For an ordinary automobile, an electrolysis chamber of about a quart in capacity is big enough.

In summary, this simple process can provide:

Heat - through the burning of hydrogen/oxygen.

Power for local energy generation - the explosive energy to drive a piston to drive a shaft to power a generator. The generator then charges a battery network which feeds an inverter (converts DC to AC) to run your house.

Motive power for transport power - explosive energy drives the piston to drive your vehicle.

Light - condoluminescence - hydrogen/oxygen exposed to phosphor-coated surfaces for light generation.

Sound amplification - flame speakers where flame is electrostatically deflected at audio rates to produce sound. The hydrogen/oxygen mix is generated *locally* rather than using bottled gases such as propane, butane, etc.

Noble Gas Plasma Engine

Joseph Papp was granted US Patent #3,670,494 for his "Noble Gas Plasma Engine". A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

Muller's Magnetic Motor/Generator

Electrical generators in common use require external torque from gas, hydroelectric, and steam turbines, for example, to overcome back electromotive force. Bill Muller's magnetic motor/generator eliminates back electromotive force. The coils are removed from the rotor and instead wrapped around powerful magnets equally spaced around the stator. Magnets are also equally spaced around the rotating disk. However, the number of rotor magnets is one more than the number of stator magnets.

A typical commercial motor involves pushing and pulling magnetically where in the Muller motor/generator only the magnetic pulling effect occurs. A perfectly balanced arrangement of the magnets results in a disk-like rotor that can be turned with no effort at all. The completely reversible result is if current is applied to the stator coils, the rotor turns. If the rotor is turned, the stator coils can generate current to be supplied to a load.

The stator coils are wrapped around cores made of inexpensive Muller-patented amorphous material which eliminates heat-producing hysteresis and eddy current losses. Because of instantaneous saturation and permeability, much less wire is needed for the stator coils which greatly reduces both ohmic resistance losses and inductance losses. No brushes are needed like in conventional direct current generators and motors which wear out. Bearing friction losses are greatly reduced by both weight reduction and using Muller's cone-shaped magnetic bearings (patent applied for).

Casimir Effect Self-Charging Energy Cell (Three Versions)

The force of gravity is described by some physicists as the ether weakly pushing two objects such as a book and the earth into each other's shadow. Gravity can also be thought of as the long-range version of the Casimir effect. The Casimir effect predicts that two metal plates close together will attract each other.

Consider the plates set at a certain distance apart. In the space between the plates, only those ether (vacuum) field fluctuations for which a whole number of half-waves just spans the distance can exist, just like waves formed by shaking a rope tied at both ends. Outside the plates, the fluctuations can have many more values because there is space. The number of modes outside the plates, all of which carry energy and momentum, is greater than those inside. This imbalance PUSHES THE PLATES TOGETHER.

The proprietary Casimir effect self-charging energy cell contains many extremely thin layers of carbon, magnesium, chromium oxide, and a couple of other elements and compounds. The result is analogous to a boat that has some rather large leaks. More water pours into the boat as fast as water is bailed out. Likewise, as electromagnetic energy is drawn out of the Casimir effect self-charging energy cell when inserted in an electrical circuit, energy is drawn in from the surrounding ether. Physically and functionally, the Casimir effect energy cell is like a solid-state battery that recharges itself with some valuable features such as simplicity and compactness.

Richardson Fuel-Less Electrical Generator

Two pairs of electromagnets warp permanent bar magnet's magnetic fields across field coils to achieve over-unity electrical energy conversion gain, the magnitude of which is unknown. Completion requires additional resonant circuit components. It appears to be a potentially robust generator of electricity. US Patent No. 4,077,001 for Electromagnetic Converter with Stationary Variable-Reluctance Members. Frank Richardson.

Frank Richardson also developed a blade-less Tesla-type steam turbine. The turbine has a closed-loop cycle which he claimed is far more efficient than the electric motor in terms of converting electrical energy into rotational energy for application to a vehicle's drive wheels. The water is heated with radio frequencies like a microwave oven into steam which is then forced through two disks in sequence. The two disks are perforated in such a manner as to prevent cavitation (bubbles) even at high rotational velocity. Since steam offers a 1,000-to-1 expansion ratio compared with gasoline's expansion ratio of approximately 300 to 1, the turbine is extremely powerful. An 18-inch diameter prototype's output power was measured at approximately 1,000 horsepower.

Combining a blade-less steam turbine with his electrical generator, Richardson had built a self-powered modified beetle-shaped Volkswagen automobile which he drove around during the early 1970's without bothering with refueling at gas stations, tune-ups, oil changes, etc.

WIN Zero Point Electrical Energy Converter

The WIN Zero Point Electrical Energy Converter extracts AC current with an output power over input power gain as high as 268.6%. It generates electricity by collecting electrons between E-dam cermet in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimir effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input.

Conversion of Aluminum Internal Combustion Engines to Magnetic Motor

Heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle. If the electric motor is replaced with a Muller magnetic motor (see above), the combined energy conversion gain is projected to be about 300.

Joe's Energy Cell

The Joe's energy cell basically comprises of two metal containers, one inside the other. Both containers are filled with specially charged and cleaned water with the inner container perforated to allow water to freely move between the inside and outside of the inner container. The outside container is electrically connected to the anode of a battery, and the inner container connected to the battery's cathode. The outside container is closed except for an orifice to which a thin pipe is attached. The other end of the pipe is attached to the outside housing of the carburetor of a gasoline engine. Gas/energy is transferred to the carburetor through the pipe. The entire cell including the pipe must be electrically insulated from the engine.

Various designs and shapes of both containers have been experimentally built. The original and simplest comprised of both containers as long pipes with the inner pipe, which was perforated, inside the outer pipe.

At least fourteen vehicles in Australia have been fitted with different versions of Joe's energy cells to be driven without fuel nor battery charging. The engine, radiator and exhaust pipe stays cold enough to freeze water – warranting replacing water in the block with transmission fluid. The timing does have to be advanced between 25 and 80 degrees, depending on the type of engine, to allow the engine to run smoothly. The engine's power doubles over that when petrol-fueled.

The Joe energy cell is not explainable using conventional mainstream physics. It is not even known if the process inside the cylinders is implosion, explosion, or both. No gasoline is mixed with air inside the carburetor. It appears that zero-point energy is somehow drawn from the ether and converts the air entering the cylinders into some kind of fuel. The inventor claims the process increases the frequency and energy of the air.

For converting existing gasoline-powered vehicles into self-powered vehicles which don't require fuel nor battery charging from a local electric utility, adding the Joe's energy cell seems to offer by far the easiest modification. Nearly the entire engine is left alone. A separate heater would have to be provided since the engine runs cold. The vehicle will not rust, and paint will not oxidize.

High-Voltage Injection Of Rain Water Into Cold Fog

Many prototype systems exist today which efficiently convert potential energy into useful work. An example of such a system is the "Cold Fog" discovery of Dr. Peter Graneau of Northwestern University. Dr. Graneau's system converts chemical bond energy into kinetic energy by injecting rain water with a high voltage discharge of 39.8 joules. Normal rain water subjected to this treatment becomes a cold fog which loses approximately 31.2 joules of low-grade heat and a comparable amount (29.2 joules) in the form of kinetic fog energy output. As reported in the prestigious *Journal of Plasma Physics* the output energy exceeds the input energy by about 100%, creating a 2:1 over-unity condition. The energy output produced by this system can be captured and harnessed to drive a motorized conversion system.

Power Technology's Nickel-Iron Battery

Las Vegas inventor Alvin Snaper (600 patents and innovations) through his company, Power Technology, Inc., is developing a superior new nickel-iron battery with none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally friendly than lead. (For more information, see www.powerpwtc.com/business_of_issuer.htm.)

Searl Effect Generator

The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don't touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a "governor", either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG's primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small "inverse gravity" vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue. The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

Two Russian scientists replicated the Searl effect generator and vindicated all of these somewhat unusual claims. See their paper "Experimental Research of the Magnetic-Gravity Effects", V. V. Roschin and S. M. Godin, Institute for High Temperatures, Russian Academy of Science, Izhorskaya 13/19, Moscow 127412, Russia.

At one time, a German power company reportedly considered replacing a nuclear power station with eight fuel-less SEGs costing a total of about \$4.5 million and generating a total of 240 megawatts with no pollution.

Testatika Free Energy Machine

The Testatika free energy machine was developed over a 20-year research period in Switzerland. It resembles a Wimshurst electrostatic generator commonly seen in high school physics labs. Other documents may refer to it as the "Swiss M-L converter" or "Thesta-Distatica." The inventor of this superb machine, Paul Baumann, claims its running principle was found by studying the effects of lightning.

Testatika not only runs on its own energy but produces also a huge amount of excess power. A video shows a demonstrator unit producing at least 3 kilowatts of power. Yet the machine is only about 70 cm wide, 40 cm deep, and about 60 cm tall. It delivers DC voltage ranging from 270 to 320 volts, only depending on the dryness of the air. At this voltage it can supply at least 10 amperes of DC current.

Testatika is not a perpetuum mobile, but an energy machine that collects its "free" energy from the charged and ionized air particles. Some technological tricks are implemented to overcome the normal drag resistance of a conventional Wimshurst machine, which is still the secret of the Swiss group. However, progress is being made by several researchers in the underground science network in deducing and explaining the basic mechanisms of this remarkable machine.

The initial high voltage, at high frequency, is produced by twin counter-revolving electrostatic disks made from magnetic stainless steel. The magnetic disk segments provide an electromagnetic speed control for the disks, while functioning as electrostatic elements to provide the very high voltage.

The solid-state amplification subsystem consists of polarized sections of barium-iron permanent magnets with multiple coil arrays, as first introduced by Hans Coler in Germany during the 1940's. This subsystem increases the amperage level about 20 times from the 150 watts from the twin electrostatic disks up to about 3000 watts at the output terminals.

An independent feedback subsystem provides the electromagnetic force to power a small DC motor to revolve the twin electrostatic disks continuously. This arrangement consists of two horseshoe magnets with coil sets wound fully around each magnet leg. This feedback method provides that the Testatika free-energy machine is a fully standalone system, with no external power input. Once the two disks are turned by hand, they continue to revolve on their own, producing free energy.

The Testatika machines (some smaller units also exist which only deliver about 200-300 watts) are not yet mass-production type models. They are still laboratory prototype units, although they are built with a very good craftsmanship. No maintenance is required with these units.

Remediating Nuclear Waste with Electron-Captured Protons with Significant Net Energy Gain

This technology constitutes an enormously promising source of "free" energy. Using high-density charge cluster accelerators, it is now technologically feasible to produce 10-20 times as much energy by remediating radioactivity emissions from stockpiles of nuclear waste products as they originally produced. As a result of the patented work of Kenneth Shoulders, S-X Jin, Dr. Hal Puthoff, Prof. Illyanuch, Prof. Mesyats, and others, this new low-velocity method for remediating nuclear waste with electron-captured protons has been demonstrated in laboratory tests to generate substantially more energy [in the form of photons as light and electrons as heat] than is required to power the treatment apparatus itself.

The technique produces electron clusters with energy densities equivalent to 25,000 degrees Celsius upon impact with a target material, while consuming only 20 microjoules to produce the effect. The electron clusters travel at no more than 10% light speed and have been shown to penetrate any substance with a high degree of precision. Using a deuterium-loaded palladium foil, bombardment areas demonstrate transmutation into silicon, calcium, magnesium and lithium. Jin's paper describes how the high-density electron clusters achieve impact results similar to those produced by high-velocity ion accelerators, including penetration of the nucleus, with 1000 times less power. The new physics of like-charges clustering in bundles under low power conditions opens a wide range of possible applications including micro-thrusters for space craft maneuvering. The over-unity conversion efficiency of these systems is currently estimated to be at least nine to one.

Plasma Biomass Gasification

Examples of such systems can be found in the processes developed by Dr. David Wallman [US 5,417,817], Dr. Ruggero Santilli, Dr. Randall Mills [US 6,024,935], and others. What these technologies have in common is that they operate by producing a variety of combustible gases from a wide variety of municipal waste, biomass waste, sewage and other materials containing high concentrations of hydrocarbons. Each of these systems produces substantially more energy content in the collected gases than is required to drive the carbon-arc filaments which operationalize them. The amount of carbon dioxide generated by the combustion of the gases derived from these processes is precisely the same as they absorbed while the materials were originally being formed. Contrast this with burning fossil fuels (diesel, gasoline, oil, natural gas) which resurrect old buried carbon and add it to the atmosphere. The combustion of gases produced by biomass processing is usually characterized as follows: It requires 3300 BTU to produce 250 liters per hour of COH₂ (8.5 cubic feet/hour). With a heating value of over 500 BTU per cubic feet, the COH₂ output energy exceeds 4,000 BTU, often approaching 5,000 BTU in high efficiency designs. Accordingly, the biomass gasification process operates at an over-unity efficiency of between 125%-150%. This process is a largely untapped resource. Millions of gallons of farm-produced liquid biomass is going to waste, as is the energy potential represented by the COH₂ which could be produced from municipal sewage and waste water systems.

Plasma biomass gasification is not a trivial energy source. The Republic of South Africa does not import a single drop of petroleum to support its transportation requirements. Instead, 100% of its diesel fuel and gasoline is produced by two plants which operate on these principles.

Thin-Film Electrolytic Cells

A number of seasoned technology integrators have developed thin-film energy storage technologies which hold considerable promise. Dr. George Miley, Dr. Robert Hockaday and others have developed thin film technologies with energy densities exceeding 250-400 watt hours per kilogram. Dr. Miley's invention is illustrative. Using a flowing pack-bed type electrolytic cell with 1-molar LiSO₄ in light water, 1mm plastic beads with a very thin [500-1,000 angstrom] film of metal [nickel, palladium, titanium] are employed. A special sputtering technique is used to spray the metals onto the surface of the beads. With 2-3 volts of electrical power and 1.5 milliamperes of current, the single film experiments have shown the material to produce more than 10 times as much output power as input. The input power is no more than 0.01 watts while .5 watt of heat is produced. It is likely that the physics involved in this reaction involve the release of energy as a by-product of nuclear transmutation. Dr. Miley has written, "The key finding from these studies has been the observation of a large array of "new" elements (i.e., different from the original bead coating), many with significant deviations from natural isotopic compositions, after the run.

Great care has been made to ensure that these elements are distinguished from isotopic impurities by use of a "clean cell" with high purity components and electrolytes, in addition to the pre-and post-run analyses. Even low-energy radiation was detected from the bead days after each experiment. Applications to space power, providing a 1-kilowatt cell with only 500 cubic centimeters of active electrode is predicted." Note that this particular invention, with its large over-unity energy yield, was awarded a NERI grant by the DOE. At the insistent urging of the American Physical Society and representatives from MIT and other universities whose laboratories are currently engaged in high-temperature gas-cooled nuclear reactor research, Secretary Richardson eventually withdrew the grant. The tangle-footed Department of Energy actively discourages the development of new sources of energy, presumably to appease the oil, uranium and coal companies. The U.S. Patent Office has unfairly classified secret nearly 4000 energy patents. Luckless energy inventors then risk 20 years in prison if they work on, sell, or publicize their energy invention – often created at great personal sacrifice.

Hydro-Magnetic Dynamo

The hydro-magnetic dynamo is a large-scaled emission-free electrical generator which does not require external fueling and operates safely, reliably and silently at moderate temperatures. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One doughnut-shaped 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics who were unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at \$500 per kilowatt which is competitive to nuclear power's capital costs of \$5,000 per kilowatt, windmill capital costs of \$4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, buses, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street \$4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ballpark of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day of the year to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent IPC H 02 K 44/00 "Method of deriving of electrical energy and organization of Gritskevich's MHD-generator for its realization":

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water's friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavitational-vacuum structures, and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Best Power Source for Electrified Rail Version of Regional Fixed Guideway

The Regional Fixed Guideway ideally would be noiseless, economical to construct and operate, and generates its own power. A self-powered, quiet electric locomotive would not require expensive and cumbersome overhead electricity transmission wires. Of all of the aforementioned energy inventions, perhaps the candidate power source that may be available the soonest and requires the least amount of research and development is Alternate Energy Corporation's water-fueled hydrogen producer combined with Astris Energi's alkaline fuel cell. The fuel cell's electricity would power electric motors. Being fueled by only water, the Regional Fixed Guideway's operating costs would not be affected by high crude oil prices.

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Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10045.

Comment Date: February 20, 2011 23:01:45PM
Solar Energy Development PEIS
Comment ID: SolarD10045

First Name: Gary
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Privacy Preference: Don't withhold name or address from public record
Attachment: Torsion Field Attributes.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

David Yurth has a couple of times written me about torsion field devices other than torsion field communications. Our mutual friend and fellow non-mainstream scientist Tom Bearden has also conceived similarly exotic devices. For more on the remarkable potential of the torsion field, see <http://www.ufodigest.com/news/0809/torsion-field-print.php>.

The attached "Torsion Field Attributes" includes a claim that "A clear understanding of these mechanics will enable us to commercialize energy storage devices which have energy conversion characteristics well in excess of gasoline [650 watt-hours/kg]."

The attached "Torsion Field Attributes" also includes this:

"At the Institute for Problems of Materials Science located in Kiev, Republic of Ukraine, a scientific team led by Academicians Trefilov, Tovschuk and Kovalyuk created a solid-state energy cell which produces 850-1040 watt-hours/kilogram, in laboratory prototypes.

This is at least 35-50 times the energy density of any known conventional energy storage devices developed in the West. The reliability of their claims regarding this technology has been verified by INEEL, DARPA and the AMTL. A key element of their crystalline lattice deposition method relies on the effects of a torsion field beam.

Scientists working at Sandia Laboratories in Los Alamos, New Mexico, have reported the successful development of a thin-film solid-state energy storage device which reportedly demonstrates energy density in the range of 250-400 watt-hours/kilogram."

I am confident that vigorous development of energy applications of the torsion field would eventually lead to practical replacements of wind turbines and solar power plants.

Torsion Field Attributes

(These were excerpted from David G. Yurth's unpublished book "Seeing Past The Edge".)

A sizable list of attributes has been experimentally identified which demonstrates that the torsion field operates holographically, without regard to time and distance. Its operations are characterized by a variety of behaviors which have been described conceptually, experimentally and mathematically as functions of spin polarity, angular momentum and weighted waveform vector velocities.

In August 1999, Dr. Myron Evans, Dr. Lawrence Crowell and a team of sixteen other physicists, engineers and mathematicians published the first reformulation of Maxwell's field equations in over a hundred yearsⁱ. Contained in their extraordinary work are reformulations of the entire family of formulas which have been developed over the past 100 years to describe the attributes, functions and dynamics which characterize electromagnetic fields. Their seminal work demonstrates that the functions and attributes of the five primary fields, including those of the torsion field, can be expressed in terms of parallel geometricized equationsⁱⁱ.

A careful analysis of the basic formulas developed by Akimovⁱⁱⁱ, Schwartz^{iv}, Anastasovski^v, Trefilov^{vi}, Reed^{vii}, Santilli^{viii} and others, is extremely revealing – the most stunning thing about them is the discovery that the characteristics of all four primary fields and the 5th field [which we have called the torsion field] appear to be completely accommodated by the set of functions which comprise spin polarity in linear, longitudinal and transverse wave functions, and angular momentum at both the quantum and macrocosmic level. While there is still much work to be done here, it seems more than coincidental that these attributes are precisely what cause the torsion field to operate as it does. The formulas referred to include Einstein's equations, the Young-Mills equations and Geisenberg's equations.^{ix}

It has been shown that information is conveyed via the torsion field at a rate which is at least 10^9 times faster than the speed of light. This revelation, which is largely due to the ground breaking work of Russian scientist V.A. Dubrovsky up to 1985, has now been confirmed by at least six other laboratories in the former Soviet states,^x by Prof. Dr. Guenter Nimtz and his colleagues at Cologne University^{xi}, and Lijun Wang, Alexander Kuzmich and Arthur Dogariu of the NEC Institute^{xii}. The group velocity of torsion waves has also independently been shown to be at least 10^9 times the speed of light.^{xiii}

The litmus test regarding this issue is found in the recent award by NASA of a contract to develop a torsion field communications system. The award was announced on August 19, 1999, under the title, **NASA Glenn Announces Breakthrough Propulsion Physics Selections.**^{xiv}

A practical set of experiments which reveal just how important this concept is has been conducted both here and in the former Soviet states. Here in the United States, Bill Ramsay^{xv} describes an experiment in which Greg Hodowanec was able to record the occurrence of a solar flare more than eight and a half minutes before it was confirmed by NOAA, when the photons and particles liberated by the event entered the earth's atmosphere. He was also able to measure the magnitude of the event, as it occurred^{xvi}.

Nick Anthony Fiorenza and Alistair Couper have both reported on the use of gravimetric devices to record the actual transit locations of the planet Pluto, orders of magnitude faster than was possible using measurements based on conventional light wave sensing devices.^{xvii} The devices used by Fiorenza and Couper have been employed by Russian astronomers to determine the precise real-time locations of stellar formations and planets^{xviii}. The results of their work bears heavily on the assumption that information contained in any single location in the Cosmos can be instantaneously obtained at any other remote location, regardless of the extent to which events are separated by time, space or distance. This assumes the means of observation are engineered to comport with torsion field dynamics rather than relying on the data transfer rates associated with radio frequency emissions [light].

We have reason to believe, based on the ground breaking work of V.A. Ablekov, David Bohm and Karl Pribram^{xix}, that the torsion field is holographic. The combination of the features identified by their research suggests that the phenomena associated with Bohm's Implicate Order and Pribram's holographic model of human consciousness, which are otherwise inexplicable, can now be accommodated.

Unlike electromagnetism, where analogous charges repel and opposite charges attract, in torsion fields similar charges attract and opposite charges repulse.^{xx}

As a torsion field is generated by the classical spin of a magnetic plate, we can observe and measure the precise effects of the alteration of spin state of the object or system which is encompassed by it. At the Institute for Problems of Materials Science in Kiev, scientists have for more than 25 years used torsion field generators as an essential component of the apparatus used to manufacture exceedingly exotic materials, for which we have no comparable products in the West. These include mono-molecular powdered metals, solid state energy accumulators and certain varieties of atomically engineered carbon.^{xxi}

Torsion field emissions are non-dissipative and are not attenuated by the interposition of mass or the effects of distance. Torsion fields cannot be screened by any known materials except aluminum, nor any known combination of materials or fields.^{xxii} The results of the 1986 Moscow M2 torsion wave communications experiments have been widely distributed. In this demonstration, a directional torsion field was modulated with a simple variation of the Morse code. The signal was instantaneously received at a point more than 22 kilometers distant, using a similar low-power gravimetric signal detection device. The signal was passed through steel reinforced concrete more than 50 meters thick, after having been propagated through a mountain more than 10 kilometers wide. Variations of this experiment have apparently been successfully performed in a number of other locations in the former Soviet states since that time^{xxiii}.

The absence of loss of signal strength, referred as attenuation, during the spread of a torsion wave group, suggests that long-distance communication may one day be possible with the use of very low transmission power and unlimited bandwidth. The fact that torsion waves are not attenuated [weakened] by any known material substances or fields suggests that we may one day be able to devise systems which are capable of communicating through water or any density of physical material^{xxiv}. This concept also suggests that we should be able to devise communications systems capable of supporting real-time communication without regard to the vast distances of space.

Since all known substances possess a non-zero collective spin state [this means, in simple terms, that everything is always in motion at all scales], then all substances must also create and exist within their own localized torsion fields. The expanse and frequency structure of any substance is determined by its chemical composition and the expanse structure of its molecules or crystalline lattice. A clear understanding of these mechanics will enable us to commercialize energy storage devices which have energy conversion characteristics well in excess of gasoline [650 watt hours/kg].^{xxv}

At the Institute for Problems of Materials Science located in Kiev, Republic of Ukraine, a scientific team led by Academicians Trefilov, Tovschuk and Kovalyuk created a solid-state energy cell which produces 850-1040 watt-hours/kilogram, in laboratory prototypes. This is at least 35-50 times the energy density of any known conventional energy storage devices developed in the West. The reliability of their claims regarding this technology has been verified by INEEL, DARPA and the AMTL. A key element of their crystalline lattice deposition method relies on the effects of a torsion field beam.^{xxvi} Scientists working at Sandia Laboratories in Los Alamos, New Mexico, have reported the successful development of a thin-film solid-state energy storage device which reportedly demonstrates energy density in the range of 250-400 watt-hours/kilogram.

It has been shown that torsion fields demonstrate persistence. This attribute is referred to in the literature as a "residual field effect."^{xxvii} A torsion source of a defined expanse and frequency has been consistently shown to polarize the localized region of the physical vacuum. Once the energizing space-spin source has been put in motion and a torsion field created, and then removed to another place, the space which surrounded the torsion field generator will continue to exhibit the effects of the torsion field for as long as several hours.

If we can delineate the dynamics which cause the persistence of residual field effects, we will be able to explain and harness the functional features attributed to dowsing, magnetically effected molecules of water and so on.^{xxviii} A clear and present example of the applications made possible by this information is illustrated by the work of a team of physicians from the CIS. Using the work of V. Kronin as the basis for their treatment modality, a team of Russian physicians has been working at the laboratories of the Centers For Disease Control in Atlanta, Georgia, and Baylor University Medical Research Center in Houston, Texas, for more than a year. Their project demonstrates a revolutionary new medical treatment modality which capitalizes on this attribute of torsion field mechanics, to fundamentally cure patients infected with the hepatitis-C virus.^{xxix}

Teams of scientists from more than 50 laboratories have shown that it is now feasible to deliberately perform a wide variety of carefully calibrated functions using torsion field devices.^{xxx} We can build torsion field generators of both static and radiating types.^{xxx1} We can select, adjust and fine-tune frequencies modulated into the field with a high degree of precision.^{xxxii} We can modulate into and retrieve data out of a torsion field, including via two dimensional spin matrices.^{xxxiii} We can operate efficiently in a variety of different modes of signal radiation.^{xxxiv} We can adjust and smooth the intensity of the S-waves and we can operate in both left and right S-wave chiral helicities.^{xxxv} (S waves are spinor waves.)

Torsion fields can be detected, generated and switched on and off (such as in communications applications).^{xxxvi} We have demonstrated that torsion fields can be designed to interact with laser beams^{xxxvii}, to modulate light frequencies and perform other functions. Torsion fields have been demonstrated to have a specific effect on biological processes^{xxxviii} and have been shown to be generated by certain melting and solidifying materials.^{xxxix} Torsion fields affect the oscillation of quartz crystals^{xl}, affect the functional characteristics of some electronic components^{xli}, and have been shown to have verifiable, measurable and predictable effects on gravity.^{xlii}

In practical fact, we can point to a long list of applications which could benefit from carefully planned applications engineering which recognizes the properties of torsion fields and harnesses them for practical purposes. Among these are revolutionary new propulsion systems, communications devices, long-range sensors, astrophysical monitoring and metering devices, geo-physical devices which can be calibrated to locate mineral deposits, water and subterranean structures; photographic applications which are capable of imaging the interior of virtually any substance or structure without X-rays and so on.

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from NASA that their proposal submitted to the breakthrough propulsion physics program was selected for funding. A copy of the press release follows, along with a link to a summary of the proposal.

- (2) Jordan Maclay (Quantum Fields, LLC) Richland Center, WI) and MEMS Optical, Inc. (Huntsville, AL) proposed an experimental and theoretical study of quantum vacuum energy. The experiments will use micro-electromechanical devices to test force and energy effects by quantum electrodynamics.

FEASIBILITY OF COMMUNICATION USING QUANTUM CORRELATIONS

For all space missions, it is imperative to have reliable communication links to transmit data, computer codes, or other information. The current electromagnetic communications technologies (including laser, RF, X band, S. band) do not scale well as the mission distance increases. With current methods, the power, weight, cost and complexity increase rapidly with distance, while the transmission reliability decreases. We propose to explore the possibility of a revolutionary approach to communications based on recent theoretical and experimental developments in quantum physics, in particular based on quantum correlations between entangled atoms or ions (EPR pairs). Recent experiments have verified the existence of quantum correlations between entangled photons, in which the polarization measurement of one photon is always correlated with the measured polarization of another, distant photon (*this is a specific reference to the work of Nicolas Gisin and his team at CERN, Geneva*). Theory indicates it is not possible to use standard quantum mechanical measurements on entangled systems, such as polarization correlations of photons, for communications. Current theory restricts but may not deny the possibility of using quantum mechanical correlations in small movements or adiabatic perturbations of entangled atoms as a communication means. Further, if non-linear modifications to quantum mechanics suggested by Nobel Laureate S. Weinberg are present, then EPR communications is clearly allowed. If experiment verified that the use of EPR pairs was viable, it should be possible to develop an almost ideal communications system, a compact, low weight, communication architecture in which no broadcast power or antenna is required, no environmental noise is present, the signal does not fall off as the inverse square of the distance, and high data rates with complete security are possible. The purpose of this effort is to investigate the possibility of using quantum correlations in the adiabatic movements of atoms as a means of communication, to perform an initial theoretical feasibility analysis, identifying the key issues with such an approach, and to propose an experiment to resolve some of the fundamental questions.

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Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10046.

Comment Date: February 20, 2011 23:17:53PM
Solar Energy Development PEIS
Comment ID: SolarD10046

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Attachment: Energy Invention Suppression Cases September 3 2007.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

The attached 123-page fourth version of my compilation of 95 energy invention suppression cases is available at www.padrak.com/vesperman and also at <http://peswiki.com/index.php/Directory:Suppression> where a small encyclopedia of energy invention suppression cases and activities is maintained by Sterling Allan and his friends. The file is also accessible at www.byronwine.com (do Find for Vesperman) and <http://www.theorionproject.org/en/research.html#research> papers. Other sites might be found by googling Vesperman suppression. Additional energy invention suppression information is in <http://www.commutefaster.com/klooz.html> and http://blog.hasslberger.com/2007/03/pogue_hydrogen_stories_of_supp.html.

It would be helpful for the U.S. Government to end its decades-long viciously thorough suppression of new energy inventions. For example, to protect the oil and power companies, the U.S. Patent Office has unfairly classified secret more than 5000 energy patents.

The federal stimulus money for funding 50 state energy offices is mainly used for bland energy projects like weatherizing buildings. I was told by the Nevada Energy Office that the guidelines for these grants specifically ban development of new energy inventions. The U.S. Government's thorough suppression of new energy inventions is still ongoing.

It seems reasonably evident that if each of the 50 states had instead been mandated to creatively allocate 10% of its energy stimulus money to developing new energy inventions, by now a diversified array of new energy inventions may soon be entering the commercial marketplace. Furthermore, numerous engineers and technicians would be gaining practical experience developing new energy inventions and provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of some of these otherwise suppressed new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

ENERGY INVENTION SUPPRESSION CASES

Compiled by Gary Vesperman with the help of numerous contributors

Introduction

In their efforts to improve the well-being of their fellow humans, inventors often suffer poverty, slander, and suppression. Inventors of energy devices in particular have been threatened by large energy corporations who are allied with the United States Government and seek to enslave people in subtle ways. The tactics used against energy inventors include “legal” imprisonment on false charges, harassment by the IRS, and outright criminal death threats, beatings, bribery, burglary, vandalism, and arson. At least a few inventors have been murdered if they were not dissuaded by other means.

Sometimes, however, alleged energy inventions actually have been scams, or were tested incorrectly, and their inventors then claimed to be victims of a conspiracy. Many inventors merely have been ignorant of the laws of nature – the history of “perpetual motion machines” provides ample proof of that fact. Many otherwise brilliant inventors have been poor businessmen who signed defective contracts or whose personalities prevented successful negotiations. Some have failed to persevere: it can take decades to bring an invention to the marketplace, and the vicissitudes of life interfered with their plans. Others unfortunately died of natural causes before they achieved success.

Adding to the practical difficulties of pulling out of thin air new energy inventions that have never before been thought of, testing prototypes of some of these energy inventions can be frustrating due to a weird quirk of nature. Thomas E. Bearden, Ph.D., reports that certain types of energy inventions interact with their local vacuums. Thus their coefficient of performance can vary from place to place, due to the local vacuums themselves differing. A machine would produce over-unity energy in one location; then inexplicably quit after being moved to another location!

Dr. Bill Tiller, former head of the Materials Science Department of Stanford University, developed a unique detector which required that he “grow” its proper pattern in the local vacuum interaction environment. Experimental results from the detector helped Bearden understand changes in interaction between a local vacuum and a novel machine.

All too many times, however, the conspiracy to suppress new energy inventions has been very real. For energy invention suppression updates, see <http://www.energysuppression.com>.

Energy Invention Suppression Case Statistics

Number of Energy Invention Suppression Incidents – **95**

Number of Dead, Missing, or Injured Energy Inventors, Activists, and Associates – **20**

Number of Energy Inventors and Associates Threatened with Death – **32**

Number of Energy Researchers and Associates Imprisoned or Falsely Charged – **5**

Number of Incidents of Energy Invention Suppression by the United States Government, Patent Office, Central Intelligence Agency, Federal Bureau of Investigation, U.S. Marshals, Army, Air Force, Navy, Bureau of Alcohol, Tobacco, and Firearms, Defense Intelligence Agency, S.W.A.T. Teams, National Security Agency, U.S. Postal Service, Department of Energy, Department of State, Securities and Exchange Commission, Food and Drug Administration, Department of Defense, Department of Homeland Security, Internal Revenue Service, Rural Electrification Administration, White House, Consumer Product Safety Commission, Small Business Administration, and Canada’s Royal Canadian Mounted Police – **59**

Number of Inventions Classified Secret by U.S. Patent Office – **5000**

Number of Incidents Involving Oil Companies – **9**

Names of Companies, Banks, State Agencies, Private Groups, and Universities Involved with Energy Invention Suppression – **Standard Oil, Zapata Petroleum, Atlantic Richfield, Exxon-Mobile, Shell Oil Company, General Electric Company, Yakuza, California Air Resources Board, Organization of Petroleum Exporting Countries, Wells Fargo Bank, Ford Motor Company, General Motors Corporation, Massachusetts Institute of Technology, Queen of England, Kollmorgan, World Bank, Rockefellers, Carlyle Group, and Bush Family**

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
Nikola Tesla: Wireless Power and Free Energy from Ambient	1
Robert Golka: High-Powered Tesla-Type Energy Tower	1
Bruce DePalma: N-1 Homopolar Generator.....	1
??????: Mixed Chemical Stone.....	2
Andrija Puharich: Method and Apparatus for Splitting Water Molecules	2
Neil Schmidt: Hydraulic Wind Turbine	3
United Nuclear: Hydrogen Fuel System Kit	3
Daniel Dingel: Converts More than 100 Cars to Run on Water	5
Ken Rasmussen: Water-to-Energy Electrolysis Process	7
Bob Boyce: Brown's Gas Carburetor.....	7
Stanley A. Meyer: Water Fuel Cell-Powered Car	9
Frank Roberts: Water Car.....	11
Andrew Leech (Reporter): Suspicious Deaths of Inventors in Australia	12
Gerald Schaflander: Solar-Produced Hydrogen Turned into Liquid Hy-Fuel	12
John Andrews: Water-to-Gasoline Additive.....	13
Phil Stone: Engine Runs on Water	13
Bill Williams: Joe Cell-Powered Truck	13
Thomas E. Bearden, Ph.D.: Motionless Electromagnetic Generator.....	14
Thomas E. Bearden, Ph.D. (Reporter): J.P. Morgan Emasculated Electrical Engineering Theory.....	15

Frank Richardson: Magnetic Electrical Generator and Bladeless Steam Turbine	21
Gary Vesperman (Reporter): Energy Inventors are Buzzed by Black Helicopters	22
Gary Vesperman (Reporter): Shielding Over-Unity Power Converters	23
Ph.D. Electrical Engineer: Advanced Form of Plasma-Discharge Energy	25
Gary Vesperman (Reporter): Six CIA Agents at 1996 Tesla Society Symposium.	26
Gary Vesperman (Reporter): US versus Japanese Support of Cold Fusion.....	26
Stanley Pons and Martin Fleischman: Cold Fusion	26
Mitchell Swartz: U.S. Patent Office Blocks Cold Fusion Patents.....	27
Robert Bass: Low-Energy Nuclear Transmutation	28
Bob Dratch: Thorium Powerpack	30
IPMS: Thorium-227 Electricity Generator.....	32
Howard Rory Johnson: Magnatron – Light-Activated Cold Fusion Magnetic Motor	32
Howard R. Johnson: Permanent Magnet Motor	36
Stewart Harris: Theory of Magnetic Instability	40
Lester J. Hendershot: Hendershot Magnetic Motor	41
James Watson: 8-Kilowatt Battery-Popper Motor	41
Hitachi Magnetics Corporation: Magnet Motor.....	43
Floyd Sweet: Vacuum Triode Amplifier.....	43
John Bedini: ‘School Girl’ Motor and Battery Energizer.....	43
Two Inventors: Model T Ford Generator with Magnets Added	44
Yasunori Takahashi: Magnetic Wankel Motor	44
Teruo Kawai: Motive Power Generating Device	45

Johan Grander: Magnetic Motor	45
IPMS-Kiev and Arzamas-16: Super Magnets	45
General Motors Corporation: EV-1 Electric Car	46
IPMS: Energy Storage/Battery Devices	48
IPMS: High-Temperature Gas Plasma Detonator	56
Remy Chevalier (Reporter): NiMH Batteries; Solid-State Lithium-Ion Batteries ...	58
Paul M. Lewis: Airmobile	59
Joel McClain and Norman Wooten: Magnetic Resonance Amplifier	59
Al Wordsworth: Electrical Generator and Advanced Carburetor.....	60
John Richardson: 90+ MPG Carburetor; Atomic Isotope Generator	60
Fish/Kendig: Variable Venturi Carburetor.....	60
Dick Belland: 100 MPG Carburetor that Runs on Gasoline Fumes	60
Ron Brandt: 90 MPG Carburetor.....	61
Welton Myers: Myers' Efficient Carburetor	61
George Wiseman: Fuel Savers.....	62
Tom Ogle: 100+ MPG Oglemobile.....	64
Charles N. Pogue: 200+ MPG Carburetor.....	64
Allen Caggiano: 100+ MPG Fuel Implosion Vaporization System	66
William Bolon: Automobile Steam Engine	69
Shell Oil Company: Achieves 376.59 MPG with a Modified 1959 Opel in 1973.....	70
Honda: 60 MPG 1992-1994 Honda Civic VX	70
IPMS-Chernovitsky: Super Ceramics	70

Stefan Marinov: Magnetic Vortex Hyper-Ionization Device	71
Bob Aldrich (Reporter): Vibrating Energy Source	72
Dennis Lee: Freon-Based Low-Temperature Phase-Change Engine	72
Robert Stewart: Stewart Cycle Heat Engine	72
Jim Powell (Reporter): Flywheel/Dual Hydraulic Cylinder.....	72
Christopher Bird/Walter (Reporter): Energy Suppression – An Invisible Galaxy of Inventions	74
IPMS: Micro-Channels and Filters	74
Viktor Schauburger: Jet-Turbine	75
Canadian Scientist: Standalone Water-Based Electricity Generator.....	76
Brazil: Ethanol Produced from Sugar Cane.....	76
David Crockett Williams (Reporter): Non-Drug Industrial Hemp as Bio-Fuel	77
Dean Warwick: Ampliflaire Efficient Wood-Burning Stove.....	79
Idaho Inventor: Advanced Zero-Point Energy Device	79
Grant Hudlow: Method of Converting Garbage and Tires to Gasoline, Etc	80
Joseph Newman: Energy Machine	80
Bill Jenkins (Reporter): Free Energy Machine.....	80
Volcheck: Engine Powered by Gas with Unusual Expansion Properties	81
Gianni A. Dotto: Anti-Aging and Anti-Gravity Thermionic Couple	81
IPMS: Thermal Electric Cooling Devices	81
Bob Lantz: Lantz Water and Power System.....	82
Dr. Timothy Trapp: 127 Energy Technologies	84

Richard Diggs: Liquid Electricity Engine	85
David G. Yurth (Reporter): Remediating Nuclear Waste Materials	85
Paul Brown: Hyper-Cap E-Converter.....	87
Ira Einhorn: Free Energy and Mind Control Researcher	87
Thomas Henry Moray: Radiant Energy Pump/Electricity Generator	88
Walter Rosenthal (Reporter): Small Electrical Power Converter	92
Joseph C. Yater: Heat-to-Electricity Converter.....	93
Adam Trombly: Trombly-Kahn Closed-Path Homopolar Generator	93
Adam Trombly: Trombly-Farnsworth Solid-State Oscillating EM System	93
Gary Vesperman: My Car was Fire Bombed July 3, 2006.....	95
Adam Trombly (Interview): The Truth about Zero Point Technology	96
Adam Trombly (Speech): Climate Change Factors, Ozone Layer Crisis, and Zero Point Energy Technologies	105
Em-Tech Technologies: Advanced Solar Photo-Voltaic Crystal Lattice Cells....	115
Marshall Douglass Smith (Author): The Rise of Fascism in the American Energy Business	118
U.S. Patent Office Holds Secret 5000 Patents	119
Text of Generic Patent Secrecy Order.....	120
US Congress: Energy Inventor Protection and Patent Declassification Act	120
Wilhelm Riech: Orgone Energy Motor.....	121
Bruce DePalma (Interview): A Peaceful Revolution Against Energy Oppression	122
How to Stop Energy Invention Suppression.....	122

Nikola Tesla: Wireless Power and Free Energy from Ambient

Nikola Tesla invented the alternating current electrical system we use today, and dozens of other technologies. Many of his other inventions are fundamental to the modern electrical world. The US Patent Office has 1,200 patents from Tesla, and it is estimated that he could have patented an additional 1,000 or so inventions from memory! Nikola Tesla was undoubtedly one of the greatest scientists who ever lived.

Tesla's "Magnifying Transmitter", built in 1895 at Wardencliff on New York's Long Island, has been suppressed (largely by ignoring and disdaining it), but in recent years it has received new attention for its potential to power civilization with radio-broadcast electricity, possibly even without fuel. The project was financed by John Pierpont Morgan. But Tesla was not an astute business man, and he affected a disdain for money. It is popularly believed that when J.P. Morgan learned that Tesla's system would provide free energy, he stopped funding the work. As reported by Robert Nelson, (see his comprehensive energy inventions web site www.rexresearch.com) the fact of the matter is that, rather than arranging a comprehensive financial agreement for development of the system, Tesla simply dunned Morgan for relatively small sums of money at regular intervals. The personal nature of their financial relationship is evident to anyone who takes the time to read Tesla's correspondence with Morgan (not an easy task, as Tesla's handwriting is difficult to read). For more history, see Leslie R. Pastor's Introduction in http://peswiki.com/index.php/Site:LRP:Motionless_Electromagnetic_Generator. Tesla also built and drove a Pierce-Arrow car during the 1930's which ran on a free energy device without refueling.

Benjamin Fulford in a stunning early July 2007 interview by Jeff Rense (see interview transcript in http://bellaciao.org/en/article.php?id_article=15376) claimed that his great-grandfather George Taylor Fulford was one of the richest men in the world. He also was the largest stockholder in General Electric. When he learned J.P. Morgan had abruptly backed out of supporting Tesla, Mr. Fulford pressured General Electric to step in. He was going to finance Nikola Tesla, but he was murdered by the Rockefellers in 1905. It was made to look like a car accident. And the family fortune was stolen by the Rockefellers. Benjamin Fulford's grandfather was only three years old at the time. His grandfather didn't know how to suspend his assets.

After Morgan died, his heirs and managers, who did not have a working relationship with Tesla, stopped supporting construction of the transmitter. The tower was demolished during World War II, allegedly because it could serve as a landmark for German submarines. Some modern conspiracy theorists have claimed that it was destroyed in order to suppress the technology. Perhaps so, but in any case, now we suffer with a monstrous grid system that is controlled at many levels, rather than enjoying the energy freedom Tesla had envisioned.

In a speech presented in 1988 on the subject of "Climate Change Factors, Ozone Layer Crisis, and Zero Point Energy Technologies" (see below for complete text) Adam Trombly reported information from a contact that Tesla was poisoned and died in 1943 the night before he was scheduled to go to Washington, DC to meet with President Franklin Delano Roosevelt. Tesla had intended to propose to Roosevelt that perhaps we should look carefully at the fact that we can get all the energy we need from any space we happen to be in. The U.S. Government's Federal Bureau of Investigation confiscated two truckloads of Tesla's written work after his death, much of which remains classified.

Robert Golka: High-Powered Tesla-Type Energy Tower

In 1981 in Wendover, UT, Robert Golka, a well-known Tesla researcher, was victimized by an attack on his workshop which has, for years, been in a deactivated Air Force hanger. His high-powered energy tower outside the hanger was partially destroyed. A witness said insulators and sections of the tower were laying around the base. In the meantime the rent on the Air Force hanger has been raised 1000 percent! These new difficulties now threaten to bring an end to his research with Tesla devices. (Source: <http://peswiki.com/energy/Directory:Suppression>)

Bruce DePalma: N-1 Homopolar Generator

Harvard-educated Bruce DePalma, who taught physics at the Massachusetts Institute of Technology for 15 years, invented the homopolar electricity generator, also called the "N-Machine", that could provide cheap, inexhaustible, self-sustaining and non-polluting energy. The N-Machine uses principles that flout conventional physics and are still not fully understood. A 100-kilowatt N-1 homopolar generator prototype sat in his garage. It could power his whole house. But DePalma was afraid to turn it on for fear the U.S. Government may confiscate it.

In early November 1980, the night before Bruce DePalma was scheduled to leave for Germany to be the featured presenter at Hans Nieper's Gravity Field Energy Conference in Hanover Germany, DePalma got a phone call from US astronaut Edgar Mitchell claiming "The CIA has information to the effect that if you go to Germany you will not be coming back. And you better watch out what you do there in Santa Barbara, or you might get your head blown off." Mitchell was "best friends with George H.W. Bush" – at that time directing the US Central Intelligence Agency (CIA). DePalma eventually left the USA to live in New Zealand.

BRUCE DePALMA: Free Energy Update 11/14/90. Audio cassette #A1009-90 \$9.00. Live on Something's Happening. Bruce DePalma, inventor of the "N Machine" (so-called "free energy") presents an update on its development including U.S. Navy development, a letter by U.S. astronaut Edgar Mitchell on the validity of the invention, and the forced imprisonment of DePalma's chief backer.

For more information about George H. W. Bush's involvement with the CIA, read the Truthout article "Bush Senior Early CIA Ties Revealed" in http://www.truthout.org/docs_2006/010907P.shtml (9 January 2007). Newly released internal CIA documents assert that the former US President's original oil company, Zapata Petroleum, was established in 1953 by joint efforts with Thomas J. Devine, a CIA staffer.

Devine and Bush visited Saigon early January 1968 shortly before the North Vietnamese launched their Tet offensive. Marshall Douglass Smith in his book *Black Gold Hot Gold – The Rise of Fascism in the American Energy Business* (see below) exposes how the war in Vietnam was not allowed to end until the very day that Standard Oil had completed using the US Navy to explore Vietnam's off-shore oil fields for ten bloody years at nearly no expense to the company. The war was needlessly prolonged by months of silly wrangling over the shape of the Paris peace negotiation table, and by Henry Kissinger's obfuscations.

?????: Mixed Chemical Stone

A mixed chemical stone was found in England and secretized by the Queen. It generated its own electrical sparks. This material appears to be a version of rocks which self-generate voltages such as those researched by John Hutchison, Thomas Henry Moray (see below), and Thomas Townsend Brown. The Queen's holdings are so extensive that it may be that she was not personally involved or even aware of the stone. The Queen may not have very much scientific understanding anyway.

April 7, 2006 Wells Fargo Bank announced they finally invested \$5 million of the \$1 billion intended for renewable energy. Where did they invest? In a mutual fund: Carlyle/Riverstone Renewable Energy Infrastructure Fund I, Limited Partnership. Funny thing, who are the 3 largest stockholders of Carlyle Group? The answer in order of largest percentage owned: (Source: Al Martin)

1. The Queen of England
2. Bush Family
3. Bin Laden Family

President George W. Bush's brothers Neil and Marvin Bush might be among the secret leaders of ongoing viciously thorough energy invention suppression. See <http://www.nogw.com/shadow.html>.

Andrija Puharich: Method and Apparatus for Splitting Water Molecules

One of the more interesting research projects in which energy researcher Leslie R. Pastor personally got involved with has been research involving 'water as fuel' dynamics. From the time of Jules Verne to the present 'water as fuel' has been man's quest, if not speculative goal, to discern, decipher and to design. It is well-known that water can be disassociated, and separated into its two components of hydrogen and oxygen. With the use of electrolysis, water is easily disassociated, giving off its properties, in the form of useful gases, but, in very limited quantities, depending upon the amount of current directly used to accomplish its disassociation. From Brown's (Rhodes) gas to 4-space, water is indeed mysterious, ultimately remaining the focus of countless experimenters and practitioners. And still it remains elusive just out of the reach of useful usage. Or has it?

Several recent experiments involving a variety of 'water as fuel' derivatives have ultimately surfaced, strongly indicating that 'hydrogen' based 'energy' structuring is fundamentally possible and will ultimately provide a means at accomplishing a very serious alternative to so-called 'fossil fuel' technologies. What remains to be seen, is whether the existing superstructure involving the monopolistic cartels of "global big oil" and "international nuclear-based companies" will allow any advancement towards 'market' restructuring, without their approval and cooperation.

Oil is just as easily ‘cracked’ and ‘restructured’ into ‘hydrogen’ formats. In fact, it is the goal of both of these factions to ultimately build a network of ‘novel’ nuclear reactors capable of providing ‘electricity’ and ‘hydrogen’ production derived from this combination, precluding any attempt to escape from their monopolistic designs of enforcing their ‘control’ paradigm.

The suppression of ‘water as fuel’ technologies invented by small independent inventors, therefore, takes on significance, since this would prevent further monopolistic dominance by the existing cartels, already dominating the existing ‘energy’ field.

Andrija Puharich (see <http://www.andrijapuharich.org/>) was granted U.S. Patent No. 4,394,230 for a "Method and Apparatus for Splitting Water Molecules." This method would reportedly split water molecules into hydrogen and oxygen with a net energy gain, and is essentially a perpetual energy device that many believe violates the first law of thermodynamics. Puharich was a very interesting gentleman, with friends in very high places, and led a very dynamic life, incorporating both, style and access, to some of the most powerful components of the political spectrum internationally. Puharich, being a friend of R. J. Reynolds (3rd), found support and protective acceptance, until he fell into disfavor with David Rockefeller, ultimately necessitating him to seek protection from another friend, the [then] Mexican President. Puharich capitulated, acquiescing to Mr. Rockefeller’s demands, promising not to engage in further ‘water as fuel’ research, thereby, stopping all attempts at his sanctioned assassination by the U. S. Government’s CIA.

<http://www.rexresearch.com/puharich/1puhar.htm>

<http://waterpoweredcar.com/puharich.html>

<http://www.zpenergy.com/modules.php?name=News&file=article&sid=1191>

<http://www.angelfire.com/ak5/energy21/puharich.htm>

<http://www.keelynet.com/keely/puha1.txt>

http://www.wasserauto.de/html/more_cars_.html

http://www.freie-energie.net/index/freie_energie/wasserautos/wasserautos.htm

Pastor mentions Puharich, in his initial introductory statement, because of Puharich’s direct relationship within the most significant references of power politics. Puharich was well connected, and respected within the most elite of global society. He was known academically, and internationally among the power elite. He therefore was a significant threat to those special interests involving a direct influence regarding energy sources as fuel derivatives. And his use of ‘water as fuel’ was a direct threat to one of the most powerful families on planet Earth. Puharich had to personally assure the Rockefeller family that he would no longer engage in further research or usage of ‘water as fuel’ to power combustion engines. (Source: http://peswiki.com/index.php/Site:LRP:Actual_Case_Histories_of_Suppression_Occurrences)

Neil Schmidt: Hydraulic Wind Turbine

Neil Schmidt stopped in Gary Vesperman’s office 12 May 1995 to discuss his invention of a hydraulic wind turbine. Schmidt had lived in Las Vegas for seven years. Nine years previous when he was living in the Seattle area, he went into a federal Small Business Administration office to apply for financial aid. The following day, he received a telephone call and was told it wouldn’t work and not to bother with it. He had provided the SBA office hardly more than a sketch so a hot argument erupted which lasted a half hour. The man ended up hinting death to Schmidt if he didn’t stop working on his invention. A couple of days later, Schmidt went back to the SBA office and walked around unsuccessfully trying to identify the voice he had heard on the telephone.

Neil Schmidt also has heard that another energy inventor living near his Washington residence had been shot in the head and blinded.

United Nuclear: Hydrogen Fuel System Kit

The United Nuclear Hydrogen Fuel System Kit converts late-model fuel-injected gasoline-powered vehicles to run on hydrogen. In addition to specific complete kits that are planned to soon be available for specific late-model cars and trucks, individual system components will be available for those who choose to assemble their own kits.

Included in the kits (and also available separately) is the company’s either solar or wind turbine-powered hydrogen generator that remains in the vehicle owner’s garage. The hydrogen generator manufactures the hydrogen fuel for the vehicle at virtually zero cost. Simply put, the vehicle’s owner never would have to buy gasoline again. Since there are no major changes made to the engine, a converted vehicle can still run on gasoline at any time.

Powering a vehicle by hydrogen is by no means a new idea, and in fact, almost all automobile manufacturers are currently developing a new generation of vehicles that run on hydrogen as opposed to gasoline. This new generation of vehicles essentially comprises of electric cars that use fuel cell instead of batteries to run the electric motor. Using a chemical process, fuel cells in these new vehicles convert the stored hydrogen on board, and the oxygen in the air, directly into electricity to power their electric motors. These new hydrogen powered electric vehicles are very efficient, and in fact are more efficient than any internal combustion engine. The problem is that these new vehicles are years away from production, are very expensive, and converting to using hydrogen fuel in this manner requires the purchase of a new (and expensive) vehicle. All hydrogen/fuel cell systems currently under development by large manufacturers require the purchase of hydrogen as would be for gasoline.

The United Nuclear Hydrogen Fuel System Kit is an intermediate approach that simply converts existing vehicles to burn hydrogen or gasoline. The stock gasoline fuel injection system remains intact and is not modified in any way. It is shut down while the hydrogen fuel system is activated. The company reportedly operates two test vehicles for which gasoline haven't been bought for two years.

The hydrogen gas is precisely metered into the air intake of the engine while the exhaust gasses are continuously analyzed for correct burn ratio. This allows the driver to switch between running on gasoline or hydrogen at any time. The engine itself is only slightly modified. The conversion makes substantial changes to the computer & electrical system, ignition and cooling systems. Since they never have to be removed, hydrogen fuel storage (hydride tanks) can be installed in virtually any available space within the vehicle.

Due to the fact that hydrogen gas burns so much faster than gasoline, engines with compression ratios greater than 9.5 to 1 are very susceptible to damaging pre-detonation (engine knock). For this reason, hydrogen conversions are not recommended for vehicles with turbochargers, superchargers, or compression ratios greater than 9.5 to 1. Also, because of the higher compression, different ignition system, and host of other factors, the Hydrogen Fuel System will not work on diesel engines.

The company's hydrogen generator produces hydrogen from electricity. The electricity can be common "household current". If the electricity is produced directly from solar power or wind power, the energy cost is zero. Electricity can be produced by Neil Schmidt's hydraulic wind turbine (see above), or by a number of other wind generators such as Number 47 of <http://iic.de/4643.html> which is a combined solar/wind electricity generator.

The most productive solar photo-voltaic cell seems to be the Soviet-developed high-efficiency crystal lattice solar photo-voltaic cells described below.

Las Vegas inventor Jeff Prescott invented a method of generating hydrogen by concentrating solar rays to heat pure iron in the presence of water. The iron oxide byproduct can be sold for paint and other uses. Questions remain as to the overall energy efficiency of his process, particularly in regard to refining and transporting the pure iron.

It does, however, take a substantial amount of time to produce sufficient hydrogen to fill even a small tank. As an example, it takes over 2 days of the company's hydrogen generator running at full power, 24 hours a day, to fill its smallest "short range" tank.

The tanks are filled with granulated hydrides which absorb hydrogen like a sponge absorbs water. Hydrogen is pressurized into the material. Hydrides have many advantages over ultra-cold liquid or pressurized gaseous hydrogen. One is that the density of the hydrogen stored in the hydride can be GREATER than that of ultra-cold liquid hydrogen. This translates directly into smaller and fewer storage tanks.

Once the hydride is "charged" with hydrogen, the hydrogen becomes chemically bonded to the chemical. Even opening the tank, or cutting it in half will not release the hydrogen gas. In addition, if incendiary bullets are fired through the tank, the hydride would only smolder like a cigarette. It is in fact, a safer storage system than a gasoline tank.

Then how do you get the hydrogen back out? To release the hydrogen gas from the hydride, it simply needs to be heated. This is either done electrically, using the waste exhaust heat, or using the waste radiator coolant heat.

The company's Hydrogen Fuel System kits heat the hydride tanks electrically. As soon as the hydride is sufficiently warm, hydrogen is released from the tanks, and the on-board computer detects the presence of hydrogen pressure. The fuel system remains in "Hydrogen" mode until the tank pressure begins to drop. If the tanks run out of hydrogen, the engine will seamlessly switch over to gasoline, which enables the car to run conventionally until the hydrogen tanks are refilled at zero cost.

Using hydrogen, the only exhaust products produced are water vapor and a tiny amount of nitrogen oxides. It's about as clean burning as you can get.

United Nuclear's first prototype was a 1994 Chevrolet Corvette that was converted to run on hydrogen. Using the Extended Range kit (2 sets of tanks), the driving range is over 650 miles per fill. As the hydrogen gas is produced using the company-furnished solar-powered hydrogen generator, the resulting fuel cost is near zero.

United Nuclear now has accumulated over 50,000 trouble-free miles on their prototype vehicles. They are currently fleet-testing their systems and are in final preparation for sales to the general public. They will fully guarantee and stand behind all their products and workmanship. Their conversion kits will initially sell for \$7,000 to \$10,000 each.

United Nuclear has developed every aspect of its Hydrogen Fuel System on their own, using their own funds and not a dime of federal tax money. They do not sell stock, and do not need investors.

Not unexpectedly, the corrupt U.S. Government has swooped in by utilizing its Consumer Product Safety Commission (CPSC) as a means of suppressing the pending commercial sale of United Nuclear's Hydrogen Fuel System Kit by confiscating the necessary chemicals used in this system from public use – possibly basing its action on false premises.

Currently, the CPSC is focusing on common chemical oxidizers such as perchlorate compounds, nitrate compounds, permanganate compounds, chlorate compounds, etc., along with a wide variety of other common chemicals and metals such as sulfur, aluminum, magnesium, titanium, zirconium, zinc, magnailim, benzoate compounds, salicylate compounds, antimony and antimony compounds, etc.

The CPSC now claims that this action is to stop the manufacture by United Nuclear of illegal explosive fireworks. If their true intention is to attempt to curtail the construction of these devices, there are only two chemicals which should be of concern: potassium perchlorate and German aluminum.

For those unfamiliar with exploding fireworks, they are all made from one material: flash powder. Flash powder is a mixture of potassium perchlorate, and a special ultra-fine aluminum powder known as German aluminum. These have been the only 2 chemicals used in the manufacture of every single exploding firework from firecrackers to M-80s from the 1960s to present times.

United Nuclear's Hydrogen Fuel System Kit is not yet available for sale. There are legal problems with several components of the unit which is preventing its sale. Until the legal proceedings are complete, the company won't be moving forward with the system. (Sources: <http://www.switch2hydrogen.com/>, <http://www.switch2hydrogen.com/>, <http://www.unitednuclear.com/legalactionletters.htm>, <http://www.wired.com/wired/archive/14.06/chemistry.html>, <http://nextconservatism.com/2006/11/14/>, <http://roquestatesmen.blogspot.com/2006/05/who-wants-free-energy-anyway.html>, and <http://peswiki.com/index.php/Directory:Suppression>.)

Daniel Dingel: Converts More than 100 Cars to Run on Water

Inventor Daniel Dingel, who lives in the Philippines, since 1969 has converted more than 100 gasoline cars to be powered by hydrogen derived ON DEMAND from plain water. Aluminum is used in the tank to suppress a possible explosion. The Philippines President is not interested because of an agreement with the World Bank. For a link to a movie about his water-powered cars, see Section 12-G of <http://www.byronwine.com/>. For more on the Philippines experience with the international bankers, see <http://www.indybay.org/newsitems/2006/04/10/18144521.php>.

Maker of water-powered car still fighting after 30 years

By Joey G. Alarilla (see http://www.wasserauto.de/html/inquirer_article.html.)

1969 was a landmark year for a number of reasons, including the conquest of space and cyberspace. Even as that year saw Neil Armstrong and Buzz Aldrin walking on the moon, so was the Internet born when its earliest incarnation, the United States Defense Department's Arpanet (Advanced Research Project Agency network), went online.

In the Philippines, 1969 was also the year that a Filipino inventor claims to have started tinkering with a revolutionary concept for the automotive industry. His idea: To power cars using hydrogen derived from ordinary water.

Today, 30 years later, inventor Daniel Dingel is driving around in the only water-powered car in the world, still complaining that Filipino government officials and scientists refuse to support his invention.

"They keep saying that the government is pro-poor, but what they do is sell off the resources and wealth of the Philippines. The government should really support the development of technology that would help the country pay its huge foreign debt," he said.

At the Inquirer parking lot last Tuesday, Dingel showed off his "concept car"- a red 16-valve Toyota Corolla with the small hydrogen reactor that he invented hooked up to its internal combustion engine (ICE). Dingel's hydrogen car has actually received media coverage since the late '80s or so, but to date his invention has not yet been patented and commercialized. Dingel attributed this to the influence of multinational companies, such as the oil companies. A conspiracy theory worthy of the X-Files, perhaps, but if Dingel's idea is real, then the truth is way out there.

How it works:

According to him, his reactor uses electricity from a 12-volt car battery to transform saltwater or ordinary tap water with salt into deuterium oxide or heavy water, which is chiefly used as a coolant for nuclear reactors. Deuterium is actually a hydrogen isotope with twice the mass of ordinary hydrogen, and heavy water is produced when the hydrogen atoms in H₂O are replaced with deuterium.

"The electricity from the battery splits the water into its hydrogen and oxygen components, and this hydrogen can then be used to power the car engine. Normally it takes temperatures of about 5,400 degrees Fahrenheit to generate hydrogen from water, but here I am just using an ordinary 12-volt battery," he claimed.

Just how this kind of chemical reaction is possible using an ordinary car battery is, of course, the secret behind Dingel's invention – and the kind of claim that leads people to dismiss him as a crackpot and charlatan. In fact, while hydrogen is being touted as a viable alternative fuel in the US and other countries, these prototypes do not make use of internal combustion engines but fuel cell engines, nor do they run on ordinary water but on liquid hydrogen.

For example, DaimlerChrysler unveiled in the US in March the hydrogen-powered NECAR 4 (New Electric Car), which is based on a Mercedes-Benz A-class compact car.

In these fuel cell cars, water is just a by-product of the reaction between hydrogen and oxygen ions, which produces the electricity to run the car's engine. In this sense, the fuel cell process is the reverse of Dingel's discovery. Also, Dingel claims that his reactor can work with any existing ICE-based car.

Dingel said some investors from Taiwan now plan to commercialize his car and help him get an international patent.

(End of excerpt)

Update (*Electrifying Times* (www.electrifyingtimes.com), Vol. 10, No. 2, 2007, page 22):

Dingel did get some of his international patents and was given a sizeable sum of money from yet unknown sources to keep his invention quiet. The secret formula for Dingel's technology as well as the late Stanley Meyer's water cell car is a certain resonant frequency and voltage that allows much lower energy to produce hydrogen and oxygen from water than the standard electrolysis method requires. Stay tuned.

This writer, Gary Vesperman, included a possibly similar invention in his somewhat obsolete compilation of "Advanced Technologies for Foreign Resort Project" which is in <http://www.icestuff.com/~energy21/advantech.htm>. It is copied as follows:

Water Engine. Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank's pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Ken Rasmussen: Water-to-Energy Electrolysis Process

Ken Rasmussen and his team have been working on a water-to-energy electrolysis process that turns out to have similarities to that of Professor Kanarev. Both use a pulsed signal, and both were seeing similar performance rates. Kanarev holds multiple patents, and is widely published.

Their work ceased after a member of the research team was threatened at gunpoint on 16 May 2006. Unknown to Rasmussen, his associate had faced a violent confrontation with 4 young to middle-aged white males in black suits driving a late model black Lincoln Town Car.

Shoving Glock and Mac-10s in his face at a rural intersection, they told him extensive details about his family and threatened lives of him, family and all associates if he didn't stop work on the process immediately and NEVER go to the authorities. His associate, now scared for his own life and that of his family, complied. But similarly to Bill Williams' case (see below), when happy people start acting silent and paranoid, friends get suspicious.

In the good old days, big business bullies offered lots of money to buy somebody out and eliminate the competition. Stanley Meyer claimed before his suspicious death that he refused an offer of a billion dollars from Arab oil interests if he would stop work on his electrolysis process. (Meyer received at least eight patents in addition to US Patent 4,389,981 relating to hydrogen and oxygen gasses extracted from water for fuel.)

But to date, NOBODY has offered Ken's company a dime for their "yet bench top" technology. BUT somebody HAS threatened to KILL THEM. Would any skeptic out there care to explain that to Ken? Ken had been in discussion with several pre-screened, suitable investors, who were waiting on Ken's company to fix a final detail before showing them a live demonstration.

Enormous amounts of personal information thrown in their face behind the guns proved to Ken NONE of the prospective investors had anything to do with the violence we experienced. These thugs knew things Ken DIDN'T EVEN KNOW. Their boss has digital cell phone tapping technology at the very least. Other details were probably obtained by wire tapping neighbors and friend's phones too.

For any of Ken's previous business contacts reading this, please excuse the delay. The lives of Ken and his associates have been directly threatened if they were to complete the item they were intending to demonstrate. All progress is stopped.

Given the nature of oil or banking history, who do you think paid these hired gunmen to do the dirty work? Ken would appreciate some solid leads. Ken has to admit, oil has become intertwined with both banking and government over the years; so unofficial policies may have changed.

For more energy invention suppression details, see Ken's web site <http://www.commutefaster.com/klooz.html>.

Bob Boyce: Brown's Gas Carburetor

Bob Boyce built a carburetor using hydrogen and oxygen previously split using proper frequencies. See http://www.greaterthings.com/News/Tilley/testimonials/related/Bob_Boyce.htm.

From: "Bob Boyce" <theghost@realmcity.com>
To: <sterlingda@greaterthings.com>
Sent: Monday, October 07, 2002 8:38 PM
Subject: GTcontact

Hello there

I just read your response to the message from someone asking why you're promoting a fraud (Tilley), and I must commend you on your response. There are a lot of closed-minded and narrow-minded people out there, most of whom were highly educated in traditional schooling methodology taught at most of the universities and colleges throughout the world. They get this doctrine shoved down their throats that if it's not documented in books and/or upheld by popular theory, then it's just not possible. Any attempt to demonstrate such technology usually falls on deaf ears and blind eyes because they refuse to adjust their thinking to accept that maybe something may be possible after all.

I learned the hard way about how society treats those that dare to do something different. I'm not seeking publicity or recognition for any research I did, just wanted to privately relate my experiences with you and ask that you please not publish or share this with anyone. (See link above. Sterling Allan must have subsequently obtained Boyce's permission to publish his story. Gary Vesperman)

I had an electronics business down in south Florida where I owned and sponsored a small boat race team through my business starting in 1988. We had a machine shop out back of my business for doing engine work, and I worked on engines for other racers and a local mini-sub research outfit that was building surface running drone type boats for the U.S. Government's Drug Enforcement Administration (DEA).

I delved into hydrogen research where I was building small electrolyzer type units that used distilled water mixed with an electrolyte. I would then resonate the plates for optimal conversion efficiency.

I discovered that with the right frequencies, I was able to generate monatomic hydrogen and oxygen, which when recombined, produces about 4 times the energy output of normal diatomic hydrogen and oxygen molecules since the process of combustion does not have to break apart the molecules first before recombining into water vapor. Diatomic hydrogen requires about 4% to air to produce the same power as gasoline, while monatomic requires slightly less than 1% to air for the same power.

The only drawback was storage at pressure causes the mono-atoms to start joining into diatomic pairs, and the mixture weakens, so it must be produced on-demand and consumed right away. I used modified LP carburetors on the boat engines to deal with using vapor fuel. I even converted an old Chrysler with a slant six engine to run on the hydrogen setup and we tested it in the shop.

I never published anything of what I was working on, and we always stated that our boats were running on hydrogen fuel, which was allowed, to avoid any controversy at the races. It wasn't until many years later that I found out what I had stumbled upon was already discovered and known as "Brown's Gas", and there were companies out there selling the equipment and plans to make it.

I had never tried to market anything, but I was plagued with trouble ever since I did the conversion to the old Chrysler and did a few test runs on it in the shop. My shop, which had never had any major crime problems before, suddenly was getting broken into, and pieces of equipment related to the hydrogen project were getting vandalized or stolen. I thought it might be that one of the guys that worked for me might have leaked something to someone and they were trying to either steal the technology or stop me from working on it. I ended up shutting down the research, getting out of it all, converting the boat engines back to racing fuel and selling off the race boats. The break-ins stopped, and I had no further trouble up until I totally closed the business and retired in 1991.

I was struck by lightning in 1995 and in 1997 I moved out of Florida, the lightning capital. I am now crippled with arthritis (which is common amongst lightning strike survivors), and recently I developed congestive heart failure/pulmonary edema. I may be weak in body, but I am determined to try to stay as active as I can. I am currently stripping down an old 1984 Dodge Aries with only 29K original miles so I can convert it over to electric operation.

I have been seeking all information I can find to be able to apply this unique charging arrangement that Tilley is using and to find out what type of electric motor would be best to use with it. I'm in the eastern TN area in the mountains so it must have enough power to climb the uphill grades and hopefully be able to regenerate on the downhill grades. So far I have found very little information on this. Any help you could provide to steer me in the right direction would be appreciated.

Thank you,
Bob Boyce

Stanley A. Meyer: Water Fuel Cell-Powered Car

Stanley A. Meyer invented a water fuel cell, which is not to be confused with the well-known fuel cells using membranes, etc. Meyer's device is supposed to break water into hydrogen and oxygen gases using less energy than that present in the bond itself. Furthermore, ordinary tap water requires the addition of an electrolyte such as sulphuric acid to aid current conduction; Meyer's cell functions at greatest efficiency with pure water.

More precisely, Meyer claimed his super-efficient electrolysis process produces 700% more energy than it consumes (for instance, by connecting it to an engine that would burn the hydrogen back into water) without raising the temperature of the water. Meyer assembled a car prototype powered by a water fuel cell.

Meyer's water fuel cell consists of stainless steel plates arranged as a capacitor – with pure water acting as the dielectric. A rising staircase of direct current pulses is sent through the plates at roughly 42 kilohertz, which is claimed to play a role in the water molecules breaking apart with less directly applied energy than is required by standard electrolysis. The mechanism of this reaction is undocumented.

Using his super-efficient hydrogen separator, Stanley Meyer claimed he could drive a water fuel cell-powered car from California to New York averaging 100 miles per gallon of water.

Meyer has demonstrated his fuel cell device before Professor Michael Laughton, Dean of Engineering at Mary College, London, Admiral Sir Anthony Griffin, a former controller of the British Navy, and Dr Keith Hindley, a UK research chemist. According to these witnesses, the most startling aspect of the Meyer cell was that it remained cold, even after hours of gas production as his system appeared to operate on mere milli-amperes, rather than the amperes that conventional electrolysis would require. The witnesses also stated:

"After hours of discussion between ourselves, we concluded that Stan Meyer did appear to have discovered an entirely new method for splitting water which showed few of the characteristics of classical electrolysis. Confirmation that his devices actually do work come from his collection of granted US patents on various parts of the WFC system. Since they were granted under Section 101 by the US Patent Office, the hardware involved in the patents has been examined experimentally by US Patent Office experts and their seconded experts and all the claims have been established."

Meyer received at least eight patents in addition to US Patent 4,389,981 relating to hydrogen and oxygen gasses extracted from water for fuel. The granting of a US patent under Section 101 is dependent on a successful demonstration of the invention to a Patent Review Board.

U.S. Patent 5,149,407: Process and apparatus for the production of fuel gas and the enhanced release of thermal energy from such gas

U.S. Patent 4,936,961: Method for the production of a fuel gas

U.S. Patent 4,826,581: Controlled process for the production of thermal energy from gases and apparatus useful therefore

U.S. Patent 4,798,661: Gas generator voltage control circuit

U.S. Patent 4,613,779: Electrical pulse generator

U.S. Patent 4,613,304: Gas electrical hydrogen generator

U.S. Patent 4,465,455: Start-up/shut-down for a hydrogen gas burner

U.S. Patent 4,421,474: Hydrogen gas burner

U.S. Patent 4,389,981: Hydrogen gas injector system for internal combustion engine

"It Runs on Water" is a video with Stanley Meyer demonstrating the water fuel cell in a car. Meyer claimed that he could run a 1.6-liter Volkswagen Dune Buggy on water instead of gasoline.

The basic problem with Meyer's invention, as reliably reported by Eugene Mallove in an Infinity Magazine article (see <http://www.rexresearch.com/meyerhy/meyerhy.htm>), is that he had never consented to conclusive tests. Skeptics point out that electrolysis of water, as explained by chemistry textbooks, requires more energy to break the hydrogen-oxygen bond than is regained by burning the two gases. Nonetheless Meyer's supporters suggest it is worthwhile to try to successfully replicate his process.

Stanley Meyer died after eating at a restaurant on March 21, 1998. Coroner William R. Adrion's autopsy report states that "Decedent supposedly at lunch with N.A.T.O. officials at a Cracker Barrel diner. The group made an opening toast with cranberry juice, immediately after which, decedent ran outside followed by his brother, then vomited violently and told his brother that he had been poisoned."

At the time of Meyer's death this writer, Gary Vesperman, sent out an email explaining that there is a type of stroke in the base of the brain that matches his brother's description of how Meyer died. The victim immediately becomes highly aggravated for a fraction of a minute or so. After the brain soaks up too much blood, its oxygen flow is shut down and the victim then dies.

Meyer's unusual death and its suspicious timing and circumstances understandably cause offerings of conspiracy theories regarding the possible poisoning of his cranberry juice by the oil companies and the U.S. Government. It apparently has not been verified who were with Meyer in the restaurant and exactly what they were celebrating.

The discussion below of Stanley's legal hassles is from <http://www.waterfuelcell.org/moreinfo.html>. If true, it cites more than one instance of intentional tampering with judicial due process – doubtless to discredit his water-fueled car invention. Either Stanley Meyer's water fuel cell did not in fact achieve his performance claims, or the United States federal government and Ohio state government should instead have been supporting Stanley's research.

Fraud charges:

It failed to work during a required demonstration of the water-fueled car in a 1990 court case. An Ohio court found Stanley Meyer guilty of "gross and egregious fraud" in a case brought against him by disgruntled investors. The court decided that the centerpiece of the car, his water fuel cell, was a conventional electrolysis device, and he was ordered to repay the investors \$25,000.

However, in their 1 December 1996 issue, the London Sunday Times published an article entitled "End of Road for Car that Ran on Water" by Tony Edwards. It upheld the court case, stating that three "Expert Witnesses" were not impressed and decided that the WFC was simply using conventional electrolysis. It stated Stan Meyer was found guilty of "gross and egregious fraud" and was ordered to repay the investors their \$25,000. It implied that Michael Laughton, professor of electrical engineering at Queen Mary and Westfield University, London was due to examine the car, but was not allowed to see it.

However, not mentioned was that this occurred in 1990 and that the WFC Water Fuel injector tech-base was still under U.S. National Security Review as in accordance to U.S. Patent Law and not available for public viewing. Also not mentioned were the many WFC patents, verified laboratory and university testing that supports the basis of WFC technology nor was the WFC appeal filing to dismiss Judge Corzine's ruling due to judicial default and other relevant information.

On 18 October 1995, a pretrial deposition hearing to inspect the WFC Dealership demonstration units (Variable-plate Electrical Polarization Process (VIC) Fuel Cell and Rotary Pulse Voltage Frequency Generator Tubular-Array Fuel Cell) was held in the office of the plaintiff's attorney, Robert Judkins. Present were the plaintiffs, their attorneys, plaintiffs expert witness, Michael Leverich (Electronics Engineer), Stan Meyer, Dr. Russel Fowler, WFC witness and defense attorneys Judge Roger Hurley and James Detling, as well as a deposition recorder.

During the deposition, Attorney Judkins attempted to have the WFC dismantled prior to implementing proper test procedures, which Stan Meyer refused. Michael Leverich confirmed that his initial measurements of the WFC Fuel Cells showed that it operated exactly as the WFC documentation stated it should, as so recorded on WFC Deposition Video Tape.

However, he then added an unknown white substance (powder) for additional testing. Stan objected to this, since the WFC Fuel Cell uses plain tap water and does not require a chemical additive. The plaintiffs also admitted that, during their observances at WFC Dealership Seminars, tap water was always used without any chemicals added to the water. Despite Stan's objection, plaintiff measurements were taken of this chemicalized water-bath and recorded. This illegal act of tampering with WFC Evidence of Records was witnessed by WFC Cameraman, Dr. Russ Fowler, and all others who attended Plaintiffs Deposition To-Test.

In 1996, Stan Meyer gave oral testimony before the court demonstrating the WFC Fuel Cell "Mode of Operability" by using the Voltage Intensifier Circuit (VIC) to produce voltage of opposite polarity to separate and disassociate the water molecule into its component gases, hydrogen and oxygen. However, the court audio sound recording equipment seemed to malfunction and was switched off. Judge Corzine said proceedings should continue without it. This was a violation of judicial protocol, since the recording system is used to verify testimony given during the trial and as such becomes "Evidence of Records."

After his oral testimony, Stan expected Attorney/Judge Hurley to start bringing forth WFC witnesses and counter arguments. Instead, Attorney/Judge Hurley spoke up, stated he had to leave for a pre-planned vacation and said that there was no more testimony to be given and waived the right of the defendant to give a case summary of the WFC facts brought before the court. Stan Meyer immediately stated he would protest, and Judge Corzine ended the hearing.

Stan wrote a "Request to Retract" fax-letter to the Sunday Times on 2 December 1996. He attached WFC documentation on the filing with the Disciplinary Counsel. He further stated that Judge Corzine had no right to turn off the court audio sound recording equipment, nor to rule against U.S. Patents, or overrule Government and University lab reports in the public domain concerning the mode of operability of the WFC Technology. Furthermore, Stan pointed out that no US Federal "Cease and Desist" order has ever been issued against WFC since the WFC Technology has been fully legalized under US Patent Security Law 35 USC 101 and other US Federal regulatory Acts. His final statement was that "WFC is here to stay" in contradiction to the Sunday Times statement.

Stanley Meyer's twin brother Stephen Meyer has warned per his email below that the above is not wholly true. Attempts by Gary Vesperman to obtain Stephen's corrections have been unsuccessful. Stephen's web site www.hydrotechgroup.com still does not include any information which could clarify Stanley's apparent suppression troubles and suspicious death.

From: Stephen Meyer [mailto:appli-tech@msn.com]
Sent: Wednesday, March 14, 2007 12:18 AM
To: altenergy2007@gmail.com
Subject: RE: Fwd: Terry Sisson on Stanley Meyer; Xogen

Hi Guys, go to my web site www.hydrotechgroup.com

Oh! Gary Vesperman's write up is really bad and does not reflect true events about Stan and is completely out of context in many areas. It is my hope that this article is corrected before publishing. Stephen Meyer his twin...

Stephen Meyer
Appli-Tech@msn.com
Office Phone: 1.612.374.1609

Frank Roberts: Water Car

Frank Roberts is active on the Yahoo water car chat board. He was gone for a while. Then he showed up with this story that was emailed to the Yahoo water car chat board on October 4, 2005. His location is unknown. He is trying to rebuild what he had from memory, but is having a difficult time at it.

Subject: I'm Back

Hello to everyone in the water car group from Frank Roberts

To the older members of the group I say hello; to the newer ones I'm a member who had a working water car and was preparing to go cross country and see some of the members, etc. My last message was about a year and a half to two years ago, I'm not sure. At that time I reported to the group that my office was invaded by authorities and all my paper work was photographed and some taken. My van that I was working on for a carbureted vehicle was burned in the middle of the night, and my fuel injected Taurus was taken. I suffered a chemically induced stroke and am now in a nursing home. I have lost part of my long term and short term memory. My paralysis is pretty much gone, and I now have internet access in my room. I have a lot of catching up to do on the progress of the group. I no longer have my lab and all its resources but will try to contribute from experience and expertise. I look forward to hearing from the group. It's good to be back on line.

Best Wishes,
Frank Roberts

Andrew Leech (Reporter): Suspicious Deaths of Inventors in Australia

From: Andrew Leech
To: sterlingda@pureener gsystems. com
Sent: November 02, 2006
Subject: BJ Proton Cell

Hello, I'm Andrew Leech from Floppy Sponge Automation in Melbourne, Australia. I've been a keen experimenter in a number of energy areas for some time now, both privately and through FSA. I'm especially interested in the Joe Cell and could help in a setting up a reliable demonstration model of the Proton Cell variant as well as helping to spread and promote the technology... [Deleted]...

I personally believe if we can have development undertaken relatively quietly through supportive channels such as PES Network, and produce a number of engines running this way privately, then distribute them quietly over a large area (Colin at FSA has numerous contacts right across Australia, Malaysia and Taiwan), when it is announced publicly it will already be out there too widely to be hushed up. I've heard reliable confirmations of suspicious deaths on inventors in Australia, so don't want to take the threat lightly. If we can have a large group of replications all announced simultaneously we have a chance of getting around that threat... [Deleted]...

Regards,
Andrew Leech
Floppy Sponge Automation
12 Birch Ave Dandenong Nth,
Vic, Australia 3148
<http://www.floppyspongeonline.com>

Gerald Schaflander: Solar-Produced Hydrogen Turned into Liquid Hy-Fuel

During the 1970s Gerald Schaflander, with the Solar Electric Power Corporation of Culver City, California, and with financial help from some friends, built a pilot production facility in Menlo Park, California. Schaflander had developed gallium aluminum arsenide/gallium arsenide solar cells and was producing hydrogen with the cells' output, which was then chemically turned into a liquid fuel called Hy-Fuel. The fuel could be utilized in cars or trucks. It was not used as a liquid but as hydrogen gas, by cracking it and feeding the recovered hydrogen gas through a special carburetor.

Schaflander and his scientists had found from their own experiments that silicon will not work. It deteriorates in the desert heat and becomes only about 2 percent efficient. Having found silicon cells unsatisfactory, Schaflander's scientific team perfected gallium aluminum arsenide/gallium arsenide solar cells. They also found a way to produce such cells on a semi-automated basis, slashing costs. Some of the photovoltaic cells used to power NASA spacecraft cost as much as \$5 a watt to produce; Schaflander's automated process reduces the cost to 27 cents a watt.

The prototype of a commercial Hy-Fuel production facility on 1000 acres of leased land near Yuma, Arizona comprised of two lines of slanted solar panels that gather the sun's rays. Behind them were rounded, cylindrical "parabolic concentrators" that intensify the energy collected by the panels and focus it on photovoltaic cells. The cells produce electrical energy, and electrolysis then splits the hydrogen atoms from water. The hydrogen gas so produced is turned into a stabilized liquid similar to ammonia. The liquid Hy-Fuel is fully substitutable for fuel oil or for gasoline in automobiles, tractors and other vehicles. These are connected by wires and tubing to a small pumping station and rounded storage tanks.

This Yuma solar energy farm was the creation of Consumers Solar Electric Power Corporation of Culver City, California. On July 1, 1980 the firm had its first commercial tank load of 250 gallons of Hy-Fuel ready for delivery at only 50 cents a gallon, and was producing more Hy-Fuel. With an option on leasing another 10,000 acres and given financial support, the facility could be cranked up to full production on the entire 11,000-acre tract in six months. According to Stephen Wright, president of Consumers Solar and its scientific expert, with eight hours of continuous Arizona sunlight a day, such an energy farm would produce 3.8 million gallons of Hy-Fuel a day.

Hy-Fuel production could be increased considerably by substituting Soviet-developed high-efficiency crystal lattice solar photo-voltaic cells (see below).

A unique co-generation system would turn the waste heat produced by the process into low-pressure steam that could be used to drive turbines producing electric power for the utilities. Schaflander estimates that his company's energy farm could produce electricity at a capital cost of \$690 per kilowatt. The capital-cost figures for fossil-fueled and nuclear-powered plants are \$1,200 and \$1,400 per kilowatt, respectively. Note that these are 1980 figures.

Conversion of present engines to hydrogen fuel can be accomplished in a few hours. The process involves removing the gasoline tank and installing a new tank capable of holding the slightly heavier hydrogen hydride mixture. A "cracker" would be positioned in the front of the car next to the motor to convert the ammonia-like Hy-Fuel into a gas mainly composed of hydrogen. This gas would flow into a new carburetor to which a fuel regulator is attached. Certain other solenoid valves and vacuum and pressure switches would be wired into the car. The hydrogen-powered vehicle would then be ready to roll.

There is no question that Hy-Fuel works. Schaflander had converted eighteen Chevrolet engines to his revolutionary fuel and had driven them across the continent, getting about twenty miles to the gallon. Tests show that Hy-Fuel's emissions are far cleaner than gasoline, obviating the need for costly emission devices such as catalytic converters which poison roadsides with toxic platinum dust particles. Hy-Fuel is also more stable than gasoline – far less likely to explode in case of an accident.

All this was developed without a dime of federal tax money. In 1978 Schaflander challenged a U.S. House of Representatives Energy Committee to let him test his device on a selected fleet of U.S. Government cars. Although he asked for no up-front money and had promised, "If we can't deliver, we don't get paid," the U.S. Government turned him down.

Schaflander was harassed by oil company-inspired opposition, including telephoned death threats to his 79-year-old mother and quite "official" opposition from the U.S. Postal Service. His company was essentially driven out of business. The whole story is described by a long article that was published in the October 4, 1980 issue of *The Nation*. There is much detail on the suppression, but little data on the actual process used. (Source: "The Hydrogen Alternative: Somebody Doesn't Like Hy-Fuel" Fred J. Cook, *The Nation*, October 4, 1980, pp. 305-311)

John Andrews: Water-to-Gasoline Additive

In May 1974 John Andrews, a Portuguese chemist, demonstrated a water-to-gas additive before Navy officials which allowed ordinary water to be added to gasoline without decreasing the combustibility of the gas and would drive the cost of gasoline down to 2 cents per gallon. When Navy officials finally went to his lab to negotiate for the formula, they found Andrews missing and his lab ransacked.

Phil Stone: Engine Runs on Water

During the 1950's, Phil Stone, a retired Florida college physics professor, had a patent for a device to run an engine on water. The U.S. Government then unfairly classified his patent, and this prevented him from developing his device. The United States Patent Office has classified 5000 patents, an unknown number of which relate to energy. Their helplessly shackled inventors will be jailed for 20 years if they work on, develop, make, sell, write about, or even simply talk about their inventions.

Bill Williams: Joe Cell-Powered Truck

(Excerpted from http://pesn.com/2006/04/13/9600257_Bill_Williams_threatened/, written by Sterling Allen, Pure Energy System News)

Joe Cell Truck Builder Threatened, Destroys Plans --- After announcing that he had successfully built a truck that runs on Joe cell technology, drawing energy from water and orgone energy, Bill Williams said he was approached by two men who demanded that he stop his research, threatening him with dire consequences if he didn't. Others are keeping it alive.

USA -- A couple of weeks ago, Bill Williams told a discussion list that he successfully ran his truck on a device known as the Joe cell. The power was far greater than the regular combustion engine -- and the energy was free.

The Joe cell is said to draw on orgone energy. The fairly simple device uses electrically charged water as the "gate" or medium through which the aetheric energy is drawn from the surroundings and transferred to the automobile engine.

Bill had posted images and rough descriptions, and was in the process of disclosing in greater detail how he had accomplished this, when he was confronted last week by two unidentified individuals who told him to cease all of his alternative energy work or there would be dire consequences.

On April 11, 2006, Bill gave the following account of what happened just a few days after announcing his success.

"I was on my way home Thursday last week [April 6, 2006] and was about 3 miles from the ferry project. I stopped to check the post connection point on the Cell. I was standing in front of my truck, and this late model 2005 or 2006 Ford Explorer pulled up and parked diagonally in front of my truck.

"The driver got out of the rig and walked around in front of their rig and approached me. At about the same time, the passenger opened his door.

"The driver stated that they wanted me to stop working on all forms of alternative energy. He also stated that we know everything about me, my family, and all my projects past and present.

"At about that time the passenger reached and held up a file that was about 2 or so inches thick. He opened it up and showed me telephone transcripts, emails, messages from the groups that I had belonged to.

"They knew where my kids worked, the times they are at work; also my wife's working hours, my grandkids' school, etc. They knew everything.

"The driver said that if I did not stop working on this (he then opened up the left side of his jacket and showed his weapon that was holstered) that there would be other consequences.

"He also stated that he wanted me to post that I was no longer working in this field and to destroy all my work, i.e. cells, drawings, lab journals, everything!

"At that point he walked around and got into the rig. I shut the hood and got the hell out of there. They followed me for about 2 miles and then must have turned off somewhere."

After a few days of contemplation, Bill decided to abide by the demands of those who threatened him. He destroyed the cell and all data and documentation and disabled the website on which he had posted plans. Four days after that incident, Bill wrote the following message to the group:

"I thought I was strong but when illness to the family comes into play, I have failed. I am truly sorry. I will not be working in any form of alternative energy field anymore. [...]"

"I destroyed my device tonight along with my written data and lab notes as per specked out."

Thomas E. Bearden, Ph.D.: Motionless Electromagnetic Generator

In March 2002, Stephen L. Patrick, Thomas E. Bearden, James C. Hayes, Kenneth D. Moore, and James L. Kenny received U.S. Patent No. 6,362,718 for the Motionless Electromagnetic Generator (MEG), a scalar energy device that produces over-unity (AKA "Free Energy"). In conventional terms, the device has a Coefficient of Performance (COP) of 5.0.

Tom Bearden offers this brief description of how the Motionless Electromagnetic Generator works:

First the MEG uses a proven technique (the Aharonov-Bohm effect) which the nanocrystalline core furnishes freely. Recall again that memory characteristics of materials is one thing (from Prigogine) that allows direct and intentional violation of the second law of thermodynamics.

This free initiation of the Aharonov-Bohm effect in turn engineers the surrounding vacuum outside the core, by adding extra energy density to it in the form of a curl-free A-potential. Sharp perturbation (the rise time and decay time) of the input pulses that perturb the core-confined B-field, also perturb that section of the A-potential still in the core, so that a disturbance of dA/dt passes outside the core and on outward into the external altered vacuum with its extra energy.

There the equation $dA/dt = -E$ applies, and so in the external activated space real E-field energy pulses are formed which radiate back into the MEG core area due to the minus sign. This means they travel in opposite direction to the outward-traveling perturbation dA/dt .

Hence this shows the receipt by the MEG of excess electromagnetic energy freely transmitted back into it from the external altered space, which means that the MEG gets considerable excess E-field energy input from the surrounding vacuum. By adjusting perturbation rise times, etc., one can adjust the magnitude of the E-field energy pulses returned to the MEG from the external vacuum environment. Thus the MEG is an asymmetric Maxwellian system of the kind arbitrarily discarded by Lorentz in 1892, and still arbitrarily discarded by present EE departments, professors, and textbooks.

Comprised of strong magnets, coils, nanocrystalline cores, and a controller unit with the electronics, the MEG would be able to power an electric vehicle without battery recharging by the power grid.

For a detailed explanation (including clear drawings) of how the MEG works, see Dr. Bearden's paper "Engineering the Active Vacuum: On the Asymmetrical Aharonov-Bohm Effect and Magnetic Vector Potential A vs. Magnetic Field B." This paper is available at the link <http://www.cheniere.org/techpapers/On%20the%20Aharonov-Bohm%20Effect1.doc>.

In that paper, Dr. Bearden points out that electrical engineers – and even the usual physicist – are unaware of how an electrical circuit is actually "powered". For an explanation and a diagram showing (1) where the energy pouring from the generator terminals actually comes from and how, and (2) why the normal electromagnetic systems self-enforce $COP < 1.0$ by killing their own source of this free energy flow faster than they power their loads, see Figure 2, Operation of a Symmetrical Electrical Power System, in the foregoing paper.

Note that there are more than 20,000 papers in the hard literature on the Aharonov-Bohm effect used by the MEG, and that Aharonov-Bohm effect is quite well proven in physics, both theoretically and experimentally. But the effect does not even exist in the electrical engineering model! Since the MEG is deliberately designed to use that effect, the operation of the MEG can only be understood by one who understands the Aharonov-Bohm effect, its generalization to the Berry phase, and the further generalization to the geometric phase. Specifically, any electrical engineer – using only mainstream electrical engineering theory – can not and will not be able to understand the MEG's operation.

There are several sources of the special nanocrystalline cores which contain the "B" field needed to effectively operate the MEG. Dr. Bearden reports in <http://www.cheniere.org/correspondence/020504.htm> that the nanocrystalline cores originally were purchased as Metglas amorphous alloys from the former Division of Honeywell that made them. He believes that Honeywell actually got them from India. That Division of Honeywell was just about demolished by General Electric (GE) in its sudden attempted buyout of Honeywell (vetoed by the European community). GE suddenly moved it across country, wiping out half its staff and scientists, etc. Then GE withdrew. With the Division in shambles, Honeywell then sold it off to Hitachi. He doesn't know what's happened since then

(Sources: <http://jnaudin.free.fr/meg/megv21.htm>, http://peswiki.com/index.php/Site:LRP:Motionless_Electromagnetic_Generator, and http://peswiki.com/index.php/Site:LRP:The_Suppression_of_the_M.E.G._by_General_Electric. For additional information, order Dr. Bearden's books and videos from www.cheniere.org.)

Thomas E. Bearden, Ph.D. (Reporter): J.P. Morgan Emasculated Electrical Engineering Theory

Thomas E. Bearden, Ph.D., in an August 5, 2007 email to Gary Vesperman and three other energy researchers, offers an insight into what really happened more than a century ago when the foundations were laid for eventually providing electricity to billions of people. In the 1880s and 1890s Nikola Tesla (backed by Westinghouse, a decent man) destroyed the great dreams and preparations of John Pierpont Morgan and Thomas Edison for moving the world into DC electrical power, requiring a DC power plant about every two miles, for example. Instead, with the support of Westinghouse, Tesla gave the world the much more practical AC power systems, where the electric power is much more easily transmitted over transmission lines to distant destinations, without the serious losses as DC transmission entails.

This and Tesla's clearly enunciated intention to give the world clean free electromagnetic energy from the "active medium" itself, brought J. P. Morgan to regard Tesla as his mortal enemy, to be destroyed or curtailed at any cost. Then with the near-bankruptcy of Westinghouse, the only person Tesla could turn to for financing was J. P. Morgan himself. The university attended by Morgan in Germany was the heart of the Hegelian method, which uses the technique of funding and backing one's own enemies as well as one's supporters, to gain influence over – and eventually control of – both. So when Tesla approached Morgan for financing, Morgan readily agreed – but only after Tesla signed over a 51% controlling interest in his (Tesla's) patents.

Tesla did so, and that put control of Tesla, his patents, and his great new project directly under Morgan's control. Morgan then simply advanced Tesla only part of the money needed for his tower project, and when Tesla predictably ran out of funds, Morgan simply refused to give him any more. Very shortly this completely crushed Tesla, reducing him to effective bankruptcy, living in a hotel room, and existing on the patience and literally the charity of others. Tesla never recovered from this blow, but eventually died in that hotel room. Many of Tesla's inventions – such as radio – were stolen from him. After Tesla expired in 1943, Marconi's inventions – e.g. – were officially declared as take-offs of Tesla's inventions by the U.S. Supreme Court.

Isn't it significant that essentially none of our scientific history books credit Tesla for being the actual inventor of the radio, but instead give credit to the theft of Tesla's radio discoveries by Marconi? What does that say about the "official" ethics of the scientific community?

But Morgan was not only ruthless, but thorough. In the latter 1880's, etc., when Tesla was gung ho to give us free energy from the active medium, Morgan also anticipated the future of this "energy freely extracted from the active medium" problem that had suddenly risen in Tesla's work. At the time, there were less than three dozen "electrodynamacists" in the entire world. Maxwell had died in 1879, and those who despised quaternions (Heaviside, Hertz, Gibbs, etc.) immediately chopped Maxwell's 20 quaternion-like equations in 20 unknowns into a very much smaller vector subset containing only four equations. Maxwell's theory was never accepted during his own lifetime, but only begrudgingly and very slowly after (eight or nine years after Maxwell's death) Hertz performed speed-of-light measurements showing Maxwell was correct.

The real Maxwell theory has never been routinely taught in electrical engineering, which contains only a pale shadow of it. For the full Maxwellian theory, see James Clerk Maxwell, "A Dynamical Theory of the Electromagnetic Field," Royal Society Transactions, Vol. CLV, 1865, p 459. Read Dec. 8, 1864. Also in The Scientific Papers of James Clerk Maxwell, 2 vols. bound as one, edited by W. D. Niven, Dover, New York, 1952, Vol. 1, p. 526-597. Two errata are given on the unnumbered page prior to page 1 of Vol. 1. In this paper Maxwell presents his seminal theory of electromagnetism, containing 20 equations in 20 unknowns. His general equations of the electromagnetic field are given in Part III, General Equations of the Electromagnetic Field, p. 554-564. On p. 561, he lists his 20 variables. On p. 562, he summarizes the different subjects of the 20 equations, being three equations each for magnetic force, electric currents, electromotive force, electric elasticity, electric resistance, total currents; and one equation each for free electricity and continuity. Most electrical engineers have never even read Maxwell's theory, even though they were falsely informed that they had studied (and mastered) "Maxwell's theory."

Free download of that original Maxwell theory can be made directly from the ZPE website, at links

http://www.zpenergy.com/downloads/Maxwell_1864_1.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_2.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_3.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_4.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_5.pdf
http://www.zpenergy.com/downloads/Maxwell_1864_6.pdf
<http://www.zpenergy.com/downloads/Diagram.pdf>

Barrett (one of the co-founders of ultrawideband radar) comments on the curtailing of Maxwell's theory as follows:

"[T]he A field [for the potentials] was banished from playing the central role in Maxwell's theory and relegated to being a mathematical (but not physical) auxiliary. This banishment took place during the interpretation of Maxwell's theory... by Heaviside... and Hertz. The 'Maxwell theory' and 'Maxwell's equations' we know today are really the interpretation of Heaviside... Heaviside took the 20 equations of Maxwell and reduced them to the four now known as "Maxwell's equations". [Terence W. Barrett, "Electromagnetic Phenomena Not Explained by Maxwell's Equations," A. Lakhtakia, ed., Essays on the Formal Aspects of Electromagnetics Theory, World Scientific Publishing, River Edge, NJ, 1993, p. 11.]

Actually it was worse than that! Heaviside hated potentials (which today we know are primary), thought they were mathematical conveniences only, and that they should be "murdered from the theory". Quoting from B. J. Hunt:

“In a letter to Oliver Lodge in 1893, Heaviside referred to his own work and stated that it represented ‘...the real and true ‘Maxwell’ as Maxwell would have done it had he not been humbugged by his vector and scalar potentials.’ [B. J. Hunt, *The Maxwellians*, Ph.D. dissertation, The Johns Hopkins University, Baltimore, MD, 1984, p 317].

Heaviside also thought (as did all others at the time) that a thin material fluid ether filled all space, so that nowhere in all the universe was there a point where mass was absent. For that reason, the electrodynamicists – including Heaviside – thought there were force fields E and H in space, when today we know such electromagnetic force fields exist only in charged matter (matter is a component of force, by the equation $F = d/dt(mv)$). Quoting Feynman:

“...in dealing with force the tacit assumption is always made that the force is equal to zero unless some physical body is present... One of the most important characteristics of force is that it has a material origin...” [Richard P. Feynman, Robert B. Leighton, and Matthew Sands, *The Feynman Lectures on Physics*, Addison-Wesley, Reading, MA, Vol. 1, 1964, p. 12-2].

For a commentary on even the unsatisfactory condition of the original Maxwell’s theory, Cornille states it this way:

“Even today, Maxwell’s equations are given as granted, their validity being justified by experiments. In fact, there is no demonstration of Maxwell’s equations from first principles since the mechanical approach used by Maxwell has been abandoned in favor of a new non-mechanical entity: the electromagnetic field. Of course, Maxwell’s equation[s] can be obtained from a variational principle but they are derived from an action appropriately chosen in order to recover them. ... Maxwell’s equations raise a certain number of fundamental questions which have not been answered in a satisfactory manner to date.” [Patrick Cornille, “Inhomogeneous waves and Maxwell’s equations,” Chapter 4 in *Essays on the formal Aspects of Electromagnetic Theory*, Ed. A. Lakhtakia, World Scientific, 1993, p. 138-139.].

But it made no big splash, and the Heaviside severely truncated equations were “chosen” as the basis equations for the new “electrical engineering” that was beginning to be set up in a few universities here and there. Morgan apparently had the “new” equations (for the new electrical engineering being born) checked via group symmetry (adopted in 1870, so therefore well known by the very few leading electromagnetic scientists of the world at the time) to see if the “new” science/equations contained any of those “systems taking excess free energy from the active medium” – in short, containing any of Maxwell’s asymmetrical systems present in the full Maxwellian theory. In short, Morgan was determined not only to suppress Tesla, but also to suppress any future “young Tesla” who might be stimulated to see and develop “free energy from the active medium” Tesla systems. The review of Morgan’s scientific advisors was not good; the “new” and truncated Heaviside equations were still not totally symmetrical, which meant some of those dirty old asymmetric Maxwellian systems were still there.

Morgan, of course, just directed that it be “fixed”. And Lorentz was the fellow chosen or arranged to do the job; in 1892, Lorentz arbitrarily symmetrized the Heaviside equations – just to “make them easier to solve algebraically”, so the story went. He thereby firmly excluded all asymmetrical Maxwellian systems from the standard electrical engineering model, from its very birthing.

Lorentz was a great scientist in his own right, but also was fond of appropriating and using other people’s work and taking credit for it himself. For example, the whistle was finally blown on this aspect of Lorentz, by the great electrodynamicist J. D. Jackson. See J. D. Jackson and L. B. Okun, “Historical roots of gauge invariance,” *Reviews of Modern Physics*, Vol. 73, July 2001, p. 663-680. Even the symmetrical regauging used by Lorentz (and credited to him generally) was first done by Lorentz (without the “t”), as Jackson and Okun show.

To see the original Lorentz “suppression” paper applying symmetrical regauging, see H. A. Lorentz, “La Théorie électromagnétique de Maxwell et son application aux corps mouvants,” [*The Electromagnetic Theory of Maxwell and its application to moving bodies*], *Arch. Néerl. Sci.*, Vol. 25, 1892, p. 363-552. [Also in H. A. Lorentz, *Collected Papers*, The Hague : Martinus Nijhoff, vol. 2, pp. 168-238, esp. p. 168.] This is the work that Lorentz cites later (in 1895) for his proof of the symmetrical regauging theorems (the two equations of symmetrical regauging).

This is what arbitrarily eliminated (from standard electrical engineering) the use of “Tesla” asymmetrical Maxwellian systems that do receive excess electromagnetic energy freely from the active medium – and thus can function at a coefficient of performance (COP) >1.0 precisely similar to a windmill-driven electrical power system or a solar panel powered electrical power system. A real system with real losses will always have efficiency (total useful energy or work output divided by the total energy input from all sources) of less than 100%. But if it asymmetrically receives (freely or nearly freely) excess energy from its active environment, then its coefficient of performance (total useful energy or work output divided by the total energy input by the operator only) can permissibly exceed 1.0. No laws of nonequilibrium thermodynamics are violated, as are no laws of physics.

Two persons – Oliver Heaviside and John Poynting – independently and simultaneously discovered the flow of electromagnetic energy through space in the 1880s and early 1890s; before then, the concept does not appear in physics. Poynting only considered a very tiny part of the “total electromagnetic energy flow pouring from the generator terminals and flowing through space outside and along the external conductors (of the external circuit)”. That tiny part is the small fraction of the energy flow – the linear part – that gets diverged into the conductors to “potentialize and power up the electrons” and the external circuit. Heaviside also discovered a giant curled electromagnetic energy flow component in addition to the diverged little component. The nondiverged curled electromagnetic energy flow component is more than a trillion times greater in energy magnitude than the feeble Poynting component.

Well, again it would simply not do (in Morgan’s relentless view) for our young future electrical engineers to know and be taught that the generator actually outputs more than a trillion times as much electromagnetic energy output as the mechanical energy input one furnishes to crank the shaft of the generator. That would mean it would just be a matter of time before some young budding genius would discover how to trick some of that giant curled Heaviside component into diverging into the conductors after all, thus producing Tesla “energy from the external active medium” systems after all.

So again, Morgan would have issued orders to “fix it!”

And so Lorentz was arranged once again to do the dirty work. In 1900 he stated that this giant curled Heaviside component “does nothing”, since it does not interact, and so it “has no physical significance”. And he arbitrarily just integrated the entire energy flow vector (containing both the diverged Poynting energy flow component and the usually nondiverged Heaviside giant curled energy flow component) around a closed surface assumed around any volume element of interest. Thereby Lorentz misinformed us that this nondiverged giant energy flow had “no physical significance” and taught us to just deliberately cancel it as a matter of course.

In his August 16, 2007 email to Gary Vesperman and Leslie Pastor, Thomas Bearden adds:

For additional rigorous mathematical demonstrations, see the following:

M. W. Evans et al., "Explanation of the Motionless Electromagnetic Generator with O(3) Electrodynamics," *Foundations of Physics Letters*, 14(1), Feb. 2001, p. 87-94. Quoting: “...the fundamental operational principle of the MEG is explained using a version of higher symmetry electrodynamics known as O(3) electrodynamics, which ... has been developed extensively in the literature. The theoretical explanation of the MEG with O(3) electrodynamics is straightforward: Magnetic energy is taken directly ex vacua and used to replenish the permanent magnets of the MEG device, which therefore produces a source of energy that, in theory, can be replenished indefinitely from the vacuum. Such a result is incomprehensible in U(1) Maxwell-Heaviside electrodynamics.”

M. W. Evans et al., "Explanation of the Motionless Electromagnetic Generator by Sachs's Theory of Electrodynamics," *Foundations of Physics Letters*, 14(4), 2001, p. 387-393.

M. W. Evans et al., "The Aharonov-Bohm Effect as the Basis of Electromagnetic Energy Inherent in the Vacuum," *Foundations of Physics Letters*, 15(6), Dec. 2002, p. 561-568.

T. E. Bearden, "Extracting and Using Electromagnetic Energy from the Active Vacuum," in M. W. Evans (ed.), *Modern Nonlinear Optics*, Second Edition, 3 vols., Wiley, 2001; Vol. 2, p. 639-698.

A quote of interest is: "This has led to one of the greatest ironies in history: All the hydrocarbons ever burned, all the steam turbines that ever turned the shaft of a generator, all the rivers ever dammed, all the nuclear fuel rods ever consumed, all the windmills and waterwheels, all the solar cells, and all the chemistry in all the batteries ever produced, have not directly delivered a single watt into the external circuit's load. All that incredible fuel consumption and energy extracted from the environment has only been used to continually restore the source dipole that our own closed current loop circuits are deliberately designed to destroy faster than the load is powered."

T. E. Bearden, "Energy from the Active Vacuum: The Motionless Electromagnetic Generator," in M. W. Evans (Ed.), *Modern Nonlinear Optics*, Second Edition, 3-vols., Wiley, 2001; Vol. 2, p. 699-776.

M. W. Evans, T. E. Bearden, and A. Labounsky, "The Most General Form of the Vector Potential in Electrodynamics," *Foundations of Physics Letters*, 15(3), June 2002, p. 245-261.

For a rigorous proof that removing Lorentz's 1892 arbitrary symmetrization of the Heaviside-Maxwell equations does indeed provide usable energy currents from the vacuum, see M. W. Evans et al., "Classical Electrodynamics without the Lorentz Condition: Extracting Energy from the Vacuum," *Physica Scripta*, Vol. 61, 2000, p. 513-517.

To see the horrible falsities (as pointed out by eminent scientists such as Nobelist Feynman) being taught in electrical engineering in all our universities, see my paper "Errors and Omissions in the CEM/EE Model," available at <http://www.cheniere.org/techpapers/CEM%20Errors%20-%20final%20paper%20complete%20w%20longer%20abstract4.doc>. This paper was favorably reviewed by the National Science Foundation; for the NSF letter see <http://www.cheniere.org/references/NSF%20letter%20Bearden.jpg>.

Here is a little exercise that is revealing to think about:

Take a common permanent magnet and sit it on the bench. Lay an electret across it so the E-field of the electret is at right angles to the H-field of the magnet. Then by the ordinary Poynting theory already accepted and contained in every basic electrical engineering textbook, that silly thing sits there and continuously pours out a steady Poynting stream of real electromagnetic energy flow S , given by $S = E \times H$.

The CEM/EE folks just shrug and walk away from that embarrassing problem. A typical comment is one by Buchwald:

"[Poynting's result] implies that a charged capacitor in a constant magnetic field which is not parallel to the electric field is the seat of energy flows even though all macroscopic phenomena are static." [Jed Z. Buchwald, *From Maxwell to Microphysics*, University of Chicago Press, Chicago and London, 1985, p. 44].

He states it, but does not pursue its implications at all.

Scientists such as Van Flandern do point out that a so-called "static" electromagnetic field is actually a nonequilibrium steady state system, comprised of internal parts in continuous and steady motion. Quoting Van Flandern:

"To retain causality, we must distinguish two distinct meanings of the term 'static'. One meaning is unchanging in the sense of no moving parts. The other meaning is sameness from moment to moment by continual replacement of all moving parts. We can visualize this difference by thinking of a waterfall. A frozen waterfall is static in the first sense, and a flowing waterfall is static in the second sense. Both are essentially the same at every moment, yet the latter has moving parts capable of transferring momentum, and is made of entities that propagate. ... So are ... fields for a rigid, stationary source frozen, or are they continually regenerated? Causality seems to require the latter." [Tom Van Flandern, "The speed of gravity – What the experiments say," *Physics Letters A*, Vol. 250, Dec. 21, 1998, p. 8-9].

So there is no problem at all in establishing as large a continual free electromagnetic energy flow as one wishes. Anywhere, anytime. Simply make a dipole, or crossed E and H dipoles, then leave it alone. As Nobelist Lee pointed out, when you have a broken symmetry then something virtual has become observable. In other words, any electromagnetic broken symmetry can and does absorb virtual energy from the vacuum, integrate it coherently into quantum sized particles (photons), and emit those real, observable photons at light speed in all directions. This process – the solution to the long-neglected “source charge problem” – is what produces the steady-state or “static” electromagnetic fields. Such fields are actually continuous, free flows of real, usable electromagnetic energy.

The entire “free energy from the vacuum” problem is simply this: Given incredible “free electromagnetic energy wind” available and automatically provided from every electromagnetic broken symmetry (dipolarity) in the universe, how does one build a proper asymmetric “windmill” to intercept and collect some of that real, free, continuous “electromagnetic energy wind energy” and then separately dissipate it in its loads to power them? All our electrical engineers think, design, and build only symmetrical windmills, which use half their freely collected electromagnetic energy to do nothing but destroy their own source dipolarity furnishing the free wind! The other half is used (in the forward emf region) to power the losses and loads of the external circuit.

So half the “freely collected” energy is normally used (in the EE’s symmetrical circuits and systems) to destroy the wind source itself, and the other half is used to power the external loads and losses. Well, to keep the wind flowing, we have to keep “restoring” the internal dipolarity (broken symmetry) of the generator as fast as it is being destroyed. That is what “cranking the shaft of the generator” actually accomplishes; it doesn’t send a single joule of energy directly out onto the external circuit or power line! Note that the rigorous definition of work is the change of form of energy. When we crank the generator shaft, we input mechanical energy, which once the generator rotates is changed (courtesy of Nikola Tesla!) into rotating magnetic field energy inside the generator itself. In turn, this rotating magnetic field energy is dissipated totally inside the generator, to force opposite charges apart and thus to produce that magic source dipolarity with its broken symmetry. The broken symmetry of this internal dipolarity then absorbs virtual state energy from the seething virtual state vacuum, and transforms it to real, observable photons (real, usable electromagnetic energy) which it continually pours out. It is this stream of real electromagnetic energy flow that pours from the terminals of the generator and along through space outside the external conductors.

A tiny portion of this giant energy flow (the Poynting component) is diverged into the conductors to “power up the electrons” and thus power the circuit. A huge curled giant Heaviside component remains, but (in any special relativistic situation) is not diverged, does not interact, and does nothing.

But the generator actually outputs more than a trillion times as much total electromagnetic energy flow (in both the feeble Poynting electromagnetic energy flow component and the accompanying giant Heaviside curled electromagnetic energy flow component) as the mechanical energy that we physically input to the shaft of the generator.

The knowledge of Heaviside’s giant usually-nondiverged energy flow component is what Morgan also had “scourged” from the theory by Lorentz in 1900, so that all the future electrical engineers would think that they only produce the diverged Poynting component of energy flow and nothing else.

Very good modern classical electrodynamicists continue to ignore any and all curled energy flow components accompanying the Poynting linear flow component. Quoting Jackson :

“...the Poynting vector is arbitrary to the extent that the curl of any vector field can be added to it. Such an added term can, however, have no physical consequences. Hence it is customary to make the specific choice ...” [J. D. Jackson, Classical Electrodynamics, Second Edition, Wiley, 1975, p. 237].

Let us comment: Jackson is quite correct so long as the situation remains special relativistic. In that case, vector analysis holds and the divergence of the curl is zero. The curled giant energy flow component thus does not diverge or interact with anything.

But if the situation is deliberately made general relativistic or deliberately involves a properly synchronized general relativistic operation, then Jackson’s statement is false. In that case, a bit of that giant curled energy flow component does diverge after all, and comes into the circuit to help power it. In optical physics, the negative resonance absorption of the medium (NRAM) phenomenon (released by the Russians in 1967) is just such a process, though that is completely unknown to our optical physicists. But in the optimized narrow frequency experiments using laser input energy, the COP is actually COP = 18 as experimentally measured every year in all leading optical physics groups worldwide.

But none of them are allowed to say “excess emission”, but are force to use the deliberately mind-numbing phrase “negative absorption”. Anyway, we proposed using that NRAM process to build heat amplifiers in steam boilers, so that with closed positive feedback the steam boiler can be made self-powering. This would immediately and dramatically lower the consumption of coal, nuclear fuel rods, natural gas, etc. in most of our electrical power plants already built and deployed. For a crude little paper on it, see Thomas E. Bearden and Kenneth D. Moore, “Increasing the Coefficient of Performance of Electromagnetic Power Systems by Extracting and Using Excess EM Energy from the Heaviside Energy Flow Component”. PPA, filed and obtained in Oct. 2005. Now released into public domain and freely given away to the public domain. It is available at <http://www.cheniere.org/techpapers/PPA%20Increasing%20COP%20by%20addnl%20extractn%20from%20flow1a.DOC> .

As you can see, our electrical engineers are deliberately (and unknowingly) trained to only build symmetrical systems that destroy their free energy wind input faster than they use some of it to power the loads, and that do not do anything “general relativistic” so that a part of that now-unaccounted giant curled Heaviside electromagnetic energy component also gets diverged (and thereby converted into an extra Poynting energy component). In short, our own electrical engineers, professors, and departments self-enforce COP<1.0 performance and are thereby directly responsible for the world energy crisis, giant pollution of the biosphere, and the deaths of hundreds of millions of impoverished peoples world wide!

The thing is this: Our scientific community should fund and permit the bright young theoreticians and bright young professors to tangle with the technical problem of how to go about building asymmetrical interception and powering systems, once they easily assemble a free electromagnetic energy wind source for furnishing the input energy freely from the vacuum. Let them first remove the diabolical Lorentz symmetrization from their present Heaviside equations, and then ponder how to then build a nice “asymmetric windmill” that will intercept and collect some of that freely flowing electromagnetic energy, and will separately use (dissipate) it to power the external loads without disturbing the “crossed dipoles and their broken symmetry”.

Comment by Gary Vesperman: Was John Pierpont Morgan really that sharp a bean-counter?!! In spite of his demonstrated ruthlessness and his exploitation of the genius Nikola Tesla, we would have to give him credit for his conjunction of acute business acumen with his not inconsequential understanding of physics. Morgan left a legacy of energy invention suppression that endures to this day.

Frank Richardson: Magnetic Electrical Generator and Bladeless Steam Turbine

As told to Gary Vesperman by Frank Richardson, during the 1970’s four Nevada Test Site (NTS) technicians helped Frank Richardson, an NTS electrician, invent a magnet-based electrical generator that required no input power and also a bladeless Tesla-type steam turbine.

Richardson’s “Electromagnetic Converter with Stationary Variable-Reluctance Members” (US Patent No. 4,077,001) uses two pairs of electromagnets to warp a permanent magnet’s magnetic fields back and forth across output field coils to induce a DC output voltage. Dr. Thomas Bearden’s motionless electromagnetic generator (see above) is based on the same principle.

The bladeless steam turbine has a closed-loop cycle that Richardson claimed is far more efficient than the electric motor in terms of converting electrical energy into rotational energy for application to a vehicle’s drive wheels. The water is heated with radio frequencies like a microwave oven into steam that is then forced through two disks in sequence. The electricity for the water heater came from the generator.

The two disks are perforated in such a manner as to prevent cavitation (bubbles) even at high rotational velocity. Since steam offers a 1,000-to-1 expansion ratio compared with gasoline’s expansion ratio of approximately 300 to 1, the turbine is extremely powerful. An 18-inch diameter prototype’s output power was measured at approximately 1,000 horsepower.

A Volkswagen Beetle was outfitted with these inventions and driven around without energy input.

Some people tried to steal these two inventions. Two of the technicians died under suspicious circumstances, and Richardson had to go into hiding until his recent death. It is Gary Vesperman’s understanding that the black helicopter people might have had nothing to do with this situation; just greed.

Gary Vesperman (Reporter): Energy Inventors are Buzzed by Black Helicopters

A few years ago one summer, an energy inventor's house was buzzed twice by a black helicopter. He said they appeared to be an older Hughes model painted black and with no markings. He asked a friend who is an air traffic controller at the local airport. His friend reported no radar sightings. One of the buzzings was witnessed by dozens of people although the inventor himself wasn't home. (Gary Vesperman has since then come across an article in his zero point energy literature which claims that the radar-absorbing coating on black helicopters and also black Stealth fighters and B-2 Stealth bombers is depleted uranium.)

Also about that time the energy inventor and some other people narrowly escaped a flip and crash in a private plane which had a cut on a tire. The cut was then hidden by rolling the plane.

Las Vegas UFO buff Tym Schofield was driving around the desert one year when some black helicopters swooped low over his car and gave him a really good scare. He was on his way home after appearing on a radio talk show.

A female Las Vegas resident met a former black helicopter pilot at a 1995 Christmas party. The pilot had become so disgusted he quit. Subsequently, the driver of a car attempted to run over the ex-pilot and killed his wife instead. Gary Vesperman tried to locate the pilot so he could interview him but was unsuccessful.

Bob Dratch, inventor of the thorium powerpack (see below), reports back in the late 90's during one of the winters he had picked up his son from the bus-stop. He went past his old machine shop which he had in an old farm house and continued up the hill to his house. As Dratch crested the hill top he noticed hovering below the ridgeline out of sight of "radar" from the flatlands a black helicopter with something that looked like a high-powered "shotgun-like" antenna on the nose. The copter was totally silent, black, numberless and pointing this "thing" at his shop. After having dropped off his child at home he went back down to his shop and found all his computers were OFF line, and not booting any more. Had his equipment just gotten zapped with an electromagnetic pulse? Was he being snooped on long range? Who knows?

The town was about 10 miles due west of Golden Colorado, and the mountain they were nearest is called Mount Tom. They were between Mount Tom and Dratch's shop, very close to the hilltop closest to him (within about 500 feet), but about 8 miles SE of the large mountain (Mount Tom), just clearing the hill's ridge and below tree line. He would not have seen them at his shop as at that altitude they were below tree line, but hovering silently. When he crested the hill that was when he was above tree line for a moment, and saw them there. He no longer has his shop at the old location as a few years after that all the water dried up in the wells. He supposes that is just a coincidence.

The black choppers now and then make a point of buzzing him, and/or hovering. But Dratch hasn't had any ground attacks – just this aerial stuff. Generally they tend to appear when he runs tests...

(The two black helicopter stories below were excerpted with permission from Erik Masen's article SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-energy Devices, *Electrifying Times*, Vol. 8 No. 3 and also in http://www.electrifyingtimes.com/erik_masen_suppression.html.)

At the International Tesla Society conference in 1993, a videotape of an advanced generator utilizing tachyon waves was presented without the inventor's permission. This generator not only produces excess energy, but also exhibits time-warping characteristics. The tape was shown on a Friday afternoon, 3,000 miles from the inventor's home.

The very next day, U.S. Government's Federal Bureau of Investigation (FBI) and Bureau of Alcohol, Tobacco and Firearms (ATE) agents knocked on the inventor's door wanting to see the device. He politely told them no.

The following day, a black helicopter hovered above his house taking pictures of the inside. (These black helicopters and even some satellites apparently now have the capability of photographing every item inside a building.)

On a recent morning talk show featuring the U-2 spy plane, it was revealed that the plane's audio receivers are so sensitive they can pick up ground-level conversations from an altitude of 70,000 feet.

(The black helicopter stories below were told to Gary Vesperman at the 1997 International Tesla Society Symposium in Colorado Springs, Colorado by health physicist John W. Moreland, Ph.D., 1251 Smith Thompson Road, Bethpage, TN 37022 (near Nashville); voice 615-888-3428. Moreland publishes and sells 34 engineering and physics textbooks – mostly old books that he thought ought to be republished and made available. He has accumulated several yards of files on unconventional energy devices.)

It is reportedly possible to approach within a half-mile of a base east of Nashville, Tennessee which houses at least 100 black unmarked helicopters, some black unmarked C-130 transport airplanes, and black unmarked jeeps.

A county commissioner, whose jurisdiction includes Nashville and who owns a farm, became upset with black helicopters flying over his farm at night scaring and scattering his animals. He complained to Congress, the Department of Transportation, Federal Aviation Agency, etc. without satisfaction.

Some years ago, an inventor in another city had his house buzzed a few times by black helicopters. One night during a particularly aggravating buzzing, the inventor shot down the black helicopter which killed both pilots and demolished his house. He was arrested and charged with murder. At a hearing, his lawyer held up a Washington Post newspaper headline “Federal Government Claims Black Helicopters Don’t Exist”. The charges were dropped because black helicopters don’t exist.

So afterwards when another inventor in early June one year at 2 a.m. had his one-story house buzzed by a black helicopter 3 feet above his roof, he went outside with a flashlight and a pistol. He aimed the light at the pilot, ran the light along the fuselage and after finding no identifying numbers, told the pilot he doesn’t exist. He then disabled the tail rotor with his pistol. (He didn’t want to injure the two pilots.) The helicopter took off fishtailing from side to side. Since then he hasn’t been visited by black helicopters.

Black humor? It could be supposed that these two shooting incidents prove that it must conveniently now be legal open season on black unmarked helicopters. Keep in mind though that their pilots are only employees of the U.S. Government (see <http://www.nogw.com/shadow.html>) who are being paid to spy on, harass and buzz targeted American citizens, particularly energy inventors who potentially are able to put large energy industries out of business. Some of these black helicopter pilots may even be wondering about why they are participating in suppression of new energy inventions.

Erik Masen, in his article “Suppression of Quantum Leap Inventors”, *Electrifying Times*, 2007, Vol. 10, No. 2, wrote that some say that black helicopters are part of the Bureau of Alcohol, Firearms, and Tobacco which operates under the U.S. Treasury Department, which in turn operates with the U.S. Federal Reserve, which is a private corporation, which operates with the World Bank, over which the U.S. Government apparently has no jurisdiction. Thus, the black helicopters can do as they please.

Gary Vesperman (Reporter): Shielding Over-Unity Power Converters

A typical radio wave that is radiated out of an antenna comprises of transverse waves of electromagnetic energy. These transverse radio waves oscillate perpendicularly to the axis along which they are traveling.

The zero point energy field is an immensely energetic medium, omnipresent throughout the universe, of random electromagnetic waves with frequencies ranging from near zero to frequencies so extremely high as to be undetectable.

An over-unity power converter generates more output power than the input power it needs to operate. Hence its ratio of output power to input power is greater than one. That is, it is operating at “over-unity”. Its leftover output power is thus available to do useful work for “free”; hence the popular term “free energy” machine.

Some types of over-unity power converters are designed to extract energy from the zero point energy field. What’s interesting is that longitudinal waves of electromagnetic energy are emitted during the energy extraction process. That is, these longitudinal electromagnetic waves oscillate along the axis of their travel, not perpendicular to the axis like transverse radio waves.

Detecting these longitudinal electromagnetic waves requires special sophisticated instruments. The U.S. Government maintains a network of such instruments in orbiting satellites to monitor the entire earth for these signals. (This same network is also employed to usefully detect, locate by triangulation, and report lightning bolts in real-time which helps to justify the network’s enormous expense.)

If a longitudinal electromagnetic signal is picked up, it is assumed that an inventor is experimenting with a working over-unity power converter or generator. The location of the device is triangulated, and the inventor is then “visited”, liquidated or whatever by energy invention suppression hit squads in order to safeguard markets for gasoline and metered centrally generated electricity.

Copper-lined Faraday cages, normally used for shielding radio waves, are not adequate for blocking these signals from over-unity converters of zero point energy. One experimenter has suggested using bismuth.

The all-seeing Big Brother effectiveness of the U.S. Government’s zero point energy extraction detecting and tracking network has been demonstrated by one zero point energy experimenter’s complaint:

“I have not been able to locate any type of material that will shield this type of energy. The best advice is to work underground and operate only for brief periods of time 10 to 15 minutes at random times. Also heavy cloud cover, wind, rain and other thunderstorms are good for masking your experiments.

I had black choppers and power company trucks crawling all over me within 15 minutes when I discovered an over-unity effect in my shop. I think they would have been at my door if I had not shut the unit off when I did. They changed every ground and insulator on all the power poles for miles around my location looking for the source of the energy they had detected.”

This writer, Gary Vesperman, pieced together the above from various sources. David G. Yurth questions its accuracy per his July 7, 2006 email below.

Gary: You may want to consider the following with respect to your descriptions of both radio waves and the ZPE field phenomena.

Radio waves are indeed waves of electromagnetic energy. In some cases they are transverse, and in some cases they oscillate perpendicular to the axis along which they are propagated. But in the case of the CTHA antenna, for example, which is really a magnetic resonance oscillating antenna device, the wave form can be either spherical or hemispherical. In some cases, as in the case of the devices we demonstrated several years ago, the wave form can be narrowed to as little as .1 degree second in a semi-hemispherical form.

In most cases, RF waves radiate in a straight line from the propagation point – that is why, for example, RF devices used during the day have a range that is limited to less than 22 miles [on flat topology], unless repeater towers are provided at key points along the horizon. However, with the CTHA device, particularly when it is used on the surface of large bodies of water, and more particularly when used on the surface of salt water, the hemispherical wave form coheres to the surface of the water and is attenuated at only about 10% the normal rate of RF signals propagated through the air. In addition, because of the nature of water itself, extra low frequency radio waves are the only RF waves that can be relied on to propagate a signal through any appreciable distance of water. However, with the CTHA, this is not true. These devices have been shown to send RF signals through the water at much higher [VHF and UHF] frequencies than any other known devices, with minimal attenuation and virtually no distortion. Why they operate in this way is not known to science in general and to the US Navy in particular.

My notion about this is that the CTHA configuration propagates non-local field effects as well as linear ones. Because the non-local effects are neither understood nor optimized in the current technologies, what we observe is the effect of a non-linear wave propagation device used in applications which are typically linear. The Y-Bias manuscript explains how this works and why it is important.

Finally, the zero point is probably not *an immensely energetic medium, omnipresent throughout the universe, of random electromagnetic waves with frequencies ranging from near zero to frequencies so extremely high as to be undetectable.*

Rather, as the Y-Bias research suggests, the zero point is the interface between the physical vacuum and the 4-D physical universe we live in. It is not something extrinsic to the physical world we observe but is utterly intrinsic at the finest scales of organization. This insight is the reason the Y-Bias information is so important. What it means, for example, is that neither Tom Bearden’s MEG nor Correa’s orgone generator is really operating at the zero point or anywhere near it. Rather, what they are doing is tapping the quantum pump that operates within the organizational structure of all matter and energy at the fourth scale of development to liberate an infinite supply of electrons via one biased voltage schema or another.

What the Heavyside equations and Whittaker's formulation make clear [quaternions] is that every variety of physical material exhibits a quantum oscillating frequency. Modern science has only just begun to understand the importance of this concept so the literature is not yet replete with references to the quantum frequencies of all the elements and their isotopes. Nevertheless, when the quantum frequency of any material can be excited by an outside force which causes it to operate in a narrowly defined local in terms of a harmonic resonance, the dynamic properties of self-organizing criticality kick in to produce exponentially more powerful internal oscillations than would normally occur within the sub-atomic structure of the material.

We know this because when carefully prepared isotopes of certain rare earth materials are intercalated within the crystalline lattice structure of conductive thin films, and then exposed to permanent magnetic fields, the atoms of the isotope produce prodigious amounts of electrical voltage and current continuously, without consuming either the atoms themselves nor the materials within which the atoms are held in stasis in the lattice itself.

We have a prototype engine which is in its third generation now that has been operating continuously for 76 days. The data recorder shows that the power output has remained steady day and night throughout the test period. The mass of the material has not changed one iota in that time and neither has the composition of the substrate, the crystalline material or the original atomic isotopes themselves.

Bearden solved the source charge problem partially when he demonstrated that mass is organized and deconstructed at the zero point with a quantum frequency that absorbs a virtual photon from the physical vacuum and then liberates a real photon when two virtual charge ensembles combine to form the organized datum which is characterized at the second scale of organization. This operation goes on continuously within the heart of every iota of material found everywhere in the universe – it is this fact, born out by the Y-Bias analysis, that gives the lie to the Big Bang Theory. All primary particles were not created at the instant of the Big Bang – instead, everything about the cosmos is being recreated at a quantum rate all the time, at every address in the cosmos, continuously, as part of the autopoietic nature of this physical dimension.

So when any inventor tells you he is generating transverse waves of non-local propagation when tapping the zero point, you can write that research off as fundamentally flawed because the phenomena you are referring to has nothing at all to do with the zero point. --- Dave

(This writer, Gary Vesperman, recently edited David G. Yurth's ground-breaking 153-page physics monograph "Y-Bias and Angularity[©]: The Dynamics of Self-Organizing Criticality from the Zero Point to Infinity". I also edited Yurth's 380-page "Seeing Past the Edge" which explores and ties together such advanced scientific topics as nuclear physics, mind-matter connection, holographic universe, and the torsion field.)

Ph.D. Electrical Engineer: Advanced Form of Plasma-Discharge Energy

An inventor and a Ph.D. electrical engineer from one of our prestigious universities had made a breakthrough on an advanced form of plasma-discharge energy. They hired a hall in a mid-sized town in the U.S. to show off their new discovery. It was an impressive demonstration.

One day, his neighbors told one of them they had seen a black helicopter hovering over his house for several hours while he was away at work. Evidently, it was photographing his technology in the basement. A black van, with windows that you couldn't see into, also staked out their lab.

After three weeks of surveillance, a S.W.A.T. team of six kicked down the lab door, and with axes, destroyed half a million dollar's worth of equipment in one-half hour. The thugs forced the inventors' faces down onto the concrete floor, and, demanding to see the nuclear source, beat the inventors' heads against the concrete until they nearly choked on their own blood. They had no search warrants, just "S.W.A.T. TEAM" printed on the backs of their brownish uniforms.

The inventors were told to cease all further development, and the apartments owned by one of the inventors were condemned. The tenants were ordered to leave, and the Ph.D. electrical engineer is still being harassed by the IRS to this day.

Gary Vesperman (Reporter): Six CIA Agents at 1996 Tesla Society Symposium

When this writer attended an International Tesla Society Symposium in Colorado Springs, Colorado in 1996, I was told that the inventor of a new type of carburetor that can triple the mileage of a car has had his social security number taken away. Also attending the convention were at least one U.S. Government's Central Intelligence Agency (CIA) agent, identified by someone standing in the registration line behind him who happened to see his identification card, and another five CIA agents.

One of the CIA agents threatened a co-inventor of an electrical generator utilizing two types of radioactive waste as he was walking up to the podium to give his speech. However, this story needs further verification.

Gary Vesperman (Reporter): US versus Japanese Support of Cold Fusion

The leading cold fusion community website is <http://www.lenr-canr.org/>. The site features a library of papers on Low-Energy Nuclear Reactions (LENR) – also known as cold fusion. Chemically Assisted Nuclear Reactions (CANR) is another term for this phenomenon. The site features a library of more than 500 original scientific papers in Acrobat format, reprinted with permission from the authors and publishers. The papers are linked to a bibliography of over 3,000 journal papers, news articles and books about LENR.

In Japan, inventors are treated as national heroes and are lavishly supported. The Japanese government's annual R & D budget in cold fusion had been \$100 million per year (since greatly reduced). Japan has issued over 100 low-energy nuclear reaction patents. In contrast the U.S. Patent Office has so far approved only one cold fusion patent application out of 300. (This statistic is possibly out-of-date.)

Stanley Pons and Martin Fleischman: Cold Fusion

Much misrepresentation and falsification of evidence happened after Stanley Pons and Martin Fleischman announced in March 1989 that they had achieved fusion by electrochemical means. Several influential US laboratories (California Institute of Technology, Massachusetts Institute of Technology (MIT), Yale/Brookhaven) reported negative results on cold fusion that were based on shoddy experimental work and a misunderstanding of the Pons-Fleischmann claims. They gave a hostile hot fusion establishment the excuse it needed to conclude that the claims made by Pons and Fleischmann were bogus. In November 1989, a U.S. Department of Energy panel concluded the same after a shallow mock investigation of only seven months. Eugene F. Mallove, Sc.D., was the Chief Science Writer at the MIT News Office at the time. He played a part in exposing the MIT report as mistaken, possibly fraudulent, and resigned in protest over it in 1991. ... It is ironic that each of these negative results were themselves the product of the kind of low-quality work of which Fleischmann and Pons were accused. The difference was that the reports said what the hot fusion community wanted to hear. This was the legacy of the 1989 ERAB report, but that legacy must now be reversed – and it will be, however long that takes.

Dr. Mallove later founded and edited/published Infinite Energy magazine until in May 16, 2005 he was robbed and bludgeoned to death by a pair of pathetic drug addicts. The 1999 Issue 24 of Infinite Energy, in its 57-page special report titled "MIT and Cold Fusion: A Special Report", extensively documented that MIT violated the trust of its donors, employees and the public in the integrity of its scientific research into cold fusion.

In addition to suppressing cold fusion, MIT has also suppressed its solid-state lithium-ion roll-to-roll battery patents which would increase the efficiency and performance and lower the cost of electric and hybrid vehicles. See Remy Chevalier's report below on NiMH and solid-state lithium-ion batteries.

Chevalier does ask "Is it because MIT is cashing checks from the Rockefeller Bros. and the Ford Foundation?" So he may be hinting that, possibly based on inside information, MIT's suppression of cold fusion and its battery patents is due to its secret protection of the oil/auto monopoly.

Most people, including physicists, continue to be unaware that low-energy nuclear reactions are real, and have been verified in hundreds of experiments throughout the 1990s. In February 2002, the Space and Naval Warfare Systems Center of the United State Navy in San Diego released a 310-page report titled "Thermal and Nuclear Aspects of the Pd/D₂O System" that discusses the overwhelming experimental evidence that the cold fusion effect indeed exists. Dr. Frank E. Gordon, the head of the center's Navigation and Applied Sciences Department, writes in the foreword:

That "cold fusion" continues to be ignored by the scientific establishment, and, to add insult to injury, is being used synonymously with "bad science", usually in such expressions as "the cold fusion debacle", constitutes one of the greatest scientific scandals in human history, and a human tragedy. While wars over oil are being fought, a potential source of energy that could solve humanity's energy problems for all eternity is being ignored by all but a small community of researchers. At the same time, the dead-end "hot fusion" program continues to receive billions of dollars in public funds. If there is a scandal associated with cold fusion, this is it. (Source: "The Suppression of Inconvenient Facts in Physics – The Cold Fusion Scandal - Rochus Börner, Ph.D., *Cold Fusion Times*, Vol 12 No 2, August 2005. See also <http://www.std.com/~mica/cft.html>. Excerpted from "The Suppression of Inconvenient Facts in Physics" <http://www.suppressedscience.net/physics.html>. This paper compiles instances of suppression of honest examination of flaws in some of the major theories held inviolable by Western science bureaucracies. In addition to the supposed impossibility of cold fusion and low-energy transmutation, mainstream Western physicists hotly defend, in spite of "inconvenient facts in physics", relativity theory, the constancy of the speed of light, absence of signals traveling faster than the speed of light, quantum theory, big bang cosmology, impossibility of anti-gravity, commercial hot fusion, and the second law of thermodynamics.)

Mitchell Swartz: U.S. Patent Office Blocks Cold Fusion Patents

Mitchell R. Swartz, MD, Sc.D, has four electrical engineering degrees from Massachusetts Institute of Technology. He is an engineer and physician who has been inventing for decades, and has received many patents. Two of his previous patent applications went to the Board of Patent Appeals and were subsequently issued.

Yet, even with that extensive experience, never before had Swartz seen such misbehavior, systematic prejudice, conspiracy and disingenuous statements as has been demonstrated by the U.S. Patent Office regarding several of his patent applications involving lattice-assisted nuclear reactions, and devices which measure conditions leading to such reactions (often referred to as "cold fusion").

Regarding cold fusion, it is a real science, and Swartz and his fellow researchers have conducted solid, meticulous research for almost two decades. He recently gave lectures to the Defense Threat Reduction Agency and the Naval Research Laboratory, both of which recognized the utility of his work in cold fusion. No one from either erudite group (more than a hundred scientists and engineers) gave even one iota of the disparagement which, in stark contrast, has been doled out from the Patent Office without foundation on a weekly or monthly basis continually for more than two decades. Along with the disparagement, the Patent Office has been disingenuous to the federal courts and the Board of Patent Appeals, and has demonstrated not only a conflict of interest but also salient improper behavior.

The egregious behavior of the Patent Office with respect to cold fusion patent applications has ignored the U.S. Constitution and Congress' directive to "encourage progress and to encourage ingenuity with patentable statutory subject matter to include anything under the sun that is made by man". Supporting said Congressional directive, attention is directed to the fact that issuing a patent would normally be mandated because these processes involve the loading of heavy hydrogen into palladium and its generation to form helium and heat. Such transformation has been declared patentable by the federal courts.

The Patent Office's use of a two-tiered system to chronically discriminate against cold fusion violates many federal laws. Out of more than 300 cold fusion patent applications, the Patent Office has issued only ONE patent – and that single patent is believed to be the Patent Office's accident/mistake.

To illustrate exactly how the Patent Office methodically destroys cold fusion patent applications (and probably many other energy patent applications), Swartz describes two patent applications of his which had nothing to do with the cold fusion process directly, but were in fact methods of improving technologies of measuring loading of hydrogen into metals and of measuring heat production (calorimetry). They both just happen to be useful to cold fusion. The mere hint of application to cold fusion at the Patent Office was enough to warrant (as they see it) harassment, discrimination, and obvious deviation from normal procedure.

The Patent Office concocted several false reasons to scuttle his applications. For example, the Patent Office falsely claimed that Swartz had purported that there was "excess heat" in the invention of a method for improving the measurement of loading of hydrogen into metal. However, those two words were never even mentioned in the patent application. Swartz pointed out to the Patent Office their error, who then studiously ignored his Affidavit – timely filed and supported with many other Declarations supporting him.

The Patent Office's Decision to deny the calorimetry patent application refers to "cold fusion" eighty-six (86) times by inaccurately substituting the words "cold fusion" for the words and phrases "heat production", "activity", "electric power drive", "thermally monitoring", "thermal output", "optimum drive condition", and even for "multiring calorimeter".

Showing systematically hostile, abusive behavior to Swartz and his patent applications, the Patent Office would frequently ignore and not even officially log exhibits and declarations. For example, the Patent Office denied the validity and workability of his two inventions in spite of substantial peer-reviewed documentation of careful measured, professionally witnessed experimental results of actually working prototypes. The Patent Office was able to back up such denials simply by not bothering to log pertinent documents.

To avoid responding to what was filed which is actually required by law and custom, the Patent Office brazenly relied upon reference to art irrelevant to the actual specifications and claims. Responding to the initial denial of his patent application for a vibrating electrode for measuring the loading of hydrogen into metals, Swartz appealed to the Board of Patent Appeal. In their decision to again deny his patent application, the Board's Decision incredibly included only two (2) sentences pertaining to the actual invention. The remainder of the Decision's 28 pages comprised of a stale, totally irrelevant carbon copy attack on cold fusion and Drs. Pons and Fleischmann. This has been one of the Patent Office's typical distraction processes.

The Patent Office has routinely made many false statements in federal documents. For example, they falsely stated once "there is no disclosure..." involving temperature, and again for voltage. Yet the applications do discuss temperature or voltage, and Swartz in his July 30, 2007 letter to Gary Vesperman cited the actual pages where these parameters were discussed more than once.

These two inventions are only two of more than a dozen patent applications Swartz submitted to the Patent Office where the response has been disingenuousness, obstruction, and failure by the Patent Office to abide by a uniform standard consistent with their own rules.

In summary, it is important to remember that this is not an issue of a difference of opinion; it is about a two-tiered system to enable chronic discrimination (suppression) against cold fusion and probably many other energy inventions. It is about an agency of the U.S. Government thumbing their noses at the U.S. Constitution, at the U.S. Congress, at American security, and at American citizens. It is about an agency "losing" checks, "losing" pleadings, "losing" Exhibits, and failing to answer Declarations and pleadings over seventeen years.

The Patent Office remains quite comfortable and shameless as it viciously ignores Article I, Section 8 of the U.S. Constitution, the explicit directives of the U.S. Congress which funds it, and even its own rules. It is egregious and odious that some in the Patent Office use systematic disingenuity to rob inventors, and more importantly America itself of these American-crafted energy-related inventions. The cover-up of cold fusion is complete, as the applications are now transferred overseas to hurt the United States of America.

(Source: In his July 30, 2007 letter to Gary Vesperman, Mitchell Swartz backs up his allegations with specific citations of law, reference to ~140 pounds of over 300 indisputable papers submitted as evidence, legal briefs, etc. Swartz also mailed to Vesperman the August 2005 issue of *Cold Fusion Times* and a copy of a 39-page Petition to the U.S. Supreme Court for a Writ of Certiorari appealing a negative decision by the Board of Patent Appeals and Interferences. Having never before seen a U.S. Supreme Court legal document, I found the Petition fascinating to skim through. For instance, I counted 62 references to previous cases. I used to work as a technical writer preparing computer manuals for 18 Silicon Valley companies. The materials Swartz mailed to me confirm the suspicion I have had for a long time that patents demand the ultimate in technical writing.)

Robert Bass: Low-Energy Nuclear Transmutation

From: Don Quixote II <donquixote@radix.net>
To: Sir Arthur C. Clarke <blenheim@sri.lanka.net>
Date: Saturday, November 25, 2000 8:07 AM
Subject: A WARNING? My micropellet proposal to Japanese government

Have 3 people been assassinated because of the Cincinnati Group's discovery of a low-energy nuclear transmutation process that can be used, e.g., for radioactive waste remediation?

The original 14 addressees are all editors or investigative reporters

From: Bass, Robert W (IDS)

To: Adil Shamoo ; Barbara DelloRusso ; Eugene F. Mallove ; George Miley ; Hal Fox ; Jean-Francois Cazorla ; Jed Rothwell ; Jim Wilson ; Mitchell Swartz ; Pat Bailey ; Patrick Bailey ; Charles B. Stevens ; Elijah C. Boyd ; Marjorie Hecht

Cc: 'Xing-Zhong Li'

Sent: Friday, November 24, 2000 6:50 PM

Subject: My micropellet proposal to Japanese government

PREFACE: It is readily documented that the CIA and the KGB and the Mossad, etc. all have "sprays" which can be sprayed upon someone and cause him to die of apparently natural causes. One famous case occurred (not long after Chris Tinsley's death) in which Mossad agents were caught red-handed spraying a Hamas activist in Jordan, and King Hussein told the Israeli Prime Minister that if they didn't send the antidote quick there would be hell to pay; but it wasn't the Mossad which sent the antidote to Jordan, it was the CIA! (They sent a doctor from the Mayo clinic [who had been previously accused of being a collaborator with the CIA] to revive the victim.) (The "Hamas activist" was apparently Hamas' Syria-based political chief, Khaled Mashaal. As Mashaal lay dying in a Jordanian hospital, King Hussein pressured Israel to provide the antidote in return for releasing the Mossad agents. Gary Vesperman)

So much for people who say that political assassinations by democratic governments are paranoid fantasies.

Hal Fox,

Dr. Li approached me semi-publicly after the American Nuclear Society (ANS) meeting, where he heard me talk about the CG's LENT process. He said that he hadn't wanted to spoil my presentation by saying anything negative, but he wanted ME to know that he himself did NOT believe the CG claims and that he could NOT confirm the claims based on his own experience and that yet he liked me and wanted me to know "the truth." (By the way, did you know that Dr. Li has 35 Ph.D.'s working for him full-time on cold fusion in China with Chinese government support?!!)

Dr. Li said that he had gone to your lab in Utah and watched you and Dr. Jin run the experiment with a "good" gamma ray detector. However, he claims that when the thorium begins to precipitate out, the solid angle of the detector remains unchanged, but the thorium is moving out of that fixed solid angle, so that the radioactivity SEEMS to be decreasing but it is a false alarm.

He said that he took the "before & after" fluids that you gave him back to China and had them tested but with negative results. (But Li did admit that the straight-line graph I showed could not be explained by his negative assumptions and was "affirmative evidence on the side of the CG.")

Don Holloman of CG says that the 7-man team of Francesco Celani et al in Italy tested the CG LENT-1 device so thoroughly that "data reduction" took 37 volunteer undergraduates "months" to complete. In their publication they claim that they achieved both complete "radiometric balance" AND complete "chemical balance" of the before-process and after-process results.

However, Celani's boss died in midlife of alleged "natural causes". And you know that Stan Gleeson of the Cincinnati Group seemed to be perfectly well when he suddenly died at age 48 of "a stroke." George Miley told me that when at ICCF-8 he asked Celani why he didn't follow through on this type of LENT work (which Chris Tinsley was starting in England [having emailed me about Stan's open-beaker LENT test] just before he dropped dead at age ~50 of "natural causes"), the reply of Celani was: "THREE PEOPLE have died, and I don't want to be the fourth!" George Miley thought that Celani was talking about radiation-sickness danger, but that is not what Celani has in mind! The proof that Celani is open to conspiracy theories is that he is on the masthead of the LaRouche magazine and *they* don't merely *suspect* conspiracy, they have been *jailed* by a U.S. Government conspiracy!

Lawrence Hecht shook my hand at the American Nuclear Society meeting after having just got out on parole after 5 years of a multi-decades sentence for "selling securities without a license" which was not [even] a crime in VA when he sold "political loans" to LaRouche supporters but [despite that] the Secretary of State of VA (who 2 days later was made a Judge as payoff for her cooperation) after studying the matter for 2 weeks decided that Political Loans are indeed 'securities.' (One of Hecht's colleagues is still in jail [illegally] with a 77-year sentence.)

The barbaric nature of a 77-year sentence for a technical infraction is self-evidently PROOF of evil at work: Pres. George Bush's stockbroker brother [Neil Bush of Silverado Bank in Colorado] was REALLY guilty of the same infraction, but he was merely *fined* \$1,000 and told to "be more careful" and "don't do it again"!

I feel that my own life has been threatened in writing, indirectly by the British government. Here's why: Nobel Laureate Brian Josephson agreed to show at the historic Cavendish Lab the Mallove cold fusion video which I had hand-carried to him. Dr. Josephson even published in Gene's Infinite Energy magazine a *letter* saying he was going to show the video publicly!

But when there was a conference there and many important scientists present, suddenly Josephson reneged! He told me in writing that he had first showed the video privately to a Very Important Person (I suspect Sir Brian Pippard, J's own teacher, after whom TWO buildings at Cambridge are named!); then he, Josephson, was "convinced" by said VIP that it is "for the best" that the public be "allowed to continue to believe" that the whole CF/LENR thing was a delusion!! I tried to get J to say why *he* had agreed. He replied (with copies of his email to me both to Gene and to Yeong Kim at Purdue) that it was for reasons of military security; "they" are afraid that terrorists or rogue nations will learn how to make vest-pocket H-bombs (This is why physicist Fred Zimmerman of the US State Dept. is helping Park with his campaign to outlaw cold fusion meetings.).

When I replied to J that my own theory of deuterium crystals could be used to make "fusion micro-pellets" or "micro-bombs" and that I had sent a copy of my proposal to the Japanese government before they terminated their NHE program, J replied to me that I had better "keep your bright ideas to yourself".

In case I pass away prematurely of "natural causes" I am going to copy the preceding paragraph and send a copy to Gene Mallove and include below a copy of my "microbomb" proposal to the Japanese government. My MSD "bright idea" which J says I should keep to myself has been spread all over the world by Internet since late 1997. So it's too late to suppress the idea by suppressing me.

Best personal regards,
Bob

Dr. Bass is an unusually innovative physicist. Hot fusion requires millions of volts or the equivalent. Hal Fox's cold fusion apparatus requires almost 5,000 volts. Bass's process only takes 17.5 volts to ignite!

Bob Dratch: Thorium Powerpack

Bob Dratch's thorium powerpack would generate electricity at approximately one-tenth of the cost of current methods of producing electricity. Thorium is sufficiently abundant that the entire planet can be powered for millennia. After ten years of continuous operation, a trace amount of U-233 is produced. U-233 recovery to re-purify the thorium is easily accomplished. Thorium thus lasts a long time when recycled and consequently is a very efficient energy source. After extraction from ore, thorium does not require energy-intensive enrichment as is the case with uranium.

A thorium-powered reactor is inherently safe. It doesn't run the risk of "meltdown" or explosion nor can even a dirty bomb be created. Its nuclear reaction simply stops when its neutron exciter is turned off.

The simplest and smallest "table top-sized" neutron exciter design is something close to the size of a 4-D cell flashlight, and starts at about 500-kilovolt neutron output. In fact this smallest most cost-effective system can run off 4 D cells for its power.

A thorium powerpack's neutron exciter does not use radioactive flux components as conventionally done for portable systems. Instead it relies on Dratch's invention of a novel method of resonant phonon pair cleavage using specifically designed nuclear lattice holo-forms (holographic waveforms) to induce neutron imbalance in a host atom where the host atom then attempts to establish "balance" through the liberation of neutrons. Dratch demonstrated the first model of this novel design back in 1966.

Commercial thorium powerpacks can be developed with 50 or 100 kilowatts of output for home use, and up to 1 megawatt for industrial use. They actually are "power amplifiers" with power outputs of 60 times over input power. Maintenance would be minimal.

Predictably, Dratch complains of harassment and even death threats for nearly three decades. He and his family do not enjoy any peace or security, and the police and district attorneys are allowing the threats to continue. That is what really stinks. It seems like there is more than meets the eye behind the scenes going on.

The same death threats and suppression are applying to every piece of technology Dratch has been working on, not just the thorium system. The thorium system has the most impact he believes to the cartels. Dratch had one small section on cold-fusion, which he had published before Pons et al did theirs, and again it used properly shaped sonic fields to do the separation. The scanning system was the basis again for obtaining the proper waveform patterns.

Dratch supposes his problems appeared after he demonstrated his inventions at the Global Sciences Conference and during his workshops since the late 1980's. He has some ideas about who the perpetrators are on the international scene, but nothing really firm. It does tie into Russia and the Middle East. At one point during an early workshop there was a Chinese scientist attending, who worked for the Chinese government and identified himself as such.

To develop his driving patterns for the neutron generation function Dratch uses his scanning system which seemed to have been the initial crux of where the recent bout of suppression started (that was pioneered in 1985, developed by 1988, and in full use by 1990).

Dratch unfortunately has a few more stories about being harassed and death threatened to him and his family by stalkers trying to get proprietary technologies. One stalker has been arrested and taken off his property. The stalkers got away without being brought to justice. The courts instead wanted to cite Dratch in contempt for dare showing that the stalkers were harassing and threatening him. Since that time back in 1992 the same stalking has gone on; there has been email and phone harassment; and the DA's office and police don't do a thing.

Dratch writes about his technologies on his website <http://www.bob-dratch.org>. Among the topics Dratch covers are energy stuff, anti-gravity stuff and consciousness altering stuff.

The earliest suppression was when Dratch's patent application was stolen out of the patent examiners' room and handed off to cronies to develop and exploit. Dratch was the one who designed the equations and concept of the Global Positioning System (GPS) – that was back in the very early 1970's. As best as Dratch can determine the Department of Defense was who the information he submitted at the Patent Office was directed to. That loss and damages is insurmountable to him. He has proof that his equations which were submitted at that time during filing are the same equations used to this day for the GPS equation. Tracing the evolution of GPS will reveal all the parties involved if one can get past the suppression and cover-ups. It then went to a private professional working for the U.S. Government for their own version of the "patent" and assigned it back to the government. In the early 1970's Dratch was offered \$150K by them to sell out to them. He refused saying this is worth billions. Little did he know it was worth trillions.

In the mid-1980's Dratch designed a bio-sensory system that seemed quite capable of sampling fields and generating data signatures making up that object scanned. He continued to evolve the technology. It took on many forms. In about early 2001, he was contacted by the U.S. Air Force to modify that system to locate underground unexploded ordinance. The USAF got at his expense about \$180K worth of consulting and demonstrations doing a bench test showing that his technology would work. They promised a series of further steps leading to contracts. They then disappeared after they apparently felt they had enough "proof" that the concept works. Dratch subsequently was told that they had handed over the research he did to a professor in Denver who to this day still hasn't solved the missing pieces that they weren't able to figure out.

After having given a demonstration of the sensory technology in the early 1990's Dratch was stalked, harassed, and death threats were made to him and his family to the tune of "Give them the technology or else". At one point two of the stalkers came on his property armed with knives and were trying to either kill him or his family, to carry out their threat. The sheriff came and hauled them off. When the trial came up, the judge let them WALK out free with no penalty; just a slap saying don't bother Mr. Dratch again. The judge threatened Dratch with contempt of court for having even brought this to his attention. That was in 1992. Since then Dratch has been regularly harassed and continually threatened. The police still refuse to go after the stalker and threatener. They are using extortion now as the current level of threat. Dratch has been to the DA's office of two states, and been in contact with numbers of police officers to no avail. The threats and harassment continues to this day including making complaints to the phone company who do nothing to stop such when they use the telephones.

Over the last two years Dratch has been working to develop a very unique and powerful handheld and truck-mounted sensor capable of discovering "Saddam's weapons of mass destruction" as well as many other chemical and biological weapons systems. Providing assistance, a former military officer has tried to retrieve documents which were available to any contractor. But Dratch and the officer were prohibited as they aren't part of their crony system of preferred contractors. They needed specific signatures which the U.S. Government has on hand to calibrate their system to what it had to look for (the chemical agents). Having the signature isn't the formula, it is a roadmap that says contamination or a toxic situation is present. So troops and civilians are prevented from having Dratch's technology in a low-cost form.

After having spoken enough about the innovation, one of the crony groups has published that they have a working sensor based on the technology that Dratch had divulged to the former military officer, and that they are going to charge big bucks for that innovation. So that is suppression again of getting technologies out in a way where Dratch can carry out more work.

IPMS: Thorium-227 Electricity Generator

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, from 1951 through 1991 secretly employed 6600 of the most brilliant theoretical physicists in the entire Soviet Union to work for nearly 50 years with complete freedom. They were able to develop whole new sciences, technologies and materials unknown in the West.

Their models of non-linear quantum mechanics, plasma physics, atomic engineering, nuclear physics and related mathematical and theoretical constructs, which made their development possible, are so unique that they challenge the validity of the most fundamental assumptions embodied in the Copenhagen Interpretation model currently held in general acceptance in the West.

For example, Western-developed particle/wave quantum mechanics is described by Einstein's $E = MC^2$. The Soviet nonlinear model of quantum mechanics is described by the formula $E = M_{KV}$ [Energy = Mass @ rest as a function of a mathematical constant].

Einstein's theory of relativity assumes that the speed of light is constant. However, measurements have shown that the speed of light has slowed down 7 per cent over the past two centuries. (See http://worldnetdaily.com/news/article.asp?ARTICLE_ID=39733.) Einstein's famous equation is therefore not based on the real world of peer-reviewed experimental results. Consequently the more correct Soviet model has enabled numerous technical advances not even dreamed of by Western science.

Among several energy inventions developed by the IPMS are free-standing thorium-227 isotope electric power generating plants. They can be small enough to power a single home and large enough to power whole communities. They also can operate for up to 18 years without ever requiring refueling or maintenance.

Arrangements to commercialize these useful energy inventions by joint ventures of the IPMS and more than a dozen private sector companies were repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Howard Rory Johnson: Magnatron – Light-Activated Cold Fusion Magnetic Motor

During the late 1970's Howard Rory Johnson, a brilliant inventor in Elgin, Illinois, combined light-activated cold fusion with a new type of magnetic motor into a "Magnatron". His prototype Magnatron produced 525 horsepower but only weighed 475 pounds. It could propel a large truck or bus 100,000 miles on about 17 ounces of deuterium and 1.5 ounces of gallium before being recharged. This was years before either Pons and Fleischman or Dr. James Patterson entered the scene with their cold-fusion technology.

Johnson discovered the light-activated cold fusion portion of the Magnatron by accident when as he was developing a new type of electronic circuit using deuterium oxide and gallium, he noticed the two materials were producing energy on their own. He could not figure out what was triggering the energy production for some time until he finally discovered it was light.

The Magnatron's flow of deuterium (an isotope of hydrogen) is controlled by magnetic tunnels. At the point where the deuterium strikes the gallium (a heavy metal electron donor), a beam of light from a diffraction prism forces their fusion. That controlled reaction results in the fusion of two atoms forming a new atom. In the process, electricity is released, and that is what powers the magnetic motor. The Magnatron is sealed, however, so 'light' is provided from photon energy produced from coils tied directly to the motor. It is more or less a pulse-generated system.

A photon is a football-shaped particle of electromagnetic wave energy. Its energy content is a product of its frequency f and Planck's constant h . When an electron in orbit around the nucleus of an atom drops to a lower, less energetic orbit, a photon containing the energy equivalent to the electron's energy drop is emitted. This explains why light and other forms of electromagnetic energy such as gamma rays and radar are sometimes observed as particles and other times as waves. The heated filament of a light bulb is an example of photon production.

There is no way to explain, using contemporary electrical theory, how his relatively small motor could produce such tremendous horsepower. Utilizing his own new electrical-magnetic energy theory, involving a process he called "attract-attract", Johnson exploited the magnetic field. He used the top and bottom rotors in his motor. First, the top rotor attracted, released; then the bottom rotor attracted, released. The action of attraction, alternating between upper and lower magnets, used the windings to complete the attract field.

Robert Nelson's compilation of articles about the Magnatron provides much more technical detail on the Magnatron than the foregoing. (See <http://www.rexresearch.com/magnatron/magnatron.htm>.)

Johnson constructed his prototype Magnatron's 525-horsepower magnetic motor without any of the hardware that is presently used in present state-of-the-art electric motors. Conventional motors use the accepted principle of attract-repel, an energy form that doesn't utilize the magnetic field to its greatest advantage. For comparison, a typical 500-horsepower electric motor has wires exiting it that are the size of a garden hose.

The sealed self-contained Magnatron has no wires. Thus, other than the Magnatron's infrequent refueling with small amounts of deuterium and gallium, the stand-alone Magnatron uses no input power. The Magnatron's entire output power is conveyed by its magnetic motor's rotating shaft.

Fuel for the Magnatron is plentiful: deuterium is derived from water, and gallium is extracted from abundant aluminum bauxite. Commercially available pure gallium is still scarce and expensive. It may well be possible, however, to cheaply transmute another less expensive element into gallium. See Gary Vesperman's list of over two dozen methods of neutralizing radioactive waste in <http://iiic.de/docs/GVComparison.htm> which includes possible transmutation methods.

The Magnatron uses no fossil fuel in its operation, and it emits no pollution. The magnetic motor's RPM is 8,000 with a gear ratio of 2:1. Lubrication for the sealed motor is synthetic motor oil which does not need changing and does not need a filter, because foreign materials such as carbon and varnish are not introduced into the system, as they are in the internal combustion piston engine.

This writer, Gary Vesperman, attended the 3rd International Symposium on New Energy in Denver, CO (April 25-28, 1996). I remember being impressed by Gerald Orłowski's lecture "Magnatron, Fusion Magnetic Motor", during which he provided substantial technical information on the Magnatron.

Orłowski reported that, "Some inside information revealed that OPEC had been keeping track of all competitive technology", and Johnson was #1 on their hit list! Johnson was about to manufacture the motors through a nationwide dealership. Some motors still exist, but the owner wants several million dollars for them."

This writer Gary Vesperman knows of very few inventions of new energy sources which are reasonably large stand-alone energy producers. Besides the Magnatron, they include Oleg Gritskévitch's hydromagnetic dynamo, and Electron Power Systems' micro-fusion reactor, which employs stable high-density plasma electron spiral toroids. Almost all inventions of new energy sources are, or claimed to be, relatively small over-unity power converters that convert input power to greater amounts of output power. Bob Dratch's thorium powerpack is an exception (see above).

At the September 14, 2005 public meeting in Green Valley Ranch casino regarding the proposed Regional Fixed Guideway traversing Las Vegas, Nevada, this writer Gary Vesperman submitted comments suggesting possible power sources for the train, including descriptions of the hydromagnetic dynamo and the micro-fusion reactor (<http://www.rtcsonthernnevada.com/rfg/documents/September2005PublicMeetingMinutes.pdf>, pp. 19-77).

No wonder the Magnatron's inventor, Rory Johnson, was rumored to have been "Number One" on Organization of Petroleum Exporting Countries (OPEC)'s hit list.

The following is an excerpt, slightly edited, from Orlowski's lecture transcript where he tells about his unwitting personal involvement with the U.S. Government's suppression of the Magnatron:

"After I saw the Magnatron motor, my life changed. I was no longer a happy camper working by myself in a wonderful, fully equipped research machine shop for the Greyhound/Armour Corporation in Arizona. While on a business trip, I saw this motor running in the Magnetron, Inc.'s showroom located in Egin, Illinois.

"During my 15 years of electric motor repair, among the hundreds of motors I repaired, I rewound a 500 HP electric motor. That motor had wires exiting it that were the size of a garden hose. The Johnson motor being shown had NO wires. Surely this motor was unreal, a con-job to get money for dealerships. Yes, there he was, Rory Johnson standing next to his sealed self-contained electric motor.

"Upon returning to the Greyhound Towers and telling them what I had seen, they instructed me to call Mr. Johnson. Greyhound wanted Johnson to put forth a plan to install a motor in one of their buses for testing purposes.

"I called Johnson. He was delighted that a Greyhound employee had seen the motor running, and replied that the testing idea was acceptable. He would set a time frame for just when a bus should be delivered to him.

"Two years went by, with no business proposal from Johnson. Then, his former business partner, Mike Marzicola, called to say Johnson had passed away. He wanted me to work with him to get one of the motors running. I flew to Orange County, CA, saw the motor, took pictures, and put forth a plan to Greyhound. Subject to a contract with Marzicola, one of the old worn motors would be brought to the research shop. I would then very carefully reconnect the generator wires that Johnson had cut off prior to moving from Egin, IL to California.

"Discussions with Marzicola brought out that the U.S. Government (given the authority by the Congress of 1952) had issued a GRAB order to take Johnson's motors. Rumor has it, the DOE is run by US oil companies and OPEC, and they want no competition, period. Because of this grab order, Johnson had cut the generator wires. He had then put his 'total shop', with motors and all, on several U-Haul trucks and left Illinois in the middle of the night. He went to California to re-establish his business. But before he could get a motor running, he passed away.

"Surely, Greyhound would agree to let me re-start one of Johnson's motors. The wonderful proposal put forth to Greyhound was rejected by mail. Very agitated, I went to the top office at Greyhound demanding an explanation. I was met at the door with the comment, "We know why you are here." Knowing the potential savings to the bus company, surely they could have only one reason for rejecting the proposal. They must have believed I was not qualified to start up the motor.

"Greyhound's top legal advisor stated he was present when the Greyhound board met and discussed my written proposal. He stated the following, "At NO time was the thought put forth that you would not succeed. In fact, we discussed all of the hardware designed and constructed by you, and started the conversation from what happens when Greyhound has a running motor. We contacted a State representative who felt this motor should not be allowed to be used in 4,000+ buses. The loss in tax dollars for fuel alone would be a very huge sum." He then asked me to leave, stating he was sorry that he had to tell me the reason the plan was rejected.

"Telling Marzicola of the rejection, I offered to personally put in a few thousand dollars toward the parts to get one motor running. In return, I would be assigned the dealership for the Phoenix metropolitan area. We signed legal papers in exchange for the money agreed on, and went to work. (I still have the signed dealership.)

“The first thing I noticed was that someone had been working on repairing the motors. Three motors already had new commutator assemblies installed. Each assembly consisted of 3 commutator assemblies on one insulated tube with a metal case to secure it to the shaft.

“One motor still had the old worn commutator assembly, as it had not yet been repaired.”

Orlowski goes on to describe his reconstruction efforts and includes interesting technical details about the Magnatron’s structure and theory.

Johnson did not know that OPEC tracks all potential competition to its oil business and that he was reportedly number one on OPEC’s hit list. His first mistake was publicizing, in many magazines, his plans to manufacture and distribute his revolutionary motor.

Erik Masen has spoken with a few people who even signed up for distributorships. Erik Masen had included Johnson and his Magnatron in his energy invention suppression anthology (see http://www.electrifyingtimes.com/erik_masen_suppression.html).

In 1979, Johnson placed his engine in a Buick Electra and was preparing to drive it around the country to sign up more distributorships when the US Department of Energy and the State of Illinois teamed up to prohibit his company Magnatron, Inc., from producing and selling Magnatrons. They first placed a gag order on all the people in the company by using the Secrecy Act of 1952. Secondly, the State of Illinois immediately requested the company to provide information about all of their employees, distributors, stockholders, investors, suppliers, etc. They asked questions that blatantly deny anyone’s constitutional rights to privacy. The pressure from the State of Illinois became so overwhelming that Johnson decided to move his entire business to California in the middle of the night.

After a year of hearing nothing but silence from Johnson, Greyhound agents tried to contact him – only to be notified that he had passed away unexpectedly. This is a particularly troubling part of the story, since he had been in his early fifties and in robust health. Later, Greyhound learned that shortly before he died, Johnson had inexplicably moved out of his laboratory in the middle of the night and taken all of his motors and technology to California.

Bob Bass, in his report copied above on low-energy nuclear transmutation, claims that the CIA, the KGB and the Mossad, etc. all have "sprays" which can be sprayed upon someone and cause him or her to die of apparently natural causes. One speculation is that Johnson’s death – apparently due to heart failure – had been artificially induced by such a spray.

In a January 20, 2007 email to Gary Vesperman, Terry Sisson reports:

“Hi Gary,

“I visited Magnatron, Inc., in July 1979. I wish I would have taken a photo. Placards were placed over every inch of the large windows in the front of the building listing all of the questions the State of Illinois requested his company to provide. He wrote, “When has the government ever had the right to ask this of any company.” I peeked in the front window and saw one of his motors mounted on an engine stand. Nobody appeared to be there so I walked around to the rear of the building. I found the rear garage door open and could see the Buick Electra inside. I was about to approach nearer when a man emerged. We talked, but he quickly informed me that due to a US gag order he was unable to talk about anything. I managed to get his phone number and called him from time to time for years following. He was an assistant of Rory’s and he kept the information very close to the vest. He did tell me that it was real and it worked, yet not how it worked.

“About 1984, I began to call all the Johnsons in the phone book in Elgin. I finally got a hold of Rory’s son. He too said that it was real, but I got nowhere. Around 1992, I met Jerry Orlowski, and he told me his experience as the employee of Greyhound who was sent to investigate the technology, since he wound electric motors for several years. Jerry was very upset about the whole incident, particularly Greyhound’s Board of Directors refusal to utilize the technology after he found the technology to be authentic. Jerry even witnessed the government’s seizure of the motors in California. --- Terry Sisson.”

Energy invention suppression-pertinent quotable comments from Johnson:

“There have been very few startling things that have come from a large organization. You don’t get anything practical out of a government-sponsored laboratory such as Fermi and Argonne.”

Johnson believes watching a budget as required by government-funded programs stifles creativity and the ability to take a chance.

The US Department of Energy (DOE) is termed a rip-off by Johnson. "Right now our government is not looking for energy in any form. A tremendous amount of money is spent (on DOE) every year and so far I haven't seen anything out on the road or helping heat your home or helping reduce the cost of your utilities or anything else." (For example, the DOE's glamorous multi-billion-dollar hot fusion research program seems to be fundamentally a public relations ploy which allows the DOE's numerous highly paid bureaucrats to have lots of fun making themselves look useful without posing any serious competition to the oil and power industries for at least decades, and may always be for decades. Gary Vesperman)

Howard R. Johnson: Permanent Magnet Motor

Howard R. Johnson has developed a device resembling an electric motor which produces work without electrical input, using only permanent magnets for motive force. The basic principle of his magnetic motor is that its magnets are arranged in such a manner that its magnetic flux is always unbalanced, thus producing a continuous rotational drive. For patent descriptions, detailed theories and diagrams, see <http://rexresearch.com/johnson/ljohnson.htm>. Two links to additional information can be found in <http://www.web-space.tv/free-energy/>. More information apparently is available from the "Permanent Magnet Research Institute", P.O. Box 199, Blacksburg, Virginia 24063.

Johnson spent six years fighting the patent office to accept the reality of his magnetic motor. In April 24, 1979 Johnson finally got a US patent – 4,151,431 – for a Permanent Magnet Motor that starts itself and would deliver 5 kilowatts from permanent magnets. Jet Propulsion Labs built a prototype 5-kilowatt generator.

In his January 20, 2007 email to the New Energy Congress, Ken Rauen reported:

Howard Johnson got his patent because he DEMONSTRATED one in the courtroom. The judge ordered the USPTO to give him a patent. I saw a copy of the court document while in Gene Mallove's employment. Unfortunately, the whereabouts of that document is unknown, as Gene was not a good file keeper, and he is not around any more.

What was demonstrated was a roller skate on a linear track, fitted with magnets, and a line of magnets over the tracks. The track was slightly sloped up, so gravity could not be attributed for the motion. Since it flew off the track end and was not jerked back, it had to have net energy imparted to it.

Ken Rauen

That demonstration looks similar to the prototype of Stewart Harris' theory of magnetic instability (see below).

Johnson's other two patents are No. 4,877,983 for Magnetic Force Generating Method and Apparatus, and No. 5,402,021 for a Magnetic Propulsion System. In all Johnson is connected with more than 30 patents in the fields of chemistry and physics.

The following suppression account is an edited consolidation of information from an exchange of emails between Gary Vesperman and Al Witherspoon, a long-time associate of Howard Johnson. June 2006 Al had read on the Internet Vesperman's third version of this compilation (now in its fourth version) of energy invention suppression cases and had then emailed Vesperman. Al is a businessman and the inventor, in one week, of a crucial part of the Hubble Space Telescope that had stymied other engineers for months.

To refresh memories for Al's story, Al and Howard had some pleasant visits August through October 2006. Howard is now 92 years old but still healthy with a keen memory.

Al's involvement with Howard's project was not from a technical standpoint but rather from the standpoint of technology suppression. Al had never taken the time to write this up. He thinks that it's about time. Al has been holding back his suppression story for nearly thirty years.

Howard Johnson actually began his work on this motor in the 1930's. When he first started the project and conceived the idea on paper, the materials needed for the construction of the motor had not yet come into existence. However, he told Al that he knew that someday they would become available, and then he would be able to construct it.

The suppression of the motor is occurring by the general methods in addition to Howard's own suppression due to his warranted mistrust of fellow scientists. Things have come up missing and promises not kept.

When Howard first introduced the development of his permanent magnet motor there was a nearly immediate world symposium organized and held at Virginia Polytechnic Institute and State University. A number of scientists came from all over the world to attend this event. There was quite a buzz in the air about this new technology prior and existing through some finite time during the event. Al met and conversed with a number of them. A couple of them were actually quite friendly. The rest were seething with egomania and the disinterest of speaking to whom they assumed was a local hillbilly.

It was not a conference. It was merely a one-sided presentation of the technology and there was no entertainment of questions. The rules of the event were such that questions were to be saved for the end of the presentation. At the end of this presentation, the speakers quickly vanished at the moment of the last word. A couple of questions were addressed, but the respective replies were only "I don't know" or "I cannot say at the present time".

The primary focus seemed to be entirely that of debunking the notion of such a device. There was absolutely no positive attitude in the air with the exception of a few attendees who expressed the hope for the further investigation and development of the technology. Most attendees were nearly laughing with skepticism. One who Al spoke with was emphatic with his opinion that the device was viable.

Al recorded the event on audio, but there seems to be no record of it now. Al does not know what Howard did with it. When Al visited him summer of 2006 he could not remember the specifics of the tape or where it might be located at the present time.

Also at the symposium there were a couple of people making an apparently 'approved' video tape of the presentation. There were no other apparent attempts to videotape the event.

Al was the last of the attendees to exit the event. He watched what was done with the video tape.

A man took the video tape downstairs and then discretely gave it to another man. This 'other' man then went to his car and drove away. Al followed him until he arrived at Inland Motors Division of Kollmorgan Corporation in Radford, VA where precision drive motors and systems are manufactured. He got out of his car and went into the building.

Al asked the guard if he knew this man and he said that he was not an employee but was a U.S. Government inspector from Washington, DC. From this point on there is no more information about the identity or the purpose of his actions.

Some months later Al confronted the directors of the symposium. Their words to him were such that they had apparently reconsidered their position of belief concerning the technology. A little later Al found that these directors were under the direct employ of Kollmorgan and also by virtue of the fact that they stood to receive sizeable renewal grants for their respective departments.

Do you suppose that it was Kollmorgan who wanted the technology to be suppressed? After all, they stood to gain by creating disinterest such that they could quietly and anonymously pursue it for their own use without the threat of competition.

A couple of weeks later the house across the street from Howard's house which had housed a few of the working class became occupied by two agents from the National Security Agency. Al acquired the nature of their identity by unusual means. Besides this, they stuck out like a sore thumb, dressed similarly to Mormon missionaries but older in stature. They stayed there for about one year. Periodically Al went by there to see what they were up to but only saw them outside once.

They likely saw Al at Howard's place on numerous occasions but never spoke to Al and reportedly spoke to Howard only once. The nature of the conversation that Howard had with them supposedly had nothing to do with technology but was apparently just everyday common chit chat.

Al wondered what they did all day. He got to thinking that they probably sat around doing what all government officials do, smoking dope without exhaling while watching cartoons without exhaling. Please overlook Al's slight humor.

Then one day they were simply GONE. Al asked the owner of the property who they were. He said that they were Electrolux vacuum cleaner salesmen. Al almost busted out laughing. Al's great uncle was one, and Al has seen several at his front door, but never those that dressed like these guys.

During their stay Al received a rather strange phone call one day in April 1979. A man simply asked for Al, and Al simply said hello, thinking that it was likely one of his customers or a telemarketer.

He quickly identified himself in such a way that Al could not understand his name. When Al asked who was calling he simply replied by asking Al if Al was acquainted with Howard and how long. He was very nice and thus Al answered him due to Al's probable youthful naivety. He then simply said "Thank you" and hung up. Caller ID or the *69 features were not available yet at that time.

On three occasions after this between 1980 and 1983 Al's house was broken into in a nondestructive and undetectable manner, meaning that the method of entry was not discernable as being unauthorized. However it was very apparent that someone had been rummaging through the house in ALL the rooms including the garage and basement. No valuables were ever taken. At the time there was some jewelry, other precious stones, silver, gold and a letter from Robert E. Lee in relatively plain view which at that time were valued well over \$100,000. These were likewise never touched. Since then these items have been removed to a safety deposit box.

Whoever broke in never found any devices or related documentation. However, Howard's house, as far as Al knows, was never invaded until early 2006. Al and Howard have no idea who did this, but there were no prints to be found. They only took documentation which had nothing to do with the technical aspects of the motor or its design. The documents were related to contractual agreements concerning the disclosure of the technology.

In 1985 Howard reported to Al that he had struck a deal with General Electric. For fifteen million dollars the company had purchased an exclusive (but not 'sole') license to make, manufacture, market and utilize the motor. By 1986 General Electric had built a very, very large working model the size of a house. It is not being used and is kept hidden in a building under armed guard somewhere in the United States. (However, it doesn't quite make sense that the company would build such a very expensive large motor when a much smaller, cheaper motor should be adequate for experimental studies. Gary Vesperman)

Al never asked Howard what he did with the proceeds. A reliable source did tell Al that the agreement with General Electric was such that they give the \$15 million to a certain charity.

Since that time there has been no other publicly known activity with the motor by General Electric. Al suspects that the company is using it to get paid by the oil industry to keep it under wraps – industrial/technological extortion or protecting the world, or possibly both. However, this notion is merely a notion and surely speculative.

Al's guess is that General Electric could simply and easily make a substantial amount of money by keeping things quiet while at the same time using it as a card to play when the time is right. Al knows exactly how they could do such.

Howard and Al have found that American and Japanese magnet manufacturers are mysteriously very reluctant to provide the needed magnets. In the report below on "Yasunori Takahashi: Magnetic Wankel Motor" John Moreland explained that the secret to the enormous strength of the Takahashi magnets, at 25,000 gauss the most powerful magnets ever developed, is that they contain uranium. The U.S. Government forbids importing radioactive materials.

Throughout the past twenty-eight years approximately, there have been some reported attempts to construct the motor. Al has NEVER seen one in the possession of any individual outside of the Permanent Magnet Research Institute.

Finally: Howard, by claim and Al's personal opinion, has sufficiently disseminated the technology to the point such that the motor can be replicated. Replication of the motor has apparently achieved little known success. There are reasons for this lack of success.

There seems to be little doubt that this device or similar devices have been built. They are relatively easy to build and do not require any sort of special magnet type in order to be functional. Actually, ordinary magnets are better from the standpoint of the homebrew versions. Very powerful magnets are difficult to keep seated in place. Also, experimenting with super-strong rare-earth magnets without special equipment and training can easily cause injury.

The notions that are reflected in comments made by others as to the theory of operation are not correct by any means. The energy required to charge the magnets have nothing to do with the energy delivered by the motor. Many would say that this is most interesting and important.

Al has found, in the process of examining various cases, that few individuals if any, have the correct blueprints. Also, the blueprints are not a whole lot of help unless a person has a clear understanding of certain principles of magnetism. Though this motor can be successfully constructed with "off-the-shelf" components and not to mention being done so in a crude fashion, the apparently ability of most is not sufficient to attain a working model of the rotary motor.

Al has seen theoretical speculation concerning certain magnetic principles by "respected" members of the HJ Motor Group that further suppress the successful application of the technology. Though likely not intentional it is nevertheless the result of careless thinking and poor technological vocabulary. Such practices propagate inaccuracy and inability to produce any viable results and end up merely creating a vicious circle resulting in lost art and the downward spiral of success.

Al discussed this matter with Howard during one of their visits. They were able to arrive at some conclusion perhaps, but that of which will not presently be disclosed. Al needs to think about it a little more.

As far as participation by other individuals:

To date, there has been no person that has kept their word concerning certain aspects of disclosure. There have been no individuals that have kept up other agreements directly related to the use and dissemination of the technology. Some individuals have replicated Howard's research in various ways, including the distribution for gain, in such a manner as to claim it as being of their own origination. This may include the distribution of nonfunctional blueprints. As far as Al knows, Howard has only and repeatedly been the victim of greed and egotistical lust.

To date, not one single person has ever commented on Al's advice for making the motor work. This show of apparent ignorance eludes Al's belief.

At this point in time Al does not believe that Howard is highly inclined to divulge any more information to the general public or prospective co-participants. The royalties due on his recent book have not been paid either. This situation will change with the publication of his new book containing advanced theory. Those who have any sense, in my opinion, will be well advised to read it.

And as for Al himself: He is presently looking for a few good men. To date Al has only been in contact with one or two individuals who have shown even a spark of integrity. At the present time, there are only two individuals actively involved with the Permanent Magnet Research Institute.

Howard's parting and publishable comment from their meeting of October 10th was simply as follows and quite closely matches his exact words: "If you can't believe what you see, then there is little else that I can do for you."

Al thinks that it's not always the government that suppresses technology. Sometimes it's the individual who bites off his or her own nose to spite his or her face. That is, the government does not need to directly suppress the technology because the citizens are doing a splendid job all by themselves.

However, it should be noted that it is plausible that negative elements hide behind the veil of our good society WHO serve the purpose of being suppressing agents.

It is not necessarily our government which doles out the suppression. They often get blamed for a lot of things which are merely the bad direction of a small individual or group within.

Maybe the distribution of incorrect information is being done by the implant of a suppressing agent(s)?

Virginia Polytechnic Institute and State University does not help Howard though he lectured there for a while. Most of the technologists there are quite jealous of Howard and for whatever reasons seem to be a major contributing factor to the suppression of the technology. The college is where the first world symposium took place. Al was sent there to eavesdrop and record the presentation which was largely an attempt to discredit his work. Al spoke with some of the scientists who attended the symposium. Most were quite skeptical, both about the technology and the true intentions of the lecturers. Some even left in laughter. There were a few who expressed that they sincerely hoped that the technology would come to perform, regardless of any negative opinions.

However, this apparent suppression may have been done with Howard's ultimate blessing since such a discrediting would likely draw attention away from his work yet get the ball rolling for world curiosity and open some minds. Making money at this sort of thing was a hopeful wish for Howard since he is by no means a wealthy man. Aside from this he just wanted to help the world. He reminded Al, however, that not all good things are good for mankind and that the introduction of such technology to the world would indeed be disruptive. After considering his comments over a period of nearly thirty years, Al has come to realize that Howard's concerns may warrant some serious consideration.

Al intends to see Howard again sometime to find out by some gentle fashion if this early suppression indeed was his intention, or if it simply occurred inadvertently. Also Al plans to find out whatever else he can since time is short and Howard, being 92 years old, may not be here for very much longer.

As mentioned above, this account of Al's suppression story is a consolidation of emails exchanged between this writer, Gary Vesperman, and Al Witherspoon up until mid-October 2006. However, I have emailed Al a few more questions. But since then I haven't been able to contact Al by phone and email.

For instance, it is not clear to me whether the two National Security Agency agents had rented a house across the street from Al's house or Howard's house. How were they able to still acquire needed magnets which they weren't allowed to buy? Exactly what did happen at Oak Ridge and Howard's involvement in the development of the atom bomb? What were the real reason and circumstances relating to the Science and Mechanics article? What happened in 1941 at the U.S. Patent Office 37 years before Howard actually commenced construction? What are the details regarding the construction of the generator at Jet Propulsion Labs? What's this about snowflakes and honeybees?

Stewart Harris: Theory of Magnetic Instability

The theory of magnetic instability is a magnetic principle which appears to be the embryo of a valid free energy device. It was invented by Stewart Harris. He applied for a patent in 1978, and it was rejected. Dr. Marion Bowman from Washington, DC traveled out to Mr. Harris' home in Las Vegas, Nevada to witness the operation of the device. He was impressed and returned to Washington enthusiastic about its applications.

Shortly after the demonstration, all copies of the patent application and other information subsequently disappeared from the US Patent Office in Washington, DC. In addition, Mr. Harris' home was broken into and his original drawings, papers, applications, and correspondence were stolen. For some unknown reason, they left behind the prototype. Coincidentally, Mr. Harris lives just a few blocks from the office of Film Funding, Inc., where this writer, Gary Vesperman, used to work in Las Vegas.

For some time I had Harris' prototype on my desk which I delighted in demonstrating to visitors. A horizontal three-inch-long roller cylinder of about five stacked 1-inch diameter disk-shaped magnets rolls UPHILL, without energy input, between two similar four-inch-long cylinders of about ten stacked 1-inch disk magnets placed in parallel with each other and taped onto a cardboard ramp (try 30 degrees up from the horizontal).

Radio Shack sells disk magnets, but they are a little too strong. The horizontal cylinder rolls uphill a little too fast. Try weak disk magnets instead, or strong magnets that are made weaker by thermal or mechanical shock.

I had noticed while playing with Harris' device that the roller cylinder would hang up at the top of the incline. But if the cylinder was immediately picked up and placed back at the bottom of the incline within 60 seconds, it would accumulate enough additional rotational angular momentum of unknown origin to fall over the top of the incline.

At the International Symposium on New Energy that was held in the Denver Hilton South, Denver, CO (25 – 28 April 1996), I asked Dr. Harold Aspden if his “Aspden effect” is the same as the roller cylinder’s temporary accumulation of additional rotational angular momentum. He said it is not. However, Aspden and I decided that it appears to be such an interesting etheric energy phenomenon it should be investigated further.

This is what would make a fine project for a grade school science class: Try magnetic disks of various sizes and strength. For each particular size/strength, carefully record various time delays between the time the rolling cylinder is taken off the top of the incline and placed at the bottom of incline. There might be some type of “half-life” whereby the roller cylinder’s residual additional rotational angular momentum decays with time until the roller cylinder hangs up again at the top of the ramp.

Lester J. Hendershot: Hendershot Magnetic Motor

During the late 1920's Lester J. Hendershot, while working on a new type of aviation compass, stumbled across a method of generating energy. The "Hendershot magnetic motor" made headlines and attracted such big name investors as Charles Lindberg. Hendershot, while attempting to establish a true magnetic north compass, found that by cutting the same line of magnetic force north and south, he had an indicator of the true north and that by cutting the magnetic field east and west, he could develop a rotary motion. He wove together a number of flat coils of wire and placed stainless steel rings, sticks of carbon and permanent magnets in various positions as an experiment. Based on this principle, after two years of trial and error, he built a magnetic motor that would self-rotate, to his surprise, at a constant speed of 1800 rpm while producing 45 horsepower.

Hendershot changed directions and decided to build a generator on the same principle, after deducing that a magnetically-powered motor was not as practical as a magnetically-powered generator. Hendershot had discovered that the Earth’s rotating magnetic field could be used to provide power to motors and generators, much like Nikola Tesla’s discovery that the Earth was a huge capacitor, capable of providing significant amounts of electrical power. Simplified, Hendershot believed that if one were to cut the lines of force of the Earth’s magnetic field, one could harness this to provide direct power to generators and motors. Nikola Tesla attempted to do just that, when he built his “magnifying transformer” at Shoreham, Long Island, NY.

To read the first hand accounts of Hendershot’s historical encounters, see the following research links:

<http://www.time.com/time/magazine/article/0,9171,880984,00.html>
<https://secure.netsolhost.com/nuenergy.org/alt/RadonFuel.htm>
<http://www.clubusenet.com/thread/262719.html>
<http://www.borderlands.com/freeenergy.htm>
http://www-tech.mit.edu/archives/VOL_048/TECH_V048_S0041_P004.pdf
<http://www.clarabow.net/articles/ourreaderswrite.html>
<http://www.freepatentsonline.com/20070007844.html>
<http://www.rexresearch.com/feg/feg1.htm#hendershot>

Hendershot ran into political difficulties in promoting his device, attempted to take his business to Mexico, and finally faded into obscurity having taken a "couldn't refuse" payoff to never work on his device again. (Source: <http://www.srsi.org/sr2/Heat/fed.htm>)

In 1961 Dr. Ed Skilling, from Columbia University, successfully replicated and tested a Hendershot free energy device, out of which he got 300 watts. Skilling had been associated with Hendershot and learned of the device through him. The generator was self-resonant at 500 kHz.

James Watson: 8-Kilowatt Battery-Popper Motor

Thomas E. Bearden, Ph.D., has provided a significant 'account', dated 1999, regarding James Watson located at <http://www.cheniery.org/misc/battery%20poppers.htm>, copied as follows with some editing:

James Watson successfully replicated Bedini's battery energizer (with direct advice from Bedini). Watson made improvements and modifications, and eventually was able to build one and adjust it as he wished. He demonstrated an 8-kilowatt battery-popper motor at the first International Tesla conference in Colorado Springs in 1984.

Later Watson was moving toward development and marketing.

Then Watson and his entire family disappeared. Neither Bedini nor I could locate him. Neither could his financial backer, the late R. J. Reynolds III. This was a researcher and friend whom I was in contact with several times a week. Then bingo! Nothing further.

He [Jim Watson] abruptly and completely broke off all communication with everyone. A squirrely message was left on his answering machine for a few days, saying he had moved (but not in Jim's voice). Then it too was removed. And that was that.

Eerily, it seems that if you call the police in the town where Jim Watson lived, they will tell you he still lives there on the same street in the same house. At least that's what they told a friend of mine who checked a few months ago, which is years after Jim and his family originally disappeared. And that check may be the oddest thing of all. The police implied on the phone that Jim and his family never disappeared. Everything fine. A-OK. And that's a bald-faced lie. He and his family did disappear. No one could find them, regardless of how they tried. His financial backer couldn't even find him.

The clear implication is, stay away from that one. Somebody "from the dark side" may have made Jim the "offer he could not refuse". One may never know what really happened, whether or not Jim ever surfaces again — or has already surfaced again and is living there very, very quietly. But Jim's entire over-unity motor effort ended abruptly, even though highly successful. And even though the motor was almost ready to be put into production.

Watson has not been seen at an energy conference since that sudden mysterious disappearance. No one has had a phone call from him. I have not found anyone I trust who has seen him again.

You have not seen a Watson over-unity power system go to market. You almost certainly never will.

Yet Watson's device was perfected to the point where he could make the things like pretzels, adjust them readily, and they worked every time. They could have been put into mass production very easily. Obviously that made him a grave threat to the energy cartels around the world.

At rare intervals, the energy cartel does suppress an invention and an inventor by making the inventor "an offer he cannot refuse", in Mafia terms. Presently the going price when that offer is made is \$10 million. You take your \$10 million, quit all research, quit your contacts, and you live. But you live very quietly, although you live very well financially.

The engineers who measured Watson's 8-kilowatt machine there in Colorado Springs are still alive. And they know what they measured.

There's one other little thing. At that same International Tesla Conference in Colorado Springs, the folks who were in charge (for the energy barons) of suppressing all successful over-unity devices in the Western world were also there when Watson demonstrated his 8-kilowatt device. There is a certain effect which happens in a battery sometimes for a large over-unity battery popper unit like that, if the device is "for real". Time-reversal operations and wave transductions can occur, resulting in time-excitation charging inside the battery materials, in a negative time charge sense (remember, the over-unity operation is a negentropic operation). After a machine of that type and with that particular internal effects has been used to furnish energy for quite a while, you can make a definitive test on it. Simply hook it to a normal battery charger for that size battery, and start to charge it. You then may find to your surprise that the power will just seem to "disappear" in that battery, without charging the needle one iota, for 16 to 48 hours or longer, and in a rare case for two weeks.

The reason is that wave transduction occurs of your charging spatial energy into time-energy, and so you have to furnish rather enormous energy to get a little bit of that negative-time charge reversed. After you fill that seemingly "bottomless pit", then suddenly the negative time-charge will have been eliminated, and at that point the battery will start to charge up in quite normal fashion.

It is significant that Watson's battery was stolen right out of the machine. Whoever did it, almost certainly knew how to test it to find out if Watson's generator was actually a true over-unity device. If so, then they tested it and found that indeed it was genuine.

And there was only one group there who would have known that little tidbit.

Hitachi Magnetics Corporation: Magnet Motor

Engineers at Hitachi Magnetics Corporation have come right out and claimed that a motor run by magnets is feasible and logical, but the politics of the matter make it impossible for them to pursue developing a magnet motor or any device that would compete with the energy cartels.

Among the obstacles to free energy are the big banks who own or finance the energy industries. Peter Lindemann, D. Sc., offers an analysis of these obstacles in <http://www.wanttoknow.info/newenergysources> or <http://www.spiritofmaat.com/archive/feb2/lindemnn.htm>. Lindemann suggests that the four forces suppressing new energy devices are the world's wealthiest families and their banking institutions, national governments striving to preserve national security, deluded inventors and con men, and the unspiritually motivated behavior of all the rest of us.

Floyd Sweet: Vacuum Triode Amplifier

Floyd Sweet had invented an advanced, solid-state, magnetic power converter called the "vacuum triode amplifier". If it could somehow be made stable over a long duration, it potentially offers an exceptionally high ratio of output power to input power in the range of one million. The somewhat unconventional physics of the device is explained in <http://rexresearch.com/sweet/1nothing.htm>. The site also describes efforts to suppress Sweet's research and development efforts:

Two people from Australia, who claimed they wanted to help Floyd, stole his notebook and promptly asked John Bedini for help in replicating the VTA based on the notebook contents. John recognized the notebook as belonging to Floyd and promptly asked them to leave. However, the notebook was never recovered.

Sweet received many death threats over the phone and some threats face to face. A well-dressed gentleman in an expensive suit, tie, hat, and hundred-dollar shoes approached Sweet on the sidewalk of the street where he lived and introduced himself as Cecil Brown. Brown showed Sweet a photograph of Sweet inside his apartment. Brown then told Sweet that he represented a conglomerate that did not want Sweet's device to appear in the world at this time. Brown further stated that sometimes unfortunate things happen to people who do not comply with the wishes of others. Brown then retrieved the picture and departed.

Gary Vesperman's file titled "Bearden web site on electrical energy" includes these three excerpts written by Tom Bearden:

"A particularly good higher group symmetry electrodynamics, in this author's opinion, is the $O(3)$ electrodynamics founded by Evans and Vigier and further expounded by Evans {[xxxviii]}. Evans has shown that $O(3)$ electrodynamics is a part of the Sachs unified field theory electrodynamics {[xxxix]}.

Thus $O(3)$ electrodynamics can be used not only for modeling "normal" electrodynamic but also for modeling "exotic" unified field theory. Further, it can be used for engineering, so it permits the development of a drastically extended electromagnetic technology which can eventually engineer many new phenomena {[xI]}, including anti-gravitational effects {[xli]}. At least one highly successful antigravity experiment was performed by Sweet, in an experiment designed by the present author {[xlii]}. The weight of an object was steadily reduced by 90%, on the laboratory bench."

"Sweet was fired at from about 300 yards by a would-be assassin, using a silenced rifle. Being old, he stumbled and fell on the steps just as the assassin pulled the trigger. The bullet snapped right by his ear, where his head had just been. Thereafter, Sweet was always deeply paranoid about taking the unit outside his own apartment or continuing to develop it. I personally worked with Sweet for some years." (End of Bearden's report) Dr. Bearden provides more details on Sweet's interesting device in http://peswiki.com/index.php/Site:LRP:Tom_Bearden_Remembers_Walter_Rosenthal_%26_Floyd_Sweet.

John Bedini: 'School Girl' Motor and Battery Energizer

John Bedini, Idaho, designed the 'school girl' motor and battery energizer. Some years ago, three thugs came to his home and beat him severely. For a time he went underground and retracted all information on his devices. See <http://www.icehouse.net/john34/bedinibearden.html>.

Two Inventors: Model T Ford Generator with Magnets Added

About ten years ago, two very clever backyard inventors took a magnetic, electricity-generating flywheel off a Model T Ford, attached stationary magnets in a spiral arrangement to the outside, and developed a self-generating motor-generator, using the pulsed varying distance magnetic spiral principle. This generator continually produced 1600 watts of power with no other input. They demonstrated their generator at UCLA – confounding the professors, students and other observers.

Evidently some heavy-handed U.S. Government/corporate types were in the audience, however, because the inventors never made it home from their demonstration. They were found dead along the highway. Their trailer, containing the generator, had disappeared.

Apparently the Japanese now have the technology, which they are calling the "Magnetic Wankel" motor. (Excerpted with permission from Erik Masen's article "SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-Energy Devices", *Electrifying Times*, Vol. 8 No. 3, and also in http://www.electrifyingtimes.com/erik_masen_suppression.html.)

Yasunori Takahashi: Magnetic Wankel Motor

Yasunori Takahashi, the famous Japanese inventor who developed the Beta video cassette recorder, has retrofitted his newly developed, super-powerful "YT" magnets into his 15-horsepower Magnetic Wankel motor scooter, claiming he can obtain 15 horsepower from a few amperes of electricity. If the U.S. Government allows the Japanese to export these scooters to America, we will see a further trade deficit in Japan's favor.

Rumor has it, however, that the U.S. Government refused entry to the Magnetic Wankel motor (in Mazda vehicles) several years ago, just as it blocked Honda's super-high-mileage, gas-powered cars at about the same time. Such protectionism may be "good for business" (at least for the oil companies and domestic auto manufacturers), but it hurts others and punishes the environment. (Excerpted with permission from Erik Masen's article "SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-energy Devices", *Electrifying Times*, Vol. 8 No. 3 and also in http://www.electrifyingtimes.com/erik_masen_suppression.html.)

At the 1997 International Tesla Society Symposium in Colorado Springs, Colorado, John W. Moreland, Ph.D., a health physicist, lectured on his experiments with radiovoltaic electrical generators. (Compare with photovoltaic generators such as solar panels.)

Paul Brown lectured separately on similar work based on converting cosmic rays to electricity. Brown had been working mainly to recreate T. Henry Moray's generator.

Brown and Moreland found a strange quirk of ether physics involved with their over-unity electricity generating devices. It had been assumed by many, including Gary Vesperman as the basis for his advanced self-powered electric vehicle concept, that part of the output can be picked off and fed back directly to the input. The longest Moreland has been able to get his generator to run is three weeks. Then the generator dissipates like a cat getting tired of chasing its tail.

Brown and Moreland were still experimenting with voltage splitting, etc. Moreland said they may eventually have to take a generator's input and output out of the same time domain. For example, simply connect separate batteries to a generator's input and output.

After talking with Moreland this writer, Gary Vesperman, got to thinking that for the self-powered electric vehicle, we could have a computer monitor battery charge levels and from time to time switch around between several sets of batteries. Simultaneously at all times, one battery set is being used for the motor, another set for the generator input, a third discharged set connected to the generator's output, plus possibly some spare batteries.

When chatting with Moreland about electric vehicles, I mentioned the Takahashi over-unity motor mystery. June 1997 Hal Fox had sent me a copy of a 10-minute video showing Takahashi demonstrating his prototype over-unity magnetic motor, also known as a Self-Generating Motor (Magnetic Wankel) with a drive belt turning an alternator. The motor is shown connected to a battery for starting the motor, and the battery is then shown disconnected. Two headlights, connected to the alternator's output terminals, remained illuminated after the battery was disconnected.

A motorbike using the Takahashi over-unity motor was sent in 1996 (?) from Japan to England and then to Mark Goldes in Sebastapol, California for testing. Goldes found that the motorbike had limited range, and the magnets were unremarkable. Nobody could understand why a man of Takahashi's stature and wealth would try to pull a scam.

Moreland explained that the secret to the enormous strength of the Takahashi magnets, at 25,000 gauss the most powerful magnets ever developed, is that they contain uranium. The U.S. Government forbids importing radioactive materials. For some reason, the radioactivity of the Takahashi magnets is being kept secret from the U.S. Patent Office until the Takahashi motor patents have been granted. So Takahashi had to substitute ordinary magnets for his super magnets in his motorbike motor.

Thomas E. Bearden, Ph.D., understands that Takahashi's magnetic Wankel motor has been suppressed by the Japanese Yakuza mob. (Source: http://peswiki.com/index.php/Site:LRP:Suppression:_Alternative_Energy_Systems:_%E2%80%9CNovelt_y_of_Fact%E2%80%9D_Freely_Derived_Sources)

This writer, Gary Vesperman, didn't follow Moreland's explanation during his Symposium lecture how certain radioactive materials can enhance the magnetic field strength of a magnetic material. I had planned to write him for a reference that I could study. Unfortunately I lost touch with Moreland afterwards – mainly because his web site www.aztecpub.com never was active.

Teruo Kawai: Motive Power Generating Device

The key statement of Teruo Kawai's US Patent 5,436,518 for his "Motive Power Generating Device" is as follows: "Electric power of 19.55 watts was applied to the electromagnets at 17 volts and 1.15 amperes. ... an output of 62.16 watt was obtained." Dividing the output power by the input power yields a coefficient of performance of 3.19.

Thomas E. Bearden, Ph.D., explained the Kawai device's operation, placed his explanation on the Internet, and Kawai and party came to Huntsville, Alabama to see him and his associates. At Kawai's urging, they negotiated an agreement with him that they would manufacture and market his systems worldwide; he already had build a closed-loop, self-powering system in Japan. Kawai would fund the entire project.

Their agreement was verbally reached on a Thursday afternoon, late. That night a jet arrived posthaste from Los Angeles, with a Yakuza on board. The next morning Kawai and his party were in fear and trembling, and the Yakuza was in total control. Kawai no longer controlled his own company, his invention, or his own fate. Needless to say, the Yakuza coldly cancelled the agreement, point blank. This happened in front of Bearden and four associates. So there are five witnesses. The Yakuza and party quickly packed up the two Kawai engines that were in the possession of Dr. Bearden and his associates, and departed. No Kawai engine will ever be permitted on the world market. Several other Japanese COP>1.0 electrical power systems have also been suppressed by the Yakuza. Many such incidents — including murder — have occurred over the last decades, right here in the United States. Others will happen. (Source: <http://www.spiritofmaat.com/archive/mar2/bearden.htm>)

Dr. Bearden, inventor of the Motionless Electromagnetic Generator (see above), himself has been the subject of suppression efforts, including death threats. (Source: http://peswiki.com/index.php/Site:LRP:Suppression:_Alternative_Energy_Systems:_%E2%80%9CNovelt_y_of_Fact%E2%80%9D_Freely_Derived_Sources)

Johan Grander: Magnetic Motor

Johan Grander of Austria developed a revolutionary magnetic motor, but was turned down by the Austrian patent office with the excuse: Inventions which are detrimental to products in existence may not be granted a patent." (Erik Masen, "Suppression of Quantum Leap Inventors", *Electrifying Times*, 2007, Vol. 10, No. 2)

IPMS-Kiev and Arzamas-16: Super Magnets

The evolution of the Soviet view of the material world was reflected in the formulation of a new model of nonlinear quantum mechanics as an implicit function of consciousness. For instance, water is more than just H₂O. Experiments prove water can be affected in measurable ways by subtle influences such as music or whether a person's thoughts are hate-filled or life-enhancing. A more correct understanding of materials has thus enabled super magnets to be developed.

In conjunction with research jointly conducted at the highly secretive laboratories at Arzamas-16 in Khazakstan, IPMS-Kiev has developed a family of magnets with energy characteristics equal to or exceeding those of the best conventional iron-boron-neodymium types, but with the all-important feature that they operate with equal or greater efficiency at extremely high temperatures, up to 250 degrees centigrade. These magnets are so powerful that they have been successfully used to conduct extensive research in a perpetual zero gravity environment. All these experiments have been performed without the use of cryogenics.

Joint ventures of the IPMS with more than a dozen private sector companies to develop inventions were repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

General Motors Corporation: EV-1 Electric Car

Rodger M. Ward was a two-time winner of the Indianapolis 500, National Stock Car Champion, and multiple winner of the USAC Racing Championship. In 1993 Ward registered with the State of Nevada a Small Corporate Offering Registration (SCOR) for his American Electric Car Company, Inc., whereby 200,000 shares of common stock were offered for sale at \$5 per share. This writer, Gary Vesperman, wrote most of the SCOR's disclosure document/business plan.

Ward's company had developed a new type of automatic transmission that will reduce the power required to propel the car and will allow a longer driving range between charges. His company also had developed a very efficient vacuum system to energize equipment such as power steering, power brakes, door locks, and windshield wipers that would ordinarily require electricity from the batteries used to power the electric motor. In addition, his company had added an extra lead-acid battery to supply power to such accessories as the radio, heater, air conditioner, headlights, and taillights. Thus the power drain of the accessories is isolated from the power used for the electric motor.

Most interestingly, Ward's company had the right of first access, via Las Vegas-based Ashurst Technology Corporation, to a new type of battery invented by the I.N. Frantsevich Institute of Problems of Materials Science, Kiev, Ukraine. Most types of batteries rely on electrochemical reactions. The Ukrainian crystal lattice battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as less than one molecule.

Since capacitance is inversely proportional to thickness of the separation between the layers, the practical consequence of the crystal lattice battery is to electrically function in a manner similar to that of a giant capacitor.

The positive contrasts of the crystal lattice battery with the lead-acid battery are so striking as to justifiably portend a potential revolutionary advance for the electric car industry.

Ward's company initially planned to use twelve 86-pound lead-acid batteries weighing a total of approximately 1000 pounds. These lead-acid batteries were to be replaced with ten 20-pound crystal lattice batteries which would weigh a total of only about 200 pounds and thereby noticeably enhance driving performance.

Lead-acid batteries provide up to approximately 120 miles on a four to five-hour recharge. The crystal lattice batteries could provide up to 400 miles on a one-hour recharge. The crystal lattice batteries can supply constant voltage for up to 94% discharge. Since there is no heat nor waste product buildup as with electrochemical batteries, the crystal lattice batteries can easily last many hundreds of extremely rapid charge/discharge cycles.

The crystal lattice batteries operate well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the crystal lattice batteries is that they are made only of materials which are environmentally friendly, plentiful, and inexpensive.

While the IPMS did provide test samples about the size of a large flashlight battery, they were not able to deliver on their promised 20-pound crystal lattice batteries. The U.S. Government's Defense Intelligence Agency had sabotaged the Ashurst Technology/IPMS joint venture. So the American Electric Car Company, Inc., lamentably failed to bring to market Ward's potentially revolutionary electric car.

Rodger Ward and Gary Vesperman became good friends. (BTW, he drove in city traffic, cutting in and out, etc., like the famous race car driver that he is, not like a normal driver!) Ward explained why the major automobile manufacturers as well as the oil companies suppress electric cars. Only 60% of their total profit is made when a car is sold. The dealers and manufacturers make the other 40% of their profit selling and replacing high-priced parts such as mufflers, fuel pumps, etc. Electric cars are too simple, durable and easily maintained. See his biography at http://www.motortrend.com/features/auto_news/112_news040707_ward/.

The significant profit advantage of gasoline cars over electric cars may be why as portrayed by the movie "Who Killed the Electric Car?", General Motors Corporation didn't fully support and eventually scrapped its EV-1 Electric Car. To be fair, GM claims that it refused to sell its EV-1 Electric Car because it would be unable to ensure the safety and life of the vehicle after parts makers stopped supplying components. GM also claims that the EV-1 had difficulty running uphill and didn't offer air conditioning. GM does claim that its upcoming Volt electric/gasoline car will be more advantageous than the EV-1. Because the Volt will still have a gasoline engine, the Volt should be complicated enough for GM to retain profit margins when maintenance labor and replacement parts are sold.

The complicated gasoline-powered car is fundamentally unreliable and unnecessarily expensive to fuel and maintain. It has required heroic engineering efforts to partly overcome its inherent impracticality.

Within about a year after writing the disclosure document for Ward's company's SCOR, this writer also wrote Nevada SCOR's for Natural Environmental Solutions, Inc., (NESI) and Aimrite Systems International, Inc. NESI had acquired the rights to Frank Richardson's magnet-based electrical generator that required no input power and also a bladeless Tesla-type steam turbine (see above). Aimrite Systems had patented computer-controlled hydraulic shock absorbers and a computer-controlled air ride suspension system. I have ridden a test bus equipped with an Aimrite suspension. Nice ride.

I introduced Rodger Ward to prolific Las Vegas inventor Alvin Snaper. Snaper has 600 patents, processes, and innovations such as the type font ball in the IBM Selectric typewriter and Tang the orange juice drink. Ward became enthusiastic with Snaper's demonstration of a prototype of Snaper's invention of a compressed air-driven air conditioner/heater. It relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air. The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 CFM at 40 PSI. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its efficiency is nearly 30%.

Alvin Snaper also had invented a low-temperature nondestructive process for increasing the durability of vehicle parts and tools with diamond or titanium nitride. A few years later, Snaper invented a high-performance nickel-iron battery very suitable for electric vehicles.

The Ukraine's IPMS had also invented a basalt/carbon fiber foam which is extremely strong yet lighter than fiberglass. A test vehicle made with basalt/carbon fiber foam parts was reportedly the only vehicle ever tested that can cut through a cast-iron London taxicab in a collision. (See below: "IPMS: High-Temperature Gas Plasma Detonator".)

Just for fun, I then combined these technologies into an "advanced self-powered electric vehicle concept". A current version with more details and additional technologies is available in the category "Speculative Advanced Electric Vehicle Concept" (<http://www.iic.de/docs/GVShortSummaries1-46a.htm>). In addition, at a public meeting (14 September 2005) held in Green Valley Ranch Casino, Henderson, Nevada, regarding the proposed Regional Fixed Guideway traversing Las Vegas, Nevada, I submitted suggestions for possible power sources for the train, most of which also seem suitable for self-powered sources for vehicles (see <http://www.rtcsonthernnevada.com/rfg/documents/September2005PublicMeetingMinutes.pdf>), pp. 19-77).

The Pulsed Abnormal Glow Discharge (PAGD) reactor uses high-density charge clusters to produce useful positive AC-to-DC electrical power conversion gains such as 483%. It's an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance.

Dr. Paulo and Alexandra Correa, "New Energy Electric Power – Now! Pulsed Abnormal Glow Discharge Technology," Infinite Energy: Cold Fusion and New Energy Technology Volume 2, No. 7, March/April 1996, p. 18. Gary Vesperman's compilation of "Advanced Technologies for Foreign Resort Project" in <http://www.icestuff.com/~energy21/advantech.htm> includes a chapter on the PAGD reactor.

US Patent 5,416,391 for Electromechanical Transduction of Plasma Pulses. US Patent 5,449,989 for Energy Conversion System. US Patent 5,502,354 for Direct Current Energized Pulse Generator Utilizing Autogenous Cyclical Pulsed Abnormal Glow Discharges. Paulo N. and Alexandra N. Correa, Ontario.

The Correas have demonstrated 1-kilowatt outputs and have run motors under load with these PAGD reactors. GM was interested in the PAGD reactor, as the company's electrical engineers loved it. Upper management killed it, and told the Correas, "The electric car is window dressing."

IPMS: Energy Storage/Battery Devices

During the summer of 1984, airborne intelligence surveillance teams of the United States Air Force, operating out of specially configured and equipped Boeing 707 airframes (called AWAC's) electronically detected (and then shortly thereafter photographed) bursts of coherent light of enormous power originating in the vicinity of Dushambe, Turkministan. The bursts of light, a brilliant blue-green color, lasted just a few seconds and were shifted almost to the ultraviolet end of the light spectrum. The "laser" beams were directed upwards out of the atmosphere towards American military communications satellites.

At precisely the same time the AWAC's detected and photographed the laser bursts (they were referred to in that jargon by American military analysts but later proved to be something almost entirely different), several of the satellites essential to America's global military command and control communications systems became inexplicably inoperable.

The Defense Intelligence Agency, under the direction of the National Security Council and assisted by the National Security Agency, escalated its surveillance of the remote site in the Ural Mountains from which the bursts first originated. For several months, during a concerted campaign of uninterrupted observation by AWAC's and American spy satellites, no additional bursts were observed or reported. Then, without warning, in the middle of the night nearly seven months later, AWAC's crews operating just outside the territorial airspace of Afghanistan detected similar laser bursts of lower intensity during a period of intensive localized ground warfare.

The Afghanistan bursts were apparently aimed at targets under attack by Soviet infantry units. The laser bursts continued in a sustained, localized but obviously mobile attack pattern, as frequently as four or five times per hour, until nearly sunset of the next day. Photographic evidence gathered at the time by the AWAC's crew, and later corroborated by photographs taken at the actual site of the fire fight and forwarded to the U.S. for analysis, showed that the targets of the laser bursts were ammunition and fuel supply depots located in the remote desert. Several of the ammunition and fuel caches had apparently been destroyed during the attack, as demonstrated by the evidence of explosions, fire, smoke and residual infrared heat patterns detected, photographed and electronically recorded on-board the AWAC's.

All this information was transmitted (via encrypted communications bursts, routed through the military Global Command Control satellite system) to the National Security Agency (NSA), located at Fort Meade, Maryland. Analysts there recognized that they were looking at evidence of a weapons system which had never been observed before. They did not know what had produced the laser bursts. But they did know that the technology which made such a thing possible was not available to the countries participating in the NATO Convention. They were terrified at the implications of such a development.

Within hours, the information was packaged into classified documents and conveyed to the Joint Chiefs of Staff. The Joint Chiefs examined the information while they were being briefed by the AWAC's crews which had witnessed and recorded the events. After the briefing, the crews were dismantled, and their various members stationed far away from one another, with orders never to discuss the events they had witnessed. Officially, the laser bursts never had occurred.

Secretary of Defense Frank Carlucci took delivery of the packet at his residence in Falls Church, Virginia, three days later, at a private, secret meeting held in the middle of the night. No one has yet adequately explained why the Joint Chiefs waited three full days to brief the Secretary. Early the next morning, he was driven in a specially prepared bulletproof limousine to the White House. He personally delivered the information to the new President of the United States, Ronald Reagan. The content of the Secretary's report had an immediate, measurable impact.

It was this series of events which principally precipitated the Strategic Defense Initiative, a program of military defense and reprisal based on America's state-of-the-art satellite-borne laser-optical and particle accelerator technologies. The S.D.I. system was intended to provide the U.S. with a meaningful deterrent to further aggressive use of the technology developed by the Soviet Military.

There was only one problem with this system, aside from the fact that its astronomical costs almost bankrupted the American economy: it did not work. S.D.I. was designed to respond to a kind of technology which was not achievable in the West, and which could not be explained by any of the models, materials, technologies or sciences known in the West.

In 1985, the top-secret military version of the space shuttle, code named Atlantis, embarked on a special orbital mission. One of its mission assignments was to retrieve, examine or photograph the military spy satellites which had been disabled by the laser bursts recorded in 1979-84. The results of this investigation have not been declassified or released in any but the most censored version to the public. What we do know for certain, as a matter of publicly available non-classified information, however, is that each of the disabled satellites appeared to have had at least one, and in some cases as many as four or five precisely measured holes, approximately the size of an American silver dollar, melted completely through them from the outside.

The photographs taken of the satellites show evidence of intense heat, charring and carbonized residue evenly distributed around the perimeter of each hole. The evidence is clear and unmistakable – the satellites were disabled by a coherent beam of some sort, characterized by such intense energy that it was possible to melt consistently measured holes through the exterior and interior components of American military satellites, after having passed through the atmosphere of the planet and into space for as many as 325 miles. Such a thing has scarcely been dreamed of by the American military, much less put into any but the most nominally effective operational form.

After more than ten years of political, economic and technological wrangling, and after the expenditure of more than one hundred twenty billion dollars in largely ineffectual research and development efforts, it is inescapably clear that no amount of money or political pressure, no amount of geo-political posturing or economic sanctions was going to compel the disclosure or replication of the technologies which produced the results photographed over the Carpathian Mountains and the Afghanistan deserts. The Soviets had developed a weapons system which was so revolutionary that it could not be explained, replicated or defended against.

The Reagan Administration's lack of specificity about the nature of the implied threat to which S.D.I. was supposed to respond subjected the Administration, the Defense Department and the R&D proponents of the most prominent American aerospace corporations to an endless barrage of charges by the Press and the Congress. They were characterized as being disingenuous and accused of being unreasonably secretive during successive appropriations battles in the Congress.

The truth of matter is that the Administration and the Pentagon were not being disingenuous at all. They simply could not admit to the American public that they were attempting to develop an effective response to a weapons system which they did not understand and could not replicate.

There are a number of issues intrinsic to this set of circumstances, along with several dozen others which, though less well known or economically dramatic, are no less important from a technological standpoint. It is certain that the implication of these technologies has not been lost on those multi-national corporations whose entire capital structure may be threatened by the new sciences, technologies and materials which have been developed in secret laboratories, hidden in caverns excavated beneath the Carpathian Mountains, in the former Soviet Union.

Over the past decade the West has enjoyed occasional gratuitous glimpses into the heart of Soviet science. Attempts to disclose or discuss these developments in the press have been ruthlessly suppressed by powerful special interests vested in both the public and private sectors.

The science which underlies the series of events recounted here remains at the outer limits of the most advanced technology of which the West is capable. The questions posed by the military and corporate analysts about this laser beam weapons system are far-reaching in their scope and implications. Some of them are illustrative:

1) **New Model of Quantum Mechanics:** The sciences and models of quantum mechanics which produced such stunning recent developments in the West as the laser and maser make quite clear how much energy is required to create a beam of coherent light powerful enough to penetrate the atmosphere, retain its coherence in spite of atmospheric diffraction (and other effects described in quantum mechanics as “thermal blooming”), and melt a two-inch hole clear through a satellite made of the most sophisticated alloys ever produced in the West. Except for limited short-distance demonstrations conducted with industrial grade lasers used in cutting operations, there is no known combination of materials or technologies extant in the West to make such a thing possible.

2) **New Materials:** The materials necessary to create an electrical charge large enough to power a device capable of producing such a beam certainly do exist. In quantum mechanics the term large enough does not make sense, but we can agree for the purposes of this discussion on the effect of it as represented by such commonly accepted constructs as frequency, voltage, current and ionic flow rates [as distinguished by the phenomenon of resistance].

Hydroelectric plants and large, fixed-base nuclear power plants are capable of producing enough energy to theoretically power such a device. But the energy bursts in both the Carpathians and the Afghan desert were generated by sources which moved from one location to another. In order to do that, several additional considerations must be addressed:

a. **Portability:** The power source would have to be transportable or be capable of storing sufficient energy to repeatedly power such a device. Western technology cannot produce either a portable power production unit or energy storage system capable of the performance requirements everyone agrees must be met to make the weapons system work, either in the laboratory or in the field. System portability was the most puzzling feature of the NSA/DIA report.

When carefully analyzed, the computer-enhanced enlargements of the photographs taken by the spy satellites and AWAC’s crews failed to provide evidence of any tracks which could be attributed to wheeled or tracked vehicles operating in the precise locations and at the same time as the laser bursts which were observed. The implications of this set of circumstances was almost too much to believe – the devices were apparently either hand held or transportable and rechargeable in such a way as to allow them to be transported by one or more foot soldiers, without vehicular support.

b. **Enormous Power Requirement:** The materials and technologies used to construct a device capable of generating a beam of such enormous power and magnitude would have to be sufficiently advanced to enable the components to be transported without damage over significant distances in unpaved areas of very rough terrain. Such strategies, engineering techniques, construction technologies or materials do not exist in the Western inventory.

c. The **continuous repetition** of the laser bursts suggests that the devices can be operated repeatedly at short intervals of 12-15 minutes. This means they can be triggered with significantly higher frequency and intensity than anything which can be produced in the West, even for laboratory use. Industrial strength lasers used to cut metals require careful setup, accommodate only limited use in short bursts, require extensive cooling and must be continually recalibrated. These limitations obviously did not apply to the devices being operated in the Afghan desert. Analysts at AMTL agreed that the units would either have to be recharged via an external, independent device or somehow be capable of self-recharging in the field.

Such a thing is almost unthinkable by current Western military standards. Not only can we still not replicate the technology in any meaningful form, but the Soviets had refined the technology to a point which allowed it to be carried on the shoulders of ordinary foot soldiers and recharged in the field without motorized support.

Unbelievable! How was such a thing possible? According to some of the highly qualified scientists who scrutinized the photographs, it is not possible. The “Not Invented Here” syndrome is alive and well in the American engineering community. Some of them still insist that the pictures were either fabricated or demonstrate something completely different than this narrative suggests.

3) **Energy Recharge-Batteries:** How did such high-intensity laser beam generators get recharged in the middle of the Afghan desert, in the absence of powered support vehicles or fixed-based power plants? There are a number of possible alternatives. They could have been powered by some sort of advanced battery technology. It’s possible, but if the battery technology used in the West is used as a model to support such a thesis, it would take a bank of the most sophisticated batteries ever designed by NASA, arrayed in series and parallel configurations larger than five full-sized Soviet T-60 tiger tanks to power such a device.

This theoretical battery bank, operating at 100% efficiency (which is not practically or theoretically possible; the best batteries manufactured in the West operate at less than 60% discharge efficiency), could conceivably produce enough direct current voltage (in a zero resistance super conductive circuit, which is not possible, either) to perhaps produce one burst of light equal in intensity to 20% of the power required to burn a 2-inch hole through a satellite moving at 20,000 miles per hour at a distance of 325 miles. Soviet ground forces were generating bursts of this magnitude every 12-15 minutes for more than 10 hours with nothing but ground troops. During eight hours of this exchange, it was totally dark. Something pretty remarkable must have been going on to make such a thing possible.

4) Energy Recharge – Solar Cells: Another alternative would have been to have whatever energy storage devices were being used to power the “laser cannons” recharged by sunlight. The state-of-the-art in photo-voltaic cells produced in the West simply would not support such an undertaking. The very best solar cells ever produced in the West have been produced by the Japanese.

These cells operate at a maximum of 19% efficiency - that is, they convert as much as 19% of the ambient visible sunlight shining on a clear, cloudless day into ion flow, which then becomes low voltage direct electrical current flowing through a circuit. The Japanese panels require months per section to manufacture and literally cost more than their weight in gold to manufacture. They are very heavy and are so sensitive to vibration and calibration that once installed, they cannot be moved at all.

Photo-voltaic cells capable of providing enough electricity to recharge a theoretically infinite energy well would have to operate at efficiencies of 50-80% to recharge batteries of infinite electrical capacity with enough power to trigger such a device. Such cells would have to be very light weight and able to withstand extremes of heat, cold, vibration, dust, wind and other conditions encountered in a hostile battlefield environment. Nothing like that exists in the Western technological arsenal.

5) Dielectric Materials – Transformers and Capacitors: Another consideration must be reconciled before this issue can be theoretically put to rest. In order to produce a burst of coherent light of sufficient intensity to have the effect which was observed and recorded by the surveillance teams, the voltage and amperage required to support such a device would have to be staggeringly high. In order to operate at all, the voltage supplied to the system must be released all at once, not in a continuous stream but in a single coherent burst so intense that any materials known in the West would either evaporate or melt. Not only would the best dielectric materials known to Western Science melt because of the heat produced by such enormous energy bursts, but before a bolt of energy of this magnitude could even be released to such a device, it would have to be accumulated and stored somehow.

A similar set of requirements of a less dramatic type is present in all the electronic devices manufactured and marketed in the West. This includes the entire range of electronic devices such as VCR's, computers, televisions and sound components, telecommunications, information storage, transmission and retrieval systems of every kind. We could not live as we do without them. The components which convert, store and release ion flow into the circuitry of these devices are known as transistors, transformers and capacitors.

This discussion delves into a slightly technical area here, so non-scientific types will need to either become familiar with the fundamentals of electricity to understand what is meant or simply give it a possibility that what is developed in the next section is a true representation of the way such things actually operate. The discussion deals with such commonly used and seldom understood concepts as voltage, current, frequencies and resistance.

(a) Transformers convert voltage at one level of current (amperage) to either higher or lower voltage levels. When the voltage is increased, the amperage or current is proportionately decreased. A low voltage produced at a high current level can be transformed into a much higher voltage at a proportionately lower level of current or “power.”

(b) Capacitors: The decrease in amperage which accompanies a transformation of low voltage to higher voltage is often compensated for by a device known as a capacitor. In the most simplistic terms, capacitors “store” electrical energy until the amount of voltage and current reach a certain minimal threshold. When that point is reached, the entire store of energy is released all at once in a single burst.

The tantalum materials used in the West to manufacture such devices conform to certain standard rules which are commonly accepted by electrical engineers. These rules have only recently been stretched by new technologies and materials developed in the West. For the purposes of this discussion, though, it is safe to say that electrical engineers have long relied on these rules because they have always produced the same results when applied in the same way. Here's an example.

It is standard engineering fare which dictates that a transformer capable of accommodating one volt at one ampere of current across a grid of one ohm of resistance will be one cubic meter in dimension. If followed to its logical conclusion, this standard rule of electrical engineering would require that a transformer capable of supporting a laser burst device of the kind operated by the Soviet ground forces in the Afghan desert would have to be approximately the size of a building built on a base 100 feet to a side, nearly 150 feet high.

Surely such a device could not have been hidden from the AWAC's eye in the sky which can clearly photograph the letters on a license plate from 60,000 feet altitude, nor could it have been moved on the shoulders of ground troops without wheeled vehicular support. The fact that there was absolutely no trace of such a huge, massive transformer device (or any other kind of structure or vehicle which could be construed to serve that purpose) means that something else must have been used instead. Military analysts had absolutely no idea what it could have been.

Such a burst system cannot operate without a capacitor of some sort. A capacitive device capable of storing the amount of energy required to power a single burst from a laser cannon, made of the most advanced dielectric material known in the West, would have to have been equally massive and, further, would have to have been cooled by some sort of strategy which would have been instantly and unmistakably detected by the infrared cameras and spectroscopic scanners used aboard the AWAC's and the spy satellites which investigated the scene.

The practical requirements of such a system are best demonstrated by the massive equipment required to operate and cool the Super Conductor Super Collider linear particle accelerators recently designed by the United States and Japan. No evidence of any such capacitive device was recorded in either the Carpathian Mountains or the Afghanistan desert. How can we explain it?

Without going into any detail about how the technologies were developed, suffice it for now to say that the Soviet ground forces in Afghanistan were equipped with a prototype of a hand-held plasma beam accelerator, the likes of which had only been roughly imagined by American military analysts. The device relied on some innovative strategies. Among these were:

Energy Storage Devices: The power source for the Soviet light cannons was comprised of a back-pack array of specially designed energy storage devices. The closest thing we have in our vocabulary to compare to them is described by the term "battery." In the limited sense that these devices store electrical energy, they are batteries. Any other similarity to the batteries we are accustomed to in the West ends there. The literal translation of the Russian name for them is energy accumulators.

The batteries relied on in the West are based on the chemical properties of components which, when combined in certain configurations and proportions, interact chemically with one another. The result of this chemical interaction is that it creates both heat and a stream of liberated ions – electricity. In dry cell batteries, the process of chemical interaction is one way – once they have been expended, they are simply disposed of. It is estimated that more than 12 billion expended dry cell and lead-acid batteries are dumped into America's landfills every year.

Other batteries are designed and constructed so that the chemical reactions which liberate electrical current are reversible in some degree. These rechargeable cells are characterized by the lead-acid batteries which are used in automobiles and in commercial and industrial applications. Various strategies have been developed to make batteries relying on chemical reactions maximally effective, but the theoretical limits of effectiveness of such devices have surely been reached.

A consortium of aerospace companies working with NASA recently announced the development of an advanced sodium-hydride-based rechargeable cell which is the most efficient battery yet invented in the West. Unfortunately, it operates at an ambient temperature of 2000 degrees centigrade and, if allowed to reach temperatures outside a very narrow safe operating zone, will explode with the force of a small thermo-nuclear device of approximately ten-kiloton yield. It is not safe, but it is the best Western science has come up with.

The energy storage device developed by the I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, works on a completely different principle. Its construction is the result of a completely unique nonlinear quantum mechanical model which makes it possible to create crystalline lattices of absolutely pure carbon (and other materials) in sheets of infinitely variable dimension which are exactly one molecule thick. The crystal formation techniques and the whole body of new science which allows for their creation in the first place are completely unknown to Western science.

The mono-molecular sheets deposited by this technique are wrapped back and forth on top of each other, more than one million times per millimeter, and are separated from each other by a distance of less than one atomic diameter. At this level of construction, the material becomes subject to the rules of quantum mechanics which are almost entirely probabilistic. That means a whole atom of carbon (or almost anything else except an electron or photon) will not fit in the space which separates the lattice sheets.

When viewed under an electron microscope, the sheets produce a pattern which looks for all the world like an endless field of four-sided pyramids, connected base to base, on a single plane, with the tips of the pyramids protruding endlessly, uniformly upwards. When wrapped back and forth on top of each other, these sheets of pure carbon crystal, made of carbon molecules shaped like trillions of identical tiny pyramids, all arrayed endlessly in identical formation, are positioned so that the tips of the pyramids on the bottom sheet are matched with the tips of the pyramids on the top sheets. What remains between the pyramid tips are open “spaces” or energy wells.

The quantum physics which describes the characteristics of the energy wells created between the layers of crystalline lattice is largely unknown to Western physicists. The Soviet model predicts with a high degree of probability that the quanta of energy referred to in the West as electrons (and, in some cases, photons), the stuff of which electricity is made, will, when introduced to the lattice structure, search, find and fit into the energy wells with military precision.

During the recharging or loading phase, the energy storage devices made of the crystalline lattice material channel one electron at a time into each well created by four carbon pyramids on the bottom layer and four carbon pyramids on the top layer. Because the rules of quantum mechanics which operate in this tiny environment demand it, each electron or quanta of energy has a certain polarity, spin and “color” (and other mathematically defined characteristics) which must be accommodated if it is to find, fit and stay in an energy well. Interestingly enough, when a current is applied across the lattice-work structure, the electrons behave precisely as nonlinear quantum mechanics predicts they will. They flow much like a fluid into the lattice field, then separate into individual energy quanta and spin into the last energy well in each layer, automatically adjusting their individual spin, polarity and color to match their characteristics to fit the requirements of each well, until the lattice is full.

Because no chemical reactions are involved in the process of marching electrons into or out of the energy well fields, there is no resistance in the circuit. In the absence of resistance, the electrons fill the wells at light speed, never missing a space, automatically adjusting polarity, spin and other characteristics, and creating no heat. The amount of time required to “charge” such a cell is less than 5% of the time required to recharge a conventional chemical battery of similar voltage and current.

The validity of $E = MC^2$ is called into question by the way these devices function. When the battery is fully charged, it actually demonstrates more mass than when the energy storage device is empty or discharged. The laws of quantum mechanics relied on in the West state categorically that this is not possible. It is the answer to the question, “How much does a beam of light weigh?”

According to the Soviet model, this is precisely as it should be. When this phenomenon was first demonstrated to scientists in the West who were testing the energy storage devices at INEEL in Idaho, they were thunderstruck. The quanta of energy, or electrons as we refer to them, which are poured into the crystalline lattice demonstrate characteristics of mass even though they are bundles of pure energy sitting in stasis, literally at rest. The characteristic of mass is verifiable – you can measure it by weighing the energy storage devices before and after they are charged. When they are charged, they demonstrate appreciably more mass than when they are fully discharged.

If this is confusing to you, to suggest that pure energy can be shown to demonstrate verifiable mass while at rest (in stasis), perhaps you can begin to appreciate how fundamentally different the physics of all this is when viewed in the terms of Einstein’s classic equation $E = MC^2$.

The existence of this technology clearly is proof positive that not only does energy demonstrate the characteristics of mass, but it does so in a state of non-motion or stasis, sitting idly in an energy well. A state of stasis is a very far cry from the terminal theoretical velocity required by the constant in Einstein’s equation, equivalent to the square of the speed of light.

The scientific implications of this phenomenon are truly staggering. At very least, the verification of mass as a property of energy quanta at rest suggests that Einstein’s theory of relativity may be altogether incorrect as a means of describing the dynamics underlying the real nature of the material world and its relationship to energy.

The existence of this technology suggests, at very least, that energy and mass are equivalent characteristics of all things which are manifest in the material world. It is this fundamental contextual difference which distinguishes the Soviet model of quantum mechanics from the Western model. "The proof of the pudding," they say, "is in the eating."

Theoretical physicists may argue endlessly about the validity of the assumptions relied on by the IPMS scientists to develop their unique sciences, technologies and materials. But they cannot argue about the existence of the materials which have arisen from that context. They are as real as they can be. And they are unlike anything ever seen or contemplated in the West.

In the same way energy quanta stored in the energy wells of crystalline lattice materials demonstrate complete mathematical satisfaction with staying there indefinitely, when allowed to flow out in the form of an outgoing wave of electrical discharge, these quanta (electrons or photons, as you prefer) march right back out without resistance at light speed through a closed circuit to another use.

When these energy storage devices are discharged, they demonstrate other attributes which are not known in Western science, and which, because of the very nature of the chemical reactions we are accustomed to, are not theoretically possible according to conventional wisdom. Conventional chemical batteries, when fully charged, produce electric current at a useable voltage for perhaps 30-40% of the total discharge cycle. After that, either the voltage or amperage (or both) drop to low enough levels that the devices being powered by them cannot recognize or use the electrical current which remains available. At that point, the batteries either have to be recharged or replaced.

The crystal lattice batteries have been demonstrated to produce precisely the same current and voltage levels throughout 98% of their discharge cycle. They produce no heat during discharge, regardless of the rate at which they are discharged. This is absolutely contrary to our experience with batteries, transformers or capacitors. Until the crystalline lattice materials were specifically engineered to register an electronically detectable blip at 95-96% discharge, it was impossible even for the scientists who developed them to distinguish a partially discharged battery from a fully charged one.

There is another characteristic which is intrinsic to energy storage devices which comes into play here. It is a characteristic of materials which is described as energy density. For non-scientific readers, this concept can simply be construed to mean the amount of measurable electrical current which can be produced by any device or material when its mass is converted into electrical energy. The concept is expressed in mathematical formulas as the number of watts and hours of consumable energy which can be converted from each kilogram of material. It is expressed as watt-hours per kilogram.

Here is an example we can all understand. Consider gasoline. When converted into electrical power at 100% efficiency, gasoline has been theoretically shown to have an energy density of between 550 and 600 watt-hours per kilogram of mass. In easy terms, that means that if one kilogram of gasoline were converted into pure electricity at 100% efficiency (with no loss due to heat, resistance, waste, etc.), the reservoir of energy would power a 100-watt light bulb for 5.5 to 6 hours.

Most of the high-end conventional automobile batteries of the lead-acid variety operate at an energy density rate of between 20-25 watt-hours per kilogram. The best NASA sodium-hydride batteries operate at 48-50 watt hours per kilogram. The energy accumulator devices which have been tested at the Idaho National Electronic Laboratories have demonstrated energy densities of between 850 and 1050 watt-hours per kilogram.

What does this mean in practical terms? It means, for one thing, that for the first time in the history of science an energy storage device has been created with an energy density which is greater than gasoline or any other refined fossil fuel. It means that devices which rely on these energy storage technologies can theoretically be designed to store and deliver clean electrical power at higher rates of efficiency than any fossil fuel ever discovered.

The global implications of this technology are irresistible. It means, among other things, that the technology exists, right now, to eliminate the need to build another nuclear power plant or dam another river to produce hydroelectric power. It means we can no longer justify burning another ounce of petroleum, another piece of coal, another cubic centimeter of natural (or unnatural gas) or another tree to produce heat, electricity or power for any purpose, including transportation.

When coupled with the plasma beam devices being tested by the Soviet infantry units in Afghanistan, these energy storage devices operated at such unbelievably high rates of discharge efficiency that they made it possible to repeatedly induce huge electrical discharges in a highly mobile configuration.

The same technologies which were used to produce the energy storage devices have been adapted to create transformers and capacitors with previously unimaginable performance characteristics. Instead of adhering to the conventional western model of “One Volt at One Amp across a resistance of One Ohm equals One Cubic Meter,” the Soviets have produced a capacitor which measures more than 1200 farads at 10,000 amperes in a package the size of a tuna sandwich.

When tested by the Technology Materials Testing Laboratory of the Defense Department at the Pentagon and at the I.N.E.E.L. in Idaho, totally new testing equipment had to be designed, engineered and constructed just to test the devices. The scientists at those laboratories had never tested anything like these materials before.

Instead of having to house transformer and capacitor devices in a series of trailers towed by diesel tractors or huge fixed-base facilities, the operating apparatus which supplied transformed power and high intensity capacitive bursts to the light cannons weighed less than ten pounds and could easily be transported in a backpack by a foot soldier.

One final question remains unanswered. “How did the energy storage devices, once dissipated or discharged, become recharged in the field, especially in the dark of night?”

The back-pack plasma beam device detected by the AWAC’s during limited combat use in the Afghanistan desert was powered by energy storage devices constructed of crystalline lattice materials. After each laser burst, the energy storage devices were recharged every 12-15 minutes (nearly 45 minutes in the dark of night – the residual ambient heat of the desert is a very efficient source of infrared energy) by sunlight, collected and converted to electricity by four-foot square panels of “solar cell” material arrayed on a pole like a flag, each weighing less than ten ounces.

The electrical energy stored in the back-pack energy accumulators was transformed into enormously high voltages and released at almost unbelievably high current levels when the super-capacitors were sufficiently charged. The beam of “light” detected by the AWAC’s crews was a field of plasma, flowing at the speed of light and demonstrating characteristics of mass (and, therefore, kinetic energy). The phenomenon represented by these bolts of lightning are not comprehensible according to the model of quantum mechanics and plasma physics currently being used in the West.

Battery packs utilizing these energy accumulator materials have been designed, produced and tested which provide more than 14 hours of continuously transmitted power on a single charge to conventional hand-held cellular telephone devices. Similar improvements in conventional battery/energy storage capacity have been developed and are being tested for such devices as video camcorders, laptop and portable computers and other similar consumer, commercial, industrial and military applications.

IPMS research in the field of layered crystals has thus led to the creation of capacitors with a very high level of capacitance (measured in farads). This technology is based on a revolutionary production technique which forms polarized surfaces of one molecule thickness, separated by less than one atomic diameter of space, held together by weak Van der Waals energy forces. The special properties created by these layered crystalline structures provide previously unimaginable internal surface areas. Super capacitors are constructed of layered materials numbering more than one million dipole sheets for each millimeter of crystal thickness.

These devices provide a virtually limitless number of charge-discharge cycles at astonishingly rapid charge and discharge rates. The potential impact of such devices on all electronic equipment currently being produced is incalculable, since virtually all electronic devices rely extensively on the West’s state-of-the-art tantalum capacitance technologies.

At present, IPMS has on hand (among others) a super-capacitor roughly the size and dimension of a sandwich which develops more than 1,200 farads at 10,000 amperes. It also boasts production of a battery whose active mass energy density exceeds 850 watt-hours per kilogram. For the non-scientist (and all the rest of us as well) this means that a “battery” has been produced which, for the first time in history, produces more power per unit of mass than any fossil fuel ever devised.

Prototype testing of larger-scaled devices designed specifically for providing power to electric vehicles is currently underway. Prototypes are expected to be capable of sustained highway speeds of up to 70 miles per hour with a range of 525 miles on a single charge. The power plant for this application has been recently improved by the inclusion of a proprietary solid-state ceramic electric motor which weighs 7.2 kilograms and produces 100 horsepower on 12-volt direct current. For comparison, an electric vehicle employing a 100-horsepower electric motor performs the same as with a 500-horsepower gasoline engine.

If these performance attainments can be sustained in broad-based applications, electrically powered vehicles could be produced which would meet or exceed virtually all performance characteristics currently available in equipment relying on internal combustion, petroleum-based engines. Gasoline/diesel-powered transportation devices can be replaced by cleaner, more efficient and significantly less expensive alternatives.

The world market for current energy storage applications which will be superseded by these energy storage technologies is estimated to be in excess of \$24 billion per year (1991), exclusive of electric vehicle considerations.

Joint ventures of the IPMS with more than a dozen private sector companies to develop useful energy inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

IPMS: High-Temperature Gas Plasma Detonator

Since its establishment in 1951, the I. N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, has been secretly developing, testing and producing more than 130 new materials in 30 general materials categories. IPMS scientists have developed a whole new science based on their unique model of plasma physics. With their invention of a high-temperature gas plasma detonator, strategic metals and other commonly used materials can literally be sprayed onto the surface of other, previously incompatible materials. These gas plasma detonation spray technologies make it possible to create permanent molecular bonds between materials which could never be married together before.

Chromium materials of an entirely new type have been developed to provide high-purity cathodes and targets. Moldable, flexible chromium (a type of material never before available) can now literally be sprayed to conform to widely varying shapes for linings (i.e., to reduce internal pipe corrosion), provide nuclear rod protection, and highly effective space hardening. These techniques have been perfected and used in practical field applications for more than 35 years.

The unique nature of these technologies may not be readily apparent to those not intimately familiar with the commercial and industrial uses of such materials. In more ordinary applications, however, the importance of being able to provide solid targets, stand-alone ingots of ultra-pure chromium, scandium, magnesium and other exotic materials, cannot be overstated. Today, the state-of-the-art in the West only allows chromium, for example, to be transported and used while in solution with other highly toxic liquids. Western scientists do not have the ability to produce free-standing ingots of any of these materials. The manufacturing models which rely on Western science make it clear that it is not theoretically possible for such materials to be produced in a free-standing form.

Similar materials coupled with the technologies of high-temperature gas plasma detonation have been developed for coating internal combustion engine parts to extend life cycle. They have been applied to enhance the performance characteristics of memory elements for computers and to support an extraordinary variety of totally new electronic circuitry. This technology has been successfully used to produce computer circuit boards whose operating components are intrinsic to the circuitry, thereby eliminating the utility or need for soldering or pin housings. The use of scandium, a very rare and exotic element available only in the Carpathian Mountains of Ukraine, make much of this possible in ways not anticipated by Western science.

IPMS-Kiev scientists have developed a series of diamond and cubic boron nitride powders which are smaller and more uniform than any other manufactured today. Also available in this family of materials are very fine (sometimes mono-molecular) ultra-high purity powders and liquids of refractory metals including chromium, vanadium, tungsten, scandium and molybdenum. These powders can literally be sprayed as a plasma field to form continuous, seamless, flexible molecular bonds with host surfaces without electrolytic processes. These materials demonstrate clearly superior performance in tool hardening, cutting edge equipment and polishing.

IPMS-Chernovitsky scientists have developed an entire family of previously unknown technologies based on woven fibers made entirely of 100% pure basalt fibers (lava rock). This totally new technology allows for the production of flexible, weave-able threads. These fibers are fundamentally resistant to heat, demonstrating a softening point in excess of 800 degrees centigrade. Fibers of this material have been produced in diameters of less than 3 microns (millionths of a meter), more than 10 times smaller than a human hair.

Allied Signal Corporation in the United States has attempted unsuccessfully for more than twenty-five years to produce a single fiber of a similar type material. Today, the Ukraine has the capacity to produce these raw fibers at the astronomical rate of 100 tons per month.

These materials are currently being produced in applications involving brake shoes and clutch plates with extraordinary performance characteristics. These materials sustain only about 15% of the wear currently attributed to asbestos-based materials used in identical applications, with the added advantage that they are environmentally friendly (non-toxic and non-polluting). In current applications, parts fabricated of basalt fibers actually operate at higher efficiencies as surface temperatures are increased, up to operating temperatures exceeding 800 degrees Centigrade.

Basalt fiber materials have also been shown to demonstrate superior insulating capabilities over commercially available materials in applications involving both temperature and sound. They have been used in applications related to mine roofing, trays of water cooling systems and as both gas and fluid filters. A four-inch deep pile of 5-micron filaments has been shown to demonstrate heat insulating properties in excess of R-65, which is nearly four times the efficiency of glass fiber equivalents, at one-half the weight.

Further, basalt fibers have been woven together with threads of tungsten, chromium and other strategic metals to produce cloth materials with previously unheard of characteristics. Woven metallic threads and fabrics of this type have never before been produced anywhere in the world.

This writer, Gary Vesperman, has included in his "Advanced Self-Powered Electric Vehicle Concept" (see <http://iic.de/docs/GVShortSummaries1-46a.htm>) a monocoque (unibody) basalt/carbon fiber foam body/frame. The IPMS-manufactured basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. A test vehicle made with basalt/carbon fiber foam parts was reportedly the only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

To utilize this technology to create an automobile enclosure, three technologies are needed:

1. The basalt fiber technology can only be found at the IPMS. There may still exist some spools of the stuff in or around Kiev. The principal value of the material is that it has a softening temperature of 805 degrees centigrade.
2. The Russians use powdered metallurgy to alloy their strategic metals – the ideal mix of metal powders would be aluminum and magnesium. Since both can be found in finely particulated powders and when mixed together in the right ratios, these two metals form a material which is utterly resistive to corrosion and which has excellent tensile strength.
3. The powdered metals are mixed in a chamber like dry cake mix and then applied using a third technology – in IPMS documents, this technology is referred to as a "High-Temperature Gas Plasma Detonator". The metal powder is poured into a ceramic container, which funnels it into a specially designed high-temperature containment vessel which is also surrounded by super magnets (see IPMS-Kiev and Arzamas-16: Super Magnets elsewhere in this energy invention suppression compilation), arranged in a very precise order to create a compressive effect. When the powdered metal is brought into the chamber, high voltage, high pressure and extreme magnetic fields reduce the metal powder to a plasma, which is then expelled through a nozzle and onto a target – in this case, the woven basalt fiber which creates the shape of the vehicle.

When the metallic plasma collides with the basalt fiber material, it has a temperature of about 1600 degrees centigrade. This causes the basalt fibers to soften and partially melt – but the cooling gradient for this material is so steep that it cools almost immediately below 800 degrees centigrade, at which point the fibers reconstitute. This creates a basalt fiber-reinforced metal-alloyed shell which is extremely strong, very light weight and can be polished to a high sheen.

This is the technology the Russians have used for 35 years to create fuel cells for their huge rocket boosters – and it is the reason their boosters are so light, have no gaskets or seams and can be reused over and over again. It is primarily because of their extensive use of these integrated technologies that the Soviet space program has been able to consistently deliver larger payloads into orbit than any other nation since the space race began in 1957.

Joint ventures of the IPMS with more than a dozen private sector companies to develop useful inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Remy Chevalier (Reporter): NiMH Batteries; Solid-State Lithium-Ion Batteries

The best Nickel Metal Hydride (NiMH) batteries are no longer on the market. Why? Because either Cobasys has no intention of ever mass producing powerful NiMH automotive packs, or they just don't know how, even though they own the patent. The cells they displayed at the last EDTA conference were bulky at best, and certainly a million years away from the level of engineering exactitude Japanese automakers expect from their suppliers.

Essentially Matsushita took some of the information from their original, but mediocre patents and developed a functional NiMH battery that gave a range of 160 miles to the General Motors EV-1 and 110 miles to the Toyota RAV4 EV. This Panasonic M95 was also getting 1-2000 deep cycles and 100,000-150,000 miles on a battery pack. Something the oil companies and Detroit automakers don't want on the market, despite the Fortune 500's good mood for natural capitalism.

So now that the best NiMH battery technology for EV's has been removed from commercial circulation, Toyota, Honda and Ford are stuck using inferior NiMH battery technology in their hybrids. Toyota has indicated it will take up to 4 years for the next generation lithium-ion (Li-ion) battery chemistry to be as reliable and affordable. Till then, it's touch and go as Toyota can't crank out enough hybrids off the assembly line to meet demand, especially in deliveries to corporate fleets, taxicabs and limousine services.

State-of-the art lithium-ion chemistry is in limbo at some California-based company who has managed to secure the exclusive production rights to the only Li-ion technology that really counts, roll-to-roll solid-state battery production. That's right; no more liquid chemistry... no leakage, no over heating, no explosion, extreme light weight, easy mass production! Just like printing mylar off a printing press! Just like laminating plastic photovoltaic sheets!

Instead more conventional liquid Li-ion chemistry is being pushed feverishly. Toyota is buying out major Li-ion startups in Asia. Other Li-ion battery companies like Valence, Electrovaya, Kokam, LG Chem have attractive polymer Li-ion batteries, but they are still all based on the older liquid chemistry model, and therefore more expensive and more complicated to produce.

The chemical genius who came up with the Li-ion solid-state polymer roll-to-roll protocol is a professor at MIT who does not own his own technology. MIT owns the technology, and it is the MIT licensing office which gets to decide what companies do or do not get awarded these licensing rights. This revolutionary technology has been in limbo since 1995!

Is it because MIT is cashing checks from the Rockefeller Bros. and the Ford Foundation? Is it pure incompetence? Is it a repeat of the cold fusion debacle Gene Mallove wrote about in his book "Fire from Ice"? It's hard to tell as everyone involved is terrified to talk about it openly, which is why I am not mentioning any names. Frequent visitors to the Electrifying Times website know exactly who I am talking about!

My suspicion is that certain forces within the military, and now Homeland Security, do not want solid-state roll-to-roll Li-ion batteries from entering the civilian marketplace, the same way you can't buy Green, a special duct tape developed for Groton Electric Boat workers to strap metal parts, so strong it instantly bonds to the skin, requiring surgery if accidentally touched.

What a poor boy to do who wants to save the planet if the powers-that-be won't give him the affordable batteries he needs to make a 0 to 60 in under 3 seconds EV with a 200-mile range on a single charge? That's the question we should all be asking ourselves instead of lamenting about who killed the electric car!

The batteries are there, being manufactured for military applications all over Connecticut! If you want plug-in hybrids and 100% pure EVs so you don't ever use a drop of gasoline again, with equal to if not better performance than any liquid fuel engines, then ask yourself why MIT, since 1994, has done very little to get their solid-state Li-ion roll-to-roll battery patents into production. Don't follow the money; follow the trail of misappropriated and shelved patents.

Congress needs to put back into question the entire review process of patent law, and its consequences on environmental health, by imposing strict fines to whoever is caught buying patents for the sole purpose of keeping its protocol out of commercial circulation. (Excerpted from "Who Killed Better Batteries?" by Remy Chevalier, *Electrifying Times*, spring-summer 2006, Vol. 10, No. 1, www.electrifyingtimes.com.)

(Erik Masen adds more details in his "Suppression of Quantum Leap Inventors" *Electrifying Times*, 2007, Vol. 10, No. 2)

Chevron-Texaco bought into a Detroit company, Stanford Ovshinsky's Energy Conversion Devices (ECD), and changed their name to Cobasys. ECD held the original patents on nickel metal hydride battery technology, but never successfully marketed a turnkey NiMH battery for major markets. They did sell a considerable amount of NiMH batteries to GM for the EV1. Panasonic came along and refined this NiMH battery technology into an indestructible battery of higher energy density and longer life. That enabled the Toyota RAV4 EV (electric vehicle) to get 80-120 miles out of a battery cycle, and get over 100,000 miles of battery life out of this improved NiMH battery. ECD-Cobasys filed a lawsuit of patent infringement against Panasonic and won. This action essentially shutdown the import and use of the Panasonic M95 NiMH battery that was so successful in making EV's practical for the GM EV1, Ford Ranger Electric PU, and the Toyota RAV4 EV. As a result the proven very popular M95 90-ampere-hour NiMH is not for sale in the United States. ECD-Cobasys also put heavy licensing fees and restrictions on the NiMH battery used in the Toyota's present hybrid fleet.

Paul M. Lewis: Airmobile

In 1936, Paul M. Lewis designed a three-wheeled car that looked a lot like the present Volkswagen bug. He called it the "Airmobile", and his original model is still on display at Harrah's auto Museum in Reno, NV.

Though Lewis had not known what Dr. Ferdinand Porsche was doing in Germany, the Lewis Airmobile was amazingly similar to the popular VW beetle.

Both vehicles were low cost, simplistic in design, used horizontal opposed four-cylinder air-cooled engines, transaxles, independent suspension systems and unitized body construction.

When World War II came along, it sent VW soaring in Germany, but killed the Airmobile. Porsche fit into the German establishment, but Lewis was a "crackpot" inventor and a pain in the neck to the economic status quo.

The VW beetle's popularity proves that Lewis' original idea was valid and worthy, despite the laughter from Detroit.

The Airmobile was driven out of business in the late 1930s by the Securities and Exchange Commission and the U.S. Postal Department, who have been called bureaucratic flunkies for the oil-auto monopoly.

"I was harassed for two years, and they refused to let me sell stock in my company on the pretense they were investigating possible wrongdoing." Lewis said. "After I was beaten down, they sent representatives to tell me they found nothing wrong, and I could sell stock. A man can't make a dead horse walk."

After losing the Airmobile, despite driving it through 26 states for more than 45,000 miles without a repair, Lewis went from Denver to Los Angeles, where he continued inventing.

Joel McClain and Norman Wooten: Magnetic Resonance Amplifier

On December 12, 1994, Joel McClain and Norman Wooten, two Dallas inventors, discovered that a magnetic resonance amplifier could be capable of over-unity gain energy conversion. The electrical output of their prototype was five times the electrical input. They made a point of publicizing their invention as widely as possible via the Internet right away so as to forestall possible suppression. Since then, they have authored articles on the magnetic resonance amplifier in *Electrifying Times*, *Extraordinary Science*, and *New Energy News*.

A personal friend of Newt Gingrich became very interested and arranged for the Physics Department at Georgia Institute of Technology to experiment with it. They were able to increase the gain so that the output is 18 times the input. Since they could not explain this according to conventional physics, they refused to publish their results for fear of losing the respect and esteem of their peers.

Gingrich had been following the MRA with keen interest so when his friend told him of the problem with Georgia Tech, Gingrich arranged for the federal funding of Georgia Tech programs to be cut off. The President of Georgia Tech who had been in the dark on all this began getting phone calls from enraged Georgia Tech professors. Then the Physics Department published their findings.

At the International Tesla Society Symposium in Colorado Springs (July 20-23), McClain and Wootan gave a lecture on their magnetic resonance amplifier. The oscilloscope waveforms of output vs. input they showed were very odd. They sort of loop around themselves.

A few days after the conference, Wootan's two-year-old boy had been abducted, Wootan was running for his life in Canada, and McClain was in hiding.

The magnetic resonance amplifier's claimed over-unity power conversion efficiency was later shown to be a measurement error. However, a past issue of *Electrifying Times* claims that Scott McKie has invented a solid-state over-unity electrical energy converter with an input of 15 volts, .438 amperes (7.25 watts) and an output of 34 volts, 127 amperes (4318 watts). McKie's converter apparently is a more advanced version of the magnetic resonance amplifier.

Al Wordsworth: Electrical Generator and Advanced Carburetor

The details are sketchy and second-hand, but inventor Al Wordsworth had to contend with harassment of both his advanced carburetor and electrical generator. His generator had an input of 3 amps at 12 volts and an output of 32 amps at 6 to 8 volts. He died some years ago. It is believed his generator design is lost.

John Richardson: 90+ MPG Carburetor; Atomic Isotope Generator

John Richardson invented a "carburetor improvement/adjustment mechanism" which enabled autos to achieve 90 to 100 miles per gallon of gasoline. Richardson also invented an "atomic isotope generator", about the size of a washing machine, which could electrify a 5,000 sq. ft. house or building for over 100 years at a minimal up-front cost. Vicious threats from big business to his life and his family persuaded Richardson to hide the prototypes and to stop further work. (Source: <http://center-for-natural-health.com/articles/richardson.html>)

Fish/Kendig: Variable Venturi Carburetor

In the late 1950's the Fish/Kendig Variable Venturi carburetors got some very interesting mileage figures. John Robert Fish had invented a carburetor that double the gas mileage of Detroit's standard carburetors. When Detroit snubbed his invention, Fish tried selling his invention through the mails to do-it-yourself mechanics. The Fish carburetor even got into production on a small scale.

He was growing successful when Post Office Department agents swooped down on him for "investigation of fraud". Several years later he was exonerated of any charges. But until then the mails to and from his business had been stopped during the lengthy "investigation". He was wiped out financially.

In the early 1970's a young college student (name unknown) entered his Mercury "gas hog" in the California Air Pollution car race and won hands down. He was using the Kendig Variable Venturi carburetor that a small company (name unknown) had manufactured in Los Angeles for racing cars.

Within a week the student was told to remove the carburetor since it wasn't approved by California's Air Resources Board (CARB). His car had reduced pollution and doubled the gas mileage (for that model). This may have been suppression conducted by the Air Resources Board. The movie "Who Killed the Electric Car?" accuses CARB as one of the "gand of killers" of GM's EV-1 electric car.

Dick Belland: 100 MPG Carburetor that Runs on Gasoline Fumes

In 1979 Dick Belland and his brothers and a nephew were experimenting with an automobile carburetor which ran on gasoline fumes. They stopped when Belland received telephone threats to be fitted with a pair of cement boots. For story see <http://www.byronwine.com/files/Dodge%20truck.pdf>.

Ron Brandt: 90 MPG Carburetor

Ron Brandt is the inventor of the perm-mag motor. He is now of retirement age. He has personally told this writer, Gary Vesperman, that he is scared of working on over-unity free energy machines.

When Brandt was a young man, he invented a 90-mpg carburetor. He was paid a visit by a man from Standard Oil, another man, and two men wearing U.S. Government Marshal uniforms. They told him that if he ever made another carburetor, they would kill him, his wife, and two young children. Brandt was quickly persuaded that his life wasn't worth a "damn" carburetor. He happened to think to memorize the badge numbers of the two US Marshals and so had an attorney in Washington, DC check with the US Marshal's office. They had no record of the two badge numbers.

Welton Myers: Myers' Efficient Carburetor

Welton Myers, Director of Technology for Pure Energy Systems, does not have a resume, as he has always been self-employed.

I, Sterling D. Allan, received the following information from him via phone interview today.

Though Welton attended Cornell University, with a major in Agricultural Engineering, that is not of significance to him. It didn't take many years before he came to the realization that the mainstream science he learned there is full of errors (techniques deplete soil of nutrients). He completed there in approximately 1954.

From 1954 through 1960, Welton farmed (mainly corn) and raised 50 dairy cows. Towards the end of that time he also dabbled in logging and mining.

From 1960 through 1975, he laid the foundations for what today is known as Habitat for Humanity. He set up non-profit programs in New York and California, taking groups of ten families who helped each other build homes, and learned skills in the process, which they could later use in a trade.

He helped build and renovate over 1000 homes during this time. Better Rochester Living is the name of the first program in New York, and Self Help Enterprises (SHE) was the name of his first program in California.

In 1975, he began building homes for profit when his funding dried up for the non-for-profit program he was doing. He built around 25 homes in the \$100k range.

Then in 1978 he had a serious accident that put him out of commission for physical labor until 1984. He was rear-ended by a car going 120 mph. "This was one of my most creative periods" he said, ironically, because it was also during this time that he had a very difficult time remembering the simplest things.

That was when he did the carburetor project in which he transformed a car to get three times the mileage. The organization he founded along with Bill Cope, "Knowledge is Power," held weekly seminars at Robert Wesley College, where people came to learn how to convert their cars to get three times the gas mileage.

That project came to a halt when his car was sabotaged, the pressure release valve being clamped down tight, causing his car to explode while he was driving it. The next day, as the car sat on blocks in his drive way, a trailer pulled up, and some men who told Welton's wife they were hauling the car for Welton (not true), towed the car away; and Welton never saw it again.

The blueprints are held by an associate today, but Welton does not recommend the design because of the high pressures involved (3000 – 6000 PSI), which could be dangerous if the car is in an accident.

It was also during that time (1983) that he built a magnetic motor along with Bill Cope and an inventor who said he had been involved with Tesla. The day after they announced that they were ready to open the technology to a public offering, the laboratory was raided, their equipment smashed, and their inventor was threatened at gunpoint to leave the country, which he did. That inventor had also been involved with John Searl and witnessed his flying saucer technology.

Welton later located the inventor in California, but he had Alzheimer's disease by then and couldn't remember anything.

Also during this time, for employment on the side to help cover expenses, Welton worked in a laundry designing the mechanical end of an automated system.

In 1984, Welton returned to working with COOP housing, starting with ten "slow" individuals who were not able to hold down jobs, and making a construction crew of them. At the end of two years, they built 7 homes for 7 of them. The other three were not able to get funding together for a mortgage. With some of this crew, he then went on to build more expensive homes, building 10 homes at a time, for example, in a new subdivision. Many of the homes were in the \$400 - \$500 range. They also installed around 100 solar panel systems during this time.

Then early in the 1990's he began to get involved in the patriot scene, helping people understand some of the inherent problems with today's tax structure, and helping them protect their assets. He was involved in Cleon Skousen's seminars with the National Center for Constitutional Studies. He learned how to create corporate shells with strong layers of protection.

Also during this time he began traversing the country meeting inventors and reviewing their inventions, to help facilitate their progress toward the market.

I met Welton about two years ago, and it was actually his phone conversation with me that spurred me to begin a "free energy" listing on my greater things website, which has grown into what it is today. We have been close friends and business associates (www.perentech.com) during that whole time.

I know Welton to be one of the brightest minds around. You would never know he's past 70 to speak with him on the phone. He remembers details of conversations and technologies better than I do, at nearly half his age. I look at him as one of the "grandfathers" of the Free Energy movement. --- Sterling D. Allan.

George Wiseman: Fuel Savers

George Wiseman is the President and Chief Executive Officer of Eagle-Research in Oroville, Washington (see www.eagle-research.com). George's research organization verifies, develops and distributes practical energy-saving methods and devices. Because he sells fuel-saving plans and devices, he of course is a target of suppression efforts that he describes in an email (copied below with deletions) that is displayed in <http://www.zpenergy.com/modules.php?name=News&file=article&sid=316>.

Date: Fri, 18 Apr 2003
From: George Wiseman
Subject: Re: Re: Suppression

>> I realize that 90 percent of the 'physicists' in these groups are simply here to block progress, to
>> maintain the status quo of disinfo and cointel -- preserve the monopoly of western deception and
>> newspeak -- to regurgitate the same NOTHING they have been programming us with for ten decades.
>
>Do you mean the same "NOTHING" that has made possible all of the following technology that
> conspiracy addicts like you take for granted?

Whoa there... The problems and perceptions here are extreme, yet both valid in context.

I don't want to spark a big discussion, for which I do not have time nor interest. But I just couldn't resist putting in my 2 cents because I see innocence and ignorance being displayed.

There have obviously been major advances in some fields, like electronics and medical science. Much worthwhile has been accomplished. But I submit that it has either been in spite of suppression or in areas where suppression doesn't exist.

For example; computers wouldn't have been implemented to the public, bringing down their cost and fueling greater research if lone inventors hadn't developed both home computers and operating systems that would have put IBM out of business. IBM was caught unprepared and did what they could to reestablish control of the new market.

Medical science is so dominated by 'vested interest' that they are trying to even label vitamins as 'drugs'. Cures for diseases are often ignored and even actively suppressed in favor of techniques that just treat symptoms and incidentally make much more money.

In other fields we are still using technology virtually unchanged (with only cosmetic changes) for over 100 years, like internal combustion. This is a field in which I have some expertise and where I have personally experienced suppression of several different kinds. I have given a few of the details in my newsletters: <http://www.eagle-research.com/newsletter/newsletter.html>.

The electrical power grid, radio, robotics, and the basis of much of the medical diagnostic was invented and implemented by Nikola Tesla around the beginning of last century.

I can prove beyond a reasonable doubt that 'Vested Interest' does suppress technology that would cause their 'investments' to produce less income. Depending on the particular technology, such as fossil-fuel consumption, vested interest could even be governments.

I have personally attended a meeting between industry and a trade school where the topic was what and how to train the students. I can verify that industry as 'vested interest' wants the students to ONLY fix what exists. They are taught what to think, not how to think. These meetings take place on a regular basis because schools need the 'donations' from industry and they want their students to be 'employable'.

I'm sorry to say that my experience is that this 'what to think' effect is spread throughout the education system, including professions such as 'physicist'. Some are open-minded enough to actually look at hair-brained 'alternative energy' ideas and try to educate when they see an idea that won't work. Most of those that discover an idea that will work simply disappear. I haunt old bookstores because I find them gold mines of information that has been eliminated from current teaching.

I have never had a legitimate customer complaint, yet my business has been investigated several times by various U.S. Government and 'public protection' agencies, because I sell 'fuel-saving' technology. I have had my own telephone company tell me that my telephone was tapped. I have had the post office 'lose' over \$50,000 worth of customer orders. These harassments are only a few of the barrage of suppression techniques that I live with everyday.

I could go on and on, easily getting labeled as a "conspiracy addict". Since I am an inventor in these technologies and have felt the suppression in many ways, I believe I have the right, and perhaps obligation, to tell people who live in comfortable niches that the suppression they are not directly feeling, is in fact affecting their lives.

We all could be living very much higher standards of living if only technologies that already exist were not suppressed. In the course of my 'alternative energy' research, I recently developed a 'spin-off' technique, using technology invented in the 1800's, to inherently eliminate the 'phantom load' and 'inductive losses' experienced by most transformer applications. In a lot of cases, particularly in small appliances, this would cut power consumption by over 50%. This single technique would save billions of watts. I can't even imagine how much power it would have saved if it had been implemented from the beginning of using AC electricity.

Anyone who thinks that suppression doesn't exist has simply not looked at the facts. For example; spending only a day in the patent office, I found that in the last 25 years there have been over 3500 fuel saver patents – not one of which is on the market. This is not because fuel savers don't work, because I prove everyday that there are fuel savers that do work. It is because the suppression mechanism is in place and 'self-propagated' by people who have no idea that they are part of the process. They are only propagating what they were taught to believe.

I don't dwell on it, but suppression is very much a reality in my life. It is why I structure my business as I do. I am a self-employed inventor and have been since 1984. I do not patent. I distribute full facts on my developments directly to the public. I do not sell 'devices' that trigger the major suppression responses.

That's my 2 cents. I felt obligated to say it. It may not be fair, but I will not respond to discussion on this subject; it's already taken two hours of my time to compose this email.

Thanks for reading.

George Wiseman
President, CEO of Eagle-Research
<http://www.eagle-research.com>

Tom Ogle: 100+ MPG Oglemobile

Tom Ogle's Oglemobile ran on fumes extracted from a heated tank in the trunk without a carburetor (see US patent 4,177,779). The media witnessed a test of a 4,600-pound 1970 Ford Galaxie which was driven 200 miles on less than two gallons of gasoline. Ogle predicted that an economy four-cylinder engine would achieve 260 to 360 miles per gallon.

A Shell Oil Co. representative asked Ogle what he would do if someone offered him \$25 million for the system. Ogle responded "I would not be interested". He later said, "I've always wanted to be rich, and I suspect I will be when this system gets into distribution. But I'm not going to have my system bought up and put on the shelf..."

The August 1977 issue of Argosy magazine which carried a five-page article on the Oglemobile has disappeared from many libraries and even the Library of Congress. Argosy even ceased publication shortly after the article published. The El Paso NBC TV station that had filmed the test run "lost" the footage.

Tom Ogle died in 1979. Two others connected to Ogle died mysteriously. One was mugged while jogging with no cash. The other died while working for the military at a shooting range.

Charles N. Pogue: 200+ MPG Carburetor

In Jan. 3, 1935 Charles N. Pogue was issued a Canadian patent – 353,538 – for a High Mileage Carburetor.

In Apr. 9, 1935 Charles N. Pogue was issued a US patent – 1,997,497 – for a High Mileage Carburetor.

In Jan. 7, 1936 Charles N. Pogue was issued a US Patent – 2,026,798 – for his newer High Mileage Carburetor. Pogue used the carburetor for about ten years on his car and produced about 200 carburetors thru the Economy Carburetor Co. (Copies of the following three test reports plus a drawing of the Pogue carburetor can be viewed at <http://www.byronwine.com/files/1936%20Ford%20test.pdf>.)

In early 1936 T.G. Green, President of Breen Motor Company, Winnipeg, Manitoba, Canada tested the Pogue carburetor on a Ford V-8 Coupe and got 26.2 miles on one pint of gasoline. The performance of the car was 100% in every way. Under 10 mph the operation was much smoother than a standard carburetor.

In April 30, 1936 Ford Motor Company, Winnipeg, Manitoba, Canada tested the Pogue carburetor and was at "a loss to understand" how the carburetor got "25.7 miles on one pint of gasoline"! (That's approximately 205 mpg). Mr. W.J. Holmes and Mr. Purdy conducted the test for Ford Motor Company.

In Aug. 10, 1936 S. Stockhammer tested the Pogue carburetor on a 1934 Ford V-8 Coupe and got 28 miles per pint of gas. "I can say the performance was all anyone could desire in every shape of form." In Dec. 12, 1936 Canadian Automotive Magazine states that the standard carburetor gets about 25 mpg at only 9% efficiency. Therefore the Pogue carburetor is 72% efficient overall at 200 mpg.

Pogue had his shop broken into and carburetors stolen.

In 1953 CARS magazine stated that in the opening months of 1936, Pogue panicked the Toronto stock exchange and threw fright into the major oil companies. Stock exchange offices and brokers were swamped with orders to dump all oil stock immediately. This same article states that Winnipeg's largest automobile dealers tested the Pogue carburetor and got results of up to 216.8 mpg!

In 1945, according to an unnamed source, carburetors marked "POGUE CARBURETOR, DO NOT OPEN" were used on American Army tanks throughout WWII but were removed from circulation after the war ended.

In 1980 Arthur C. Sgrignoli, after 45 years, has built a legendary Pogue carburetor by hand and is said to have achieved an efficiency of 86%. Contact was made through his brother, William J. Sgrignoli.

In 1981 Ultra-Lean Carburetors of Northridge, CA, was selling a set of plans for the Pogue carburetor for \$50.

As of January 1981, Charles N. Pogue was still alive at age 81 and was living in a rest home in Winnipeg, Canada. He refused to talk to anyone or to receive visitors from outside his own family.

On the other hand, according to <http://www.snopes.com/autos/business/carburetor.asp>, the Pogue carburetor is an “urban legend”. Perhaps some university mechanical engineering students can be funded to replicate the Pogue carburetor as a laboratory exercise and then measure its performance.

An email correspondent of Gary Vesperman wrote June 11, 2006 that, before he got involved with an electronic mileage booster two years ago, he checked the Internet and both Consumers Union and the Department of Energy lambasted all previous fuel optimizers. DOE listed about 75 of them they tested and which did not really work.

(Of course they say that... I think the Pogue carburetor was the one that worked until lead was added to gasoline, and it was this additive that clogged up the device and prevented the mileage gain. Bruce McBurney, source. McBurney’s site <http://www.himacresearch.com/> has more on carburetors.)

The addition of lead to gasoline resulted in widespread permanent environmental pollution of millions of pounds of poisonous, brain deadening lead. In 1967 at the University of Wisconsin-Madison this writer, Gary Vesperman, took an introductory course in meteorology.

One lesson Professor Reid Bryson gave was based on a study he had conducted of the extent of lead poisoning. I used his research results as the basis of a “letter to the editor” which was published in *Business Week* magazine in 1970.

I am not sure if I have the dimensions correct, but the numbers went like this: Residents of northern Wisconsin were found to have 0.1 micrograms of lead per cubic centimeters (cc) of their blood. Residents of the northern suburbs of Chicago had 1 microgram of lead per cc of blood. Residents of downtown Chicago had 4 micrograms of lead per cc of blood. The fatal level of lead poisoning apparently is approximately 6 micrograms of lead per cc of blood.

So in the *Business Week* letter to the editor I postulated that in another decade or so, rising levels of lead in blood would result in greatly increased mortality rates among downtown Chicago people since they evidently were already two-thirds dead.

Weeks later, by coincidence (?), there was intense national publicity focused on lead poisoning which resulted in Congress passing a law mandating a phase-out of lead in gasoline. Some people claim there is a so-called “law of unintended consequences”. The platinum dust hazard from catalytic converters is another awful example of this “law”. Maybe it is time for me to once again try to rouse the rabble?

Professor Bryson was an expert climatologist. He explained to our class the basics of global warming due to the atmospheric increase in carbon dioxide – as also explained by Al Gore in his movie *An Inconvenient Truth*. Bryson also explained the basics of global cooling due to increased dust plus sunlight reflecting off the ice crystals from jet engine exhaust which float high in the atmosphere for up to six hours.

I remember cornering Bryson after one of his lectures and asking him which was going to “win” – global warming, or global cooling? With an unforgettable grim look on his face, would you believe he said global cooling?!!

39 years later with vastly more data, global warming dominates the scientific consensus. Most worrisome, in 2006 climatologists found a preponderance of positive global warming feedback loops compared with pitifully few negative global warming feedback loops. (Source: “Our worst fears are exceeded by reality” <http://news.independent.co.uk/environment/article2110651.ece>) Global warming seems to be speeding up!

Yet ExxonMobil tries to bias global warming research towards the possibly dishonest conclusion that global warming isn’t really happening. For example “Is the Sky Really Falling? A Review of Recent Global Warming Scare Stories”, is a Cato Institute research study published August 23, 2006 by Patrick J. Michaels in <http://www.cato.org/pubs/pas/pa576.pdf>. <http://www.cato.org/current/global-warming/> has an entertaining list of sarcastic titles of papers on global warming by Michaels. Is Michaels being paid to be a disinformation hack for ExxonMobil rather than as an honest weather scientist?

The Cato Institute received \$55,000 from ExxonMobil in 2002-2003. The George C. Marshall Institute received \$185,000 from ExxonMobil for "Climate Change Public Information and Policy Research" in 2002-2003. The Tech Central Station Science Foundation received \$95,000 from ExxonMobil for "Climate Change Support" in 2003. Michaels is also employed by the George C. Marshall Institute and the Tech Central Station Science Foundation. (Source: <http://www.environmentaldefense.org/article.cfm?contentid=3804&CFID=21084385&CFTOKEN=29888831>.) Incidentally, Michaels earned his Ph.D. in ecological climatology from University of Wisconsin-Madison in 1979.

The Union of Concerned Scientists lays the blame for at least some of the ongoing uncertainty squarely on the shoulders of the world's largest publicly traded company – ExxonMobil. The scientific group has documented that the oil company has "funneled nearly \$16 million between 1998 and 2005 to a network of 43 advocacy organizations that seek to confuse the public on global warming science".

Many of the organizations have overlapping staffs, board members and scientific advisers, according to the report, leaving the public with the impression that agreement on the certainty of global warming is far from universal. Funding by ExxonMobil allows these affiliated organizations to "publish and republish the works of a small group of climate-change contrarians," the report states.

ExxonMobil has a lot at stake. A shift toward cleaner forms of energy could greatly diminish its revenue, which reached \$339 billion in 2005. (Sources: January 6, 2007 Las Vegas Sun editorial and http://www.ucsusa.org/assets/documents/global_warming/exxon_report.pdf.)

Allen Caggiano: 100+ MPG Fuel Implosion Vaporization System

INVENTOR'S HARDSHIPS --- SUPPRESSION OR COINCIDENCE? YOU DECIDE!
IS US. PATENT # 5,782,225 BEING SUPPRESSEDOR... ARE THE "HARDSHIPS" THAT THE INVENTOR SUFFERED JUST "A COINCIDENCE".??????" YOU DECIDE !

In the early 1970, in Brockton, Ma, I owned and operated a company called Debal Heating and Air Conditioning. This was about the time that we had that phony gasoline shortage. Each morning myself and 12 employees would sit in the gas line with 6 trucks to get a mere 5 gallons of gasoline. As I sat in that gasoline line day after day, I started to think there must be a better way. If they have the technology to put a man on the moon they must have the technology to get much better gas mileage.

It wasn't long before I built my first fuel vaporization system. I read everything that I could get my hands on about this. Well sad to say it didn't work. It made plenty of vapors, and exploded like a BOMB. Over 70% of my body received 3rd degree burns. I spent 69 days in intensive care, kissing death several times. Don't worry, all the bugs are worked out now.

October 15, 1983 was the birth of my Fuel Implosion Vaporization System. At this time I owned and operated a company in Brockton Ma, called Weatherall Energy Research and Development. I had just finished building a commercial high-efficiency air conditioning evaporation coil when I poured one gallon of gasoline into one end to flush it out. To my surprise massive fumes discharged from the other end, and all I got back was less than one cup of gasoline.

I started brainstorming, I miniaturized the air conditioning evaporator coil, installed it in 1973 Dodge station wagon with a 318 engine. By early 1986 we had worked out all the shortcomings and bugs and had a working prototype that gave between 111 to 113 mpg. We placed an ad in the Brockton Enterprise and the Boston Globe, seeking people to beta test our Fuel Implosion System.

It wasn't long before I got a call from a California corporation wanting exclusive rights to our invention. My attorney checked them out. They were a subsidiary of several other corporations and finally all owned by an oil company. I declined their offer. Shortly thereafter all my troubles started.

First came two men, showing IDs, saying that they were from the FBI and that I was violating federal laws altering carburetion systems and that if convicted could get 20 years in a federal prison. I called my attorney and told him what happened. My attorney informed me that I wasn't in any violation of any federal laws.

If I was smart I should have stopped here. (BUT I AM NOT TOO SMART). For the next two weeks I would receive every day in the mail, in a plain envelope, 8"x10" close-up photos of my wife in the supermarket, church, and my children getting on and off the school bus and in the playground at school.

(Just pictures only.) In addition we would get all kinds of weird calls mostly after 2 a.m. My wife couldn't take it anymore; she filed for divorce and left me.

A few days later my attorney showed up at my office, looking white as a ghost. He had all my legal files and records with him, placed them on my desk and said that he could no longer represent me in any legal matters. I asked why. All he would say is: "WAKE UP!". I could not understand. He had been my personal friend and attorney for over 16 years.

When my wife divorced me and my attorney abandoned me, I wondered what else could happen. Nothing, I thought, nobody can stop me now, so on with my fuel implosion system. Boy was I wrong: hell opened up and swallowed me alive.

I am a very light drinker; if I drink 6 cans of beer a year, that was a lot. I never did drugs or was around anybody that did. On July 4, 1986 the chief of the Brockton Police, Richard Sprawls, with a bunch of other Brockton police raided my Tremont St. Brockton home, and arrested me for trafficking of cocaine. My bail was set at \$500,000.

I was lucky that I had a friend, LT. Jim Sullivan of the Brockton Police Department. He showed up at my bail hearing and said something to the judge, and my bail was reduced to \$500.00. Is somebody trying to tell me something?

Oh well, back to work; I built two more fuel implosion systems. I installed them in a 1973 Olds Cutlass and 1966 Mustang. I painted my 1973 Dodge station wagon bright yellow, with big red letters all over it saying: "THIS CAR GETS OVER 100 MPG AND DOESN'T POLLUTE THE AIR. THE BIG BOYS ARE TRYING TO MAKE ME AND THIS CAR DISAPPEAR,--HELP ME! " I only got to drive my yellow wagon for 3 days.

On November 24, 1986 Brockton chief of police, Richard Sprawls, and other members of the Brockton Police Department raided my Tremont St. Brockton home. They seized two shotguns, a 12-gauge and a 20-gauge, both of which were legally registered to me. I used to use them for skeet shooting.

I was arrested and charged with for trafficking of cocaine again. My bail was revoked. I was placed in maximum security in the Plymouth House of Correction. I was now sentenced to 15 years for the July 1986 trafficking of cocaine and waiting for the second trial for the November case.

I knew where I could get some solid evidence that would clear me, but I didn't know who to trust ANYMORE. So, I escaped from maximum security, went and got my solid evidence and gave it to the right person and surrendered the same day.

Boy I was lucky, they had over 240 law enforcement officers searching for me with guns, dogs, helicopters etc. I ran like a jackrabbit through the woods. My advantage was, the woods were my old hunting grounds.

Two days later Brockton's chief of police was arrested for STEALING COCAINE FROM THE POLICE EVIDENCE LOCKER. HE WAS SENTENCED TO TWO YEARS IN PRISON. REMEMBER THE COCAINE THAT CHIEF RICHARD SPRAWLS SAID HE FOUND AT MY HOME IN JULY AND NOVEMBER 1986? NOW I KNOW WHERE IT CAME FROM, THE POLICE EVIDENCE LOCKER, AND IT FELL OUT OF CHIEF SPRAWL'S POCKET ONTO THE FLOOR IN MY HOME WHERE ANOTHER BROCKTON POLICE OFFICER FOUND IT.

Well, the Massachusetts Supreme Court of Appeals overturned my cocaine trafficking conviction. Grounds: tainted evidence, illegal search and seizure.

FREEDOM AND HOME, HERE I COME! WRONG AGAIN! HERE COMES THE FEDS. THEY HAD A WARRANT FOR MY ARREST FOR VIOLATING A NEW GUN LAW THAT WAS PASSED ON NOVEMBER 24, 1986. THAT WAS JUST 10 DAYS AFTER MY ARREST OF November 14, 1986. Remember the Brockton police seized my two shotguns?

Guess what? I had the privilege of being the first person in Massachusetts and the third person in the United States to be tried, prosecuted and sentenced under this new law 18 USC 922g and 924e. I didn't stand a chance; there was no case law in the law books to support my defense of this new law. I was sentenced to two 5 years' sentences for perjury, because when I bought the two shotguns there was a box that said: were you ever convicted of a felony. I checked the no box, because I was never convicted of a felony, just a misdemeanor.

Well, the feds said under federal law my misdemeanor was a felony, therefore, I was guilty of 2 counts of perjury and they gave me 5 years on each count.

Next I got 5 years for being a convicted felon in possession of a firearm. Now I have been sentenced to a total of 15 years in federal prison without parole. I am still sitting in the courtroom. After a week of trial, my attorney said that the US Attorney was trying me under the second part of the new law. My attorney said the trial will be short, won't last more than ten minutes. There was no way I could be found not guilty.

Well, it went like this:

- 1: I was convicted as a felon in possession of a firearm.
- 2: I was convicted of perjury.
- 3: I was convicted of a second count of perjury.

BINGO! I HIT THE JACK POT!!

USC 18922g-e1 states: If you have 3 prior felony convictions and have possession of a fire arm, then you are an ARMED Career Criminal and that carries a minimum mandatory sentence of 15 years without parole. Now I have a total of 30 years in federal prison without parole. Well, the Feds have me tucked away for 30 years where I cannot cause any more trouble with my fuel implosion system. WRONG, WRONG, WRONG:

I met a lot of powerful people in the federal prison, with powerful connections on the outside, among them, Kenny whose son was a patent attorney for a large patent law firm who did our US patent. #5,782,225, while I sat in the safety of the federal prison system.

Remember the Feds sentenced me to 30 years without parole??? Well, on September 13, 1997 (Friday the 13th, my lucky day) I was released from federal prison with 5 years parole. STOP! Something's wrong here. I only did 10 years of a 30-year sentence, with no chance of parole. Well it took the federal courts to rule that it was legal for me to possess the two shotguns, that they had no jurisdiction. The case is now pending in the 1st District Court. They will not rule on it.

This September 2001 will be 4 years that I have been out of federal prison and have been a good boy, nice and quiet, until now.

My Intentions: In the past 20 years I found out that the oil companies will do EVERYTHING in their power to suppress this kind of technology, because it could reduce the gasoline consumption in the U.S. by 76% over a 5-year term.

The government will lose mega bucks in gasoline taxes.

The major car manufacturers will lose billions spent on the technology of the fuel injection systems, my technology makes theirs obsolete.

I put all my patent and shop drawings up on this website, for anybody to use it free. I am 58 1/2 years young now; the sand is running out of my hour glass fast. I don't want to take this technology to my grave with me. If you think that I should get something out of this, then build my fuel implosion system, and after your 5th tank of gas send me the price of a tank of gas; otherwise I don't want a cent.

If you believe that me and my patent and technology have been suppressed, then tell as many people as you can about my story and ask them to do the same.

The Reason I Ask This Is: I believe that millions of people around the globe want this kind of technology and know it exists. When we get enough people wanting this technology, I have powerful attorneys, who know and are able to present it to the courts of the globe.

I will take my remaining 7 cars, that have my fuel implosion system in them, out of exile and drive them from Boston to California with the whole world watching, and I think my chances of reaching California alive are excellent.

By my publishing this website, I must be out of my mind. What else could happen to me? MAYBE I will get killed or something. What will be will be.

Thank you for your interest. Please help me spread the word. And for those of you that think that my story is just a bunch of bad luck for an unlucky inventor, you will be of those who oppose this type of technology. So go to my home page and VOTE NO for this technology.

Sincerely,
Allen Caggiano, Inventor
<http://www.get113to138mpg.com/>

P.S.: As much as I would like you to build my Fuel Implosion Vaporization System and succeed, I MUST URGE you NOT to build it without QUALIFIED and PROFESSIONAL help, if you are not a qualified machinist or mechanic yourself. This is NOT a simple D.I.Y project and working with (vaporized) fuel is dangerous!

(The electric auto magazine Electrifying Times (www.electrifyingtimes.com) has published a much longer article on Caggiano and his FIVS in its spring-summer 2006 issue Vol. 10 No. 1. By the way, that particular issue happens to focus on suppressed energy inventions.)

(The following is a subsequent report on Caggiano's on-going suppression troubles.

I just want to inform you as to Allen Caggiano situation. He had the web site www.get113to138mpg.com. He recently was trying to bring out a product. He had a few problems and then disappeared. From what I have been told Allen had been in a hospital recuperating from surgery. He went in to have a CAT scan and woke up a month later without the use of his legs. He said he died twice but came back. He was in a coma most of the month. While recuperating and watching TV one afternoon he saw a SWAT team raiding his apartment seizing his computers, notes, tools and car. The postal service is also investigating because he failed to deliver products. He said there were pressure crack problems. He could not ship and thought things would be redone in time. But just too many things went against him. Even though things look bad for him I still believe he is trying to get this out doing the best he can. I and some others have checked out his stories and had them confirmed. He does have a valid patent for fivs 2 ad. He was framed in his first arrest, and the police chief was dirty. If he were a con artist smart enough to pull this off, he certainly would not be around trying to do what he is doing still. He would be in another country spending the money with another name and ID. For that matter who would use their family name with so many ties and some of the different weird stories have been independently confirmed. His web site is down and I wonder what will come of him. Best way to suppress something is to make it look like a con game. It seems the oil companies are good at that. HIMAC has always tried to help anyone in bringing out this technology. At present we are publishing the work of Tony O'Donnell. He has tripled his fuel mileage, obtained an Australian patent and some foreign patents, but could not afford North American patents and the time ran out. We put out his information research and AutoCAD drawings in a CD format – over 500 pages \$39.95 money back if not satisfied. Allen is not the first to get hassled over this. We can only hope he is the last and this information finally surfaces to completion. I only know Allen from phone conversations and the feed back from those who know me. I have not witnessed a verifiable mileage run from him. When I know more it will be posted. (Source: <http://www.himacresearch.com/links.html>.)

(Erik Masen provides an update in his "Suppression of Quantum Leap Inventors" *Electrifying Times*, 2007, Vol. 10, No. 2)

Recently in our last issue we did a feature story on Allen Caggiano "High Mileage Dreams". Allen had spent a good share of his life developing and selling versions of his high-mileage fuel devices. This feature story covered his many near death experiences by groups who did not want to see his technology go mainstream. Recently some U.S. Government representatives invested in Allen's company in an attempt to shut him down for good. Allen fled to China where he is having his high mileage devices manufactured. Few have heard from him since!

William Bolon: Automobile Steam Engine

William Bolon, Rialto, California, developed an unusual steam engine design in 1971 that was said to get up to 50 miles to the gallon. The engine used only 17 moving parts and weighed less than 50 pounds. It eliminated the usual transmission and drive train in an automobile. After much publicity, the inventor's factory was fire bombed with damages totaling \$600,000. Letters to the White House were ignored so the inventor finally gave up and let Indonesian interests have the design.

Shell Oil Company: Achieves 376.59 MPG with a Modified 1959 Opel in 1973

Shell Oil Company wrote "Fuel Economy of the Gasoline Engine" (ISBN 0-470-99132-1); it was published by John Wiley & Sons, New York, in 1977. On page 42 Shell Oil quotes the President of General Motors who in 1929 predicted 80 MPG by 1939. Between pages 221 (see <http://www.byronwine.com/files/Shell%20P221.pdf>) and 223 (see <http://www.byronwine.com/files/Shell%20P222.pdf>) Shell writes of their achievements: 49.73 MPG around 1939; 149.95 MPG with a 1947 Studebaker in 1949; 244.35 MPG with a 1959 Fiat 600 in 1968; 376.59 MPG with a modified 1959 Opel in 1973 (photos of these three cars are shown on page 223).

The Library of Congress, in September 1990, did not have a copy of this book. It was missing from their files, of course. [They had it – since it is legally required to have at least one copy of all such publications in the U.S. However, it seems to have been stolen or hidden.] Byron Wine bought a copy from Maryland Book Exchange around 1980 after a professor informed him that it was used as an engineering text at the University of West Virginia.

The modified 376.59 MPG 1959 Opel is now owned by an Alabama antique car restoration company (see <http://www.race-cardrivers.com/shop.htm>).

Honda: 60 MPG 1992-1994 Honda Civic VX

The U.S. Government, pressured by major US oil and automobile companies, eventually denied import of the 60 MPG 1992-1994 Honda Civic VX. V stands for variable valve timing which can greatly increase a motor's efficiency. (Erik Masen, "Suppression of Quantum Leap Inventors", *Electrifying Times*, 2007, Vol. 10, No. 2)

IPMS-Chernovitsky: Super Ceramics

The I.N. Frantsevich Institute for Problems of Materials Science (I.P.M.S.) is one of more than 70 institutes founded by the government of the Soviet Union during the decade following World War II. Its mission was very simple: the scientists forcibly relocated from post-war Europe and enslaved at the Institute were commissioned to learn everything there is to know about the material world. They were not asked, indeed, they were not permitted, to make any decisions about how their discoveries were to be applied. In fact, from the outset and during all of the ensuing 40 years, there was not a single applications engineer among the 6,600 scientists who worked in the Institute.

The peculiar set of circumstances which provided the essential breeding ground for the extraordinary discoveries spawned by the Institute was not reserved just to I.P.M.S. The central government of U.S.S.R. jealously guarded its absolute right to make all decisions about what was done with the discoveries created in all the institutes. It is not surprising, therefore, that a system of government so paranoid about anyone stealing a pair of shoes that it manufactured left boots in Moscow and right boots in Kiev, would totally fail to recognize or effectively apply the benefits of some startlingly new sciences to clothe, house and feed its own people.

In fact, it was precisely because the Institute was forced to operate in a purely theoretical environment, with no pressure whatever to meet production or marketing deadlines, operating virtually isolated from any contact with the outside world, that the scientists and academicians were able to produce at least 7 whole new sciences, 30 technologies, and 130 materials unknown in the West. It is largely because the most brilliant theoretical physicists in the entire Soviet Union were able to work for nearly 50 years in the singular pursuit of pure research that the sciences developed at I.P.M.S. are so fundamentally unique.

It is interesting to note that only a small part of the new sciences developed at the Institute was revealed to or known by the government of the former Soviet Union prior to its collapse in August, 1991. The antipathy of the Institute's scientists to the USSR government's shabby treatment led them to successfully hide nearly all of their often revolutionary research results.

One of the Institute's four sites, IPMS-Chernovitsky, developed moldable, machine-able, ultra-high temperature, super-hard, and strategic metal-alloyed ceramic substances.

The uniformity and density of ceramic materials is what determines the quality, consistency and persistence of the resonant tone produced by an oscillating crystalline material. Research has created a whole new family of moldable, machine-able, ultra-high temperature, super-hard and strategic metal-alloyed ceramics capable of withstanding operating temperatures of 1200 degrees centigrade. This is more than 400 degrees centigrade higher than can be tolerated by other known ceramic materials commercially available anywhere else in the world, including those manufactured by Allied Signal Corporation and Kyocera.

These materials are being utilized in entirely ceramic internal combustion engines, high-speed turbines and self-lubricating bearing surfaces. The latest ceramic materials designed for use in high-speed jet turbines operate continuously at temperatures in excess of 1200 degrees centigrade. This is more than 400 degrees centigrade higher than the theoretical limit allowed by the quantum mechanics model relied on in the West.

The ceramics produced at the IPMS-Chernovitsky plant have been made harder by fully one factor of hardness than the hardest alloyed metal machine tools currently produced by any other known means of manufacture. They have been made harder by at least one full order of magnitude than either natural or synthetically produced diamonds. Practical applications include drilling and mining, grinding tools, down-hole equipment, tool inserts and the new generation of cubic boron nitride tools that are currently in use.

Proof positive of the extraordinary uniformity and density of these materials is easily verified by a simple demonstration if the measurement of softening temperatures is deemed insufficient. Ceramic pistons manufactured for use in ceramic diesel engines will, when struck by a hard object, produce a clear resonant tone which persists for more than seventeen seconds. This is at least eight seconds longer than the resonant persistence produced by the finest glass or crystal ever manufactured.

Joint ventures of the IPMS with more than a dozen private sector companies to develop inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Stefan Marinov: Magnetic Vortex Hyper-Ionization Device

At his death Dr. Stefan Marinov was Assistant Professor of Physics at Sofia University, a member of the Physical Institute of the Bulgarian Academy of Science, and the editor of *Deutsche Physik*. One energy device he was developing was an over-unity magnetic motor.

<http://www.spiritofmaat.com/archive/mar2/bearden.htm> discloses the strange circumstances of Marinov's death.

(The excerpt below, with editing, is from Vencislav Bujic's report published January 14, 2002.)

Stefan Marinov was working on his magnetic vortex hyper-ionization device just one month before his sudden, unexpected death. There is high chance that his death was connected to the testing of this device, and that it was not a "suicide" as officially stated. Marinov was a good Christian and nobody expected him to commit suicide.

According to official news he presumably jumped off from the top of the four-level outside emergency staircase of the Bibliothek in Graz, Austria. But nobody actually saw him jumping off. He was still alive, not even bleeding, when an ambulance and police arrived. Marinov died on the way to a hospital.

The police never notified anybody, including his son in Bulgaria. They sealed his apartment, not letting anybody inside, and also refused to release any letters found there, and refused to give any information.

Stefan Marinov was born in Bulgaria. When he got a passport, he moved to Washington. Secret agencies and their 'elite' bosses, who control sources of energy and are confusing people, wouldn't let Marinov alone when he went back to Europe, this time to Italy and Austria. These are the same people who prevented Tesla and many others from giving to all the people sources of free energy. His life was ended abruptly. He had big plans for the future and was making various future collaborations. Marinov had planned to attend the International Physics Conference in Koln, Germany, on 25th of August 1997. He even had made hotel reservations for the conference for him and his colleague Professor P.T. Pappas from Athens, Greece.

A friend just forwarded your 25-page e-article entitled History of 'New Energy' Invention Suppression Cases, and I enjoyed the reading. Amazing stuff!

There was one machine (for lack of a better term) I saw back in the mid-seventies that has haunted the back of my mind ever since, and I looked for a mention of it in your article. The article hints you have much more information and files elsewhere. Thought I would share with you what I recollect in case you already know about the contraption I witnessed.

During the mid-seventies I was a long-haul trucker and met an older man at a truck stop in Tennessee. Over cups of coffee we were talking about motors and diesel and mechanical things in general when he mentioned a buddy of his had invented a "perpetual motion machine" that he thought was pretty interesting.

I asked where it was and could I see it. He said the guy didn't live too far from where we were sitting but I would never be able to get my rig up the mountain. He offered to give me a ride. He was right. This buddy lived back in the hills and in Tennessee that can mean a mouthful. Good thing his truck was four wheel drive.

When we got there, his buddy was rather evasive about the whole thing which really puzzled the guy that brought me up there. So he kept asking and pushing for a demo and finally the inventor told us the day before some guys had visited and took a part or two and told him to not fix it or they would be back. I got the feeling that if it had been just me there, he wouldn't have told me anything or showed me anything but because his friend was with me it was different.

He took us out back where there were odds and ends on a workbench, and he quickly gave me a brief explanation of how the parts fit together and how it worked. I am sorry for your sake that I haven't remembered any names of the individuals so if you want to toss my email it is OK. Here is how the description went:

Flywheels by their character tend to develop power once they are in motion and can generate more power while spinning than they consume to keep spinning. Sounds interesting but I am no physics wizard.

So he had rigged a big flywheel between two double-acting hydraulic cylinders with the appropriate switches triggered by the rams to keep the two cylinders reciprocating as long as there was a steady supply of hydraulic oil pressure. The hydraulic oil pressure came from what looked like a modest-sized power-steering pump which was driven by the flywheel.

The flywheel was kept in motion by the moving cylinders, and the cylinders in turn were kept in motion by the switches and the fluid pump. The fluid pump was kept in motion by the flywheel. The switches and support for the flywheel (bearings) was taken during the confiscation by his unpleasant "visitors".

To start the whole thing in motion he had a small electric motor to help start spinning the flywheel. Once it got up to a certain RPM the electric motor was disengaged and shutdown.

They both told me how he had been using it for various power needs around the farm from pumping water to cutting wood for over a year. When someone told him he should seek a patent for his machine, he followed that advice. Instead of getting a patent, he got the visit the day before I arrived.

I didn't feel like they were pulling my leg but again I know nothing of physics, and I was in my early twenties. There was no appeal to partner, contribute money or support or anything that would have made me suspicious. Wish I could have seen it working because it has kept me wondering the past 30 years.

Perhaps you have heard of these things and can comment on whether it was bunk or not. You may even have the scientific knowledge to instantly recognize its possibility or improbability. Anyway, after reading your article I thought I would pass this along for what it is worth.

Best Regards,
Jim Powell

This writer, Gary Vesperman, does not know of any similar device in the unconventional science literature. Perhaps one of my genius scientist friends can figure out this energy invention. Gosh, do the energy invention suppression bullies even track down energy inventors in remote hillbilly country, take away or damage their machines, and threaten them with death?

Christopher Bird/Walter (Reporter): Energy Suppression – An Invisible Galaxy of Inventions

<http://www.spiritofmaat.com/archive/feb2/bird.htm> and <http://www.befreetech.com/energysuppression.htm> both list 48 energy inventions – nearly all of which are suppressed or at least not being commercially made and sold.

IPMS: Micro-Channels and Filters

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS) was established in Kiev, Ukraine in 1951. Between 1945 and 1955, the government of the Soviet Union created at least 72 self-contained, completely isolated scientific communities like the IPMS scattered all over the most desolate parts of the Soviet empire. Stalin systematically established more than 360 such enclaves as a matter of policy. He deliberately prevented the scientists and their families from co-mingling with the rest of Soviet society or corresponding with the West. This phenomenon of cultural isolation was typical of life in the U.S.S.R. after World War II.

Many of the key scientists who were forcibly expatriated by the Red Army under Stalin's orders and relocated to work in the Institute had been captured by the Soviet armies during the occupation and annexation of Eastern Europe at the end of World War II. Only a handful of them succeeded in escaping to the West. Those who tried to escape were almost always captured and executed. In some cases, their families were sent to languish and die in the Gulags.

Many of the original team of scientists sequestered in L'vov, the entrance to the Institute, had been contemporaries, co-workers and close personal friends with many of the most prominent physicists and other scientists who emigrated to the United States before, during and after World War II.

During World War II in Europe, and afterwards in Stalin's Soviet Union, the original Directors of the Institute experienced the horrors of developing technology for destructive military use. For more than 40 years, scientists at IPMS (and, no doubt, at some of the other Soviet institutes) elected to keep secret as many of their key discoveries as possible until a time when their genius could be constructively applied to solving the global materials, energy consumption and industrial manufacturing issues which are responsible for the current deplorable state of the environment.

Among the original group of scientists relocated to work in the Institute were some who were part of the German team which worked during World War II to develop fissionable nuclear materials, synthetic fuels and foods, and other technological advances for the Third Reich. Information regarding the advanced nature of some of the work they participated in has only recently been declassified and released to the public. Some of the formulas and technologies they developed were absolutely revolutionary and many have never been replicated in the post-war world.

Among recently declassified files is a set of documents which describes the development of infra-red, heat-seeking "smart bombs" which were so effective that a single bomb, dropped by a single Nazi bomber in a night attack in the North Atlantic in 1942, sank a British troop ship carrying more than 3,000 American troops. The bomb recognized and guided itself down the troop ship's smoke stack in much the same way similar devices were observed to function during Operation Desert Storm, nearly 50 years later. The technology which made this device functional was so far advanced beyond anything available to the Allies at the time that the War Department kept the story classified for more than 50 years.

Many of the materials, processes, technologies and applications produced by the Institute are so unique that in some cases there are literally no words in the languages of the Western industrialized nations to describe them.

IPMS has produced a family of micro-channel and filter materials with uniformly controllable orifices as small as .5 micron from combinations of carbon-fiber, basalt, ceramic and strategic metals – including stainless steel, scandium and chromium. These materials demonstrate a consistency of orifices fully a factor of ten times smaller and more consistent than the smallest ever manufactured in the U.S.

These materials have been used in applications for heat exchangers, catalysts and separation of gases on a molecular level. A notable application involves the use of such materials to separate virtually 100% pure CO₂ from hydrogen gas at the well-head from gas wells. Then 98% of the CO₂ can be pumped back into the well for re-pressurization, with the pumps then being operated directly on virtually pure hydrogen fuel.

The scientists, academicians and others at the Institute who developed revolutionary new models of quantum mechanics, quantum physics and the manufacturing processes and techniques which resulted in these materials, refused as a matter of conscience to allow much of what they had developed to pass into the hands of the KGB and the Soviet military.

Joint ventures of the IPMS with more than a dozen private sector companies to develop these useful inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Viktor Schaubberger: Jet-Turbine

During the 1920's Viktor Schaubberger designed a novel hydroelectric generator for which he received Austrian Patent No. 117,749 Jet-Turbine on May 10, 1930. It seems that Schaubberger actually used a small turbine of this design in a stream of water near the forest wardens' building during those years, but no reliable records are available. An English-language version of his patent is available at <http://www.rexresearch.com/schaub/schaub.htm#I17749>.

Schaubberger's jet-turbine does not require the use of a dam. Instead, the water to power it is contained in a vertically oriented large-diameter cylinder, ten feet or more in height. Due to the force of gravity and the elastic modulus (fluid dynamics) of water, a very large amount of potential energy in the storage vessel is converted to kinetic energy as the water is released into the oscillator (impeller). A pump is used to pump the water exiting the turbine back to the storage vessel.

The jet-turbine was estimated to produce 9 times more power for a given water flow than with a conventionally designed water turbine. The design also did not force water through immense pressure and heat which destroy the structure of water.

The water-vortex (jet of water) is produced inside a ribbed copper-cone, by the conical-plus-ribbed shape and gravity, and the resulting water-jet is rolled into the copper-impeller, which turns the generator, producing energy in a silent, effective way. The conical impeller has two or more intertwining spiral grooves incorporated in its outer surface, into which the water emerging from the nozzle is entrained, in order to rotate the shaft of an electrical generator. This method does not require a great deal of water, like conventional water-dam methods, and is absolutely silent.

In practice, only a small fraction of the output energy is required to power the pump, thus making this device a true free energy system. Ideally, the storage vessel should be egg shaped, with the outlet to the oscillating valve possessing the configuration of a long hyperbolic parabola. This outlet configuration will induce a longitudinal vortical motion to the water prior to its flow through the oscillator, thus cooling and densifying the water. The return pipe from the turbine should enter the storage vessel tangentially, in order to assist in the formation of a vortical flow.

In 1986 a group of enthusiasts living around the township of Schladming, who were interested in the practical application of Viktor Schaubberger's ideas and Walter Schaubberger's mathematics, decided to replicate Schaubberger's jet-turbine in order to produce their own electricity. The "Schladming Group" comprised of R. Harbacher, H. Zefferer, H. Schrempf, A. Schwab, T. Promberger, M. Dainhofer, V. Knaus, and H. Mayer.

On the property of one of their members living on the Birnberg, they had carefully constructed the combination of egg and hyperbolic cone, which was sourced from a nearby brook. Water from the stream was fed into the upper part of the egg tangentially, thereby providing the initial impulse for the creation of a vortex. The electricity generator to be attached to the jet-turbine was being specially manufactured. Austrian authorities then told the Schaldming Group to stop their work before experiments were completed, using the excuse that they did not want to see these devices popping up all over the countryside.

Successful or not, what this replication of Schaubberger's jet-turbine does show is that small groups of people working together cooperatively can provide their own sources of cheap power and can do much to re-establish their independence from centralized power and control over their lives. The problem that confronts us all, alas, is that it is the centralized electricity authorities who write the rules which ensure as far as possible that no one can escape the power grid. The greater the number of people who are willing to challenge this central control over their independence, the more difficult it will become for those to continue holding such power over us. (Sources: <http://peswiki.com/energy/Directory:Suppression> and <http://peswiki.com/index.php/OS:Jet-Turbine>)

Canadian Scientist: Standalone Water-Based Electricity Generator

Jeane Manning authored *The Coming Energy Revolution* and also has co-authored *Suppressed Inventions & Other Discoveries* (an anthology put together by Jonathan Eisen). She has heard numerous stories of suppression during twenty-five years of investigating non-conventional energy inventions. Her website is <http://www.changingpower.net>. New Energy Congress member Leslie R. Pastor's review of Eisen's anthology: "The book is breathtaking in its openness regarding actual suppression of 'real-time' inventors and innovators."

One story she told Gary Vesperman is about a Canadian scientist. In October of 1999, Manning met him through a mutual friend. According to her notes, he had invented an energy device which was the size of a refrigerator when he ran his home on its electrical output. He wouldn't reveal how it worked, except that it involved sound frequencies, copper plates, water, a transformer and a battery and could be built the size of a Walkman. (Vesperman: This device appears to be similar to the super-efficient water electrolysis devices developed by Daniel Dingel, Ken Rasmussen, and Stanley Meyer (see above). Notice that it offers the desirable feature of being scaleable from very small to at least big enough to run a house off the power grid. It also functions as a standalone generator, not as a less desirable over-unity power converter.)

His mistake had been in being confrontational. He called officials at Ontario's hydro-electric utility and told them to take their meter off of his house. When they arrived and cut off his power, he went down into his basement. While the officials stood out in his yard, the lights inside his house went on again. He came outside and bragged, "I'll put you out of business in six months!" Soon he was visited by men wearing Royal Canadian Mounted Police uniforms who gave him warnings and a document. He later showed the document to his son, a lawyer, who reinforced the message – keep your mouth shut. He dismantled his inventions.

He told Manning that the Royal Canadian Mounted Police basically told him to forget about his invention for thirty years. Twenty-six of those years had passed. He said the police kept an eye on his activities throughout the years. For instance, they interrogated him after an innocent business meeting in California which had nothing to do with the invention.

This German-Canadian scientist joined the many inventors who took their energy secrets to the grave. He was elderly, and Manning believes he died from natural causes.

Brazil: Ethanol Produced from Sugar Cane

Ethanol, produced from fermenting starch-based corn or sugar, is increasingly being blended with gasoline. Prices for ethanol in the United States recently hit an all-time high at over \$3 a gallon. To impede competition from ethanol, the oil companies have arranged for the United States to impose a 100% (currently \$0.54 per gallon) tariff on ethanol imports, which keeps prices for the alternative fuel artificially high. Brazil, which recently became energy self-sufficient in 2006, is the world's largest producer of sugar-based ethanol and would benefit greatly from a tariff reduction in the United States. Apparently it is cheaper and more energy efficient to produce ethanol from sugar cane than corn. Naturally, Brazilian rainforest preservation advocates likely would argue for running engines on water instead or some other more environmentally benign energy source.

Eric Fry and Kevin Kerr reported July 17, 2007 in *Rude Awakening* (www.agorafinancial.com) that ethanol production now consumes one quarter of the entire American corn crop, boosting the prices of corn and numerous corn-based products such as pork. But ethanol production consumes about as much energy as it delivers...if not more. American corn-based ethanol production relies on large government subsidies as well as huge amounts of fertilizer and fuel. Ethanol also requires prodigious amounts of water from the rapidly shrinking Ogallala Aquifer.

To cash in on the new corn boom, many farmers are continuously planting corn instead of rotating corn with soybean plants. Rotation serves several ecological and agronomic purposes. It makes it more difficult for diseases, weeds and insect pests to persist. The right rotation also builds soil fertility. Soybeans are a natural partner to corn because they capture nitrogen from the atmosphere, leaving more in the soil for the next year's crop. By not using proper rotation practices, farmers will almost inevitably face the prospect of growing corn in nutrient-deficient clay as well as increasing the loss of biological diversity.

By the way, the tariff on imported oil is 0%. External versus internal cost accounting analysis, with its corollary – the thousand-year cost, indicates that it would be fairer and make more sense to encourage conservation and to raise money for protecting Middle East oil sources with a tariff on imported oil.

David Crockett Williams (Reporter): Non-Drug Industrial Hemp as Bio-Fuel

Non-drug industrial hemp is not hallucinogenic marijuana although both are varieties of the same species (*Cannabis sativa*). Hemp provides a surprising variety of products. More than any other plant on Earth, hemp holds the promise of a sustainable ecology and economy.

Hemp seed is the most complete single food source for human nutrition. Because one acre of hemp produces as much cellulose fiber pulp as 4.1 acres of trees, hemp is the perfect material to replace trees for pressed board, particle board and for concrete construction molds. Hemp made into paper is of higher quality and durability and also is less environmentally damaging to make than paper from wood pulp. For centuries hemp has been processed into high-quality fabrics, sails, ropes, diapers, etc.

Additionally, hemp grown for biomass could fuel a trillion-dollar per year energy industry, while improving air quality and distributing the wealth to rural areas and their surrounding communities, and away from centralized power monopolies. Remarkably, when considered on a planet-wide, climate-wide, soil-wide basis, hemp is at least four and possibly many more times richer in sustainable, renewable biomass/cellulose potential than its nearest rivals on the planet – cornstalks, sugarcane, kenaf trees, etc.

For a comprehensive reference read Robert A. Nelson's thoroughly researched *Hemp Husbandry*, available free online at www.rexresearch.com. The book that started the hemp revolution, "The Emperor Wears No Clothes", has sold more than 600,000 copies to date (to order see <http://www.jackherer.com/hemporium.html>). Also see <http://votehemp.com> and <http://groups.yahoo.com/group/hemp-reform-act>.

Hemp as a bio-fuel poses a possibly insurmountable competitive threat to the fossil fuel companies. Since the days of the American revolution, the U.S. Government proactively encouraged growing of hemp. In order to reverse the U.S. Government's policy and to suppress hemp production, certain large banks and fossil fuel companies eventually were able to fool and stampede the US Congress into legislating a national ban on marijuana (and hemp) in 1937.

The US is the only major industrial nation to prohibit the growing of non-drug industrial hemp.

In spite of increased production and utilization of hemp grown in other countries, and increasingly strident pleas by state legislatures, hemp-related businesses, etc to legalize non-drug industrial hemp, the Bush Administration through the US Food and Drug Administration, working on behalf of the energy cartels and their associated banks, still maintains with an iron grip a fraudulent suppression of hemp disguised as a "war on drugs".

Ironically, the U.S. Government's own Veterans Administration Medical Center in Pueblo, Colorado has conclusively demonstrated (<http://brain.web-us.com/alcohol.htm>) that a couple of weeks of painless alpha-theta brainwave tuning permanently stops all forms of chronic substance addiction including alcoholism.

David Crockett Williams has submitted June 26, 2006 the following analysis that suggests that discussion of the politics of non-drug industrial hemp suppression should be included as a subset of energy invention suppression politics discussion:

In addition to high-tech energy technologies and inventions that have been suppressed by various means against their developers, one of the most important suppression issues regards the hemp industry for production of bio-fuels to replace the need for fossil fuels.

The main reason why it is very important to include the suppression of the hemp bio-fuel industry in any comprehensive energy technologies suppression discussion is because learning the suppression history about hemp enables people to understand the nature and scope of the ability of industry and government collusion to suppress knowledge – just like the knowledge about the new energy technologies inventions has been suppressed since the time of Nikola Tesla over 100 years ago, by the same greedy industrial monopolists with the help of their bought and paid for politicians.

This is important because otherwise folks studying the data on new energy technologies always wonder how such important information could be kept from the public, "if it is real". The history of hemp suppression explains this with irrefutable historical information now neatly compiled and annotated by folks like Jack Herer and his friends. See <http://www.jackherer.com> and <http://www.myspace.com/hempjack>.

Hemp was outlawed in 1937 in a fraud on the US Congress that is still not widely known. After an intentional and racist twenty-year campaign of yellow journalism slandering the "marihuana" becoming popular with blacks in the US after its introduction in the South by Pancho Villa's army's excursions into the US, marijuana was outlawed without telling the Congress it was in fact the hemp plant, the cannabis extract of its flowers being a main ingredient in most all patent medicines for decades before and after the turn of the 20th century.

The American hemp fuel industry was pioneered by Henry Ford who was against the oil monopolies and favored bio-fuels for automobiles. He even grew hemp showing how this was a superior alternative.

But in the early part of the 20th century most of the new industrial monopolists were interconnected by the emerging corrupt banking industry, those who put maximizing profits above all considerations including cost to consumers.

When the cotton gin analog for processing hemp by machine was finally invented in about 1917, this threatened many industries then emerging including the new paper industry begun about 1900 with the discovery of the process using sulfuric acid to bond the lignin in cellulose to enable paper to be made out of trees.

Newspaper magnate William Randolph Hearst was so heavily leveraged into ownership of forests to produce paper for his newspapers that he would have been bankrupted by a strong hemp industry using the new hemp decorticator machine because it takes much less sulfuric acid to make paper from hemp cellulose, and hemp is renewable.

So Hearst orchestrated his yellow journalism for the banks and other emerging industries like the growing petroleum industry, chemicals industry, alcoholic beverage industry, the fiber industry, and the drug industry, perpetrating this fraud on the Congress by outlawing hemp as marijuana. Then began the systematic expunging of the truth about hemp from the historical record and from the educational system in the US, by using the spurious and fallacious "narcotics hysteria" fomented and ongoing since that time.

Before the publication of Jack Herer's book "The Emperor Wears No Clothes" in about 1990 very few people knew about hemp, this suppression campaign being so successful. Since then many people have learned the truth by reading his book and others including Herer's first editor – Chris Conrad. See <http://www.chrisconrad.com>.

There has come to be a very strong network of activists by now who know the truth and are working at many well funded levels to correct this situation. They know that the energy industry uses of hemp are important but they do not know much about the new energy technologies or the documentation of their suppression.

So including hemp energy industry suppression in this compilation about suppressed energy technologies will link these two key issues, both of which are needing widespread implementation to address global climate change as per the testimony of experts such as Dr. Brian O'Leary, who has started numerous new energy groups, and Alden Bryant, the grandfather of the UN Climate Stabilization Treaty movement and Earth Regeneration Society. See <http://www.brianoleary.com> and <http://www.earthregenerationsociety.org>.

This will afford the already established hemp issue activists the information they need to better open the minds of the American public and to also champion the end to suppression of new energy inventions, because they are fighting against a "drug war" prejudice. By their knowing and showing how the energy inventions are also being suppressed, the public could be awakened to the fact and the nature and scope of this industry-government collusion in suppressing any information that threatens the status quo of contemporary industry.

This will help them overcome the "drug war" as the smokescreen for the prohibition of hemp for all of its uses including energy and to replace the need to cut down so many trees and to re-green the planet to ameliorate climate change.

For an article explaining more about this double-edged sword to cut this Gordian Knot of suppression, the new energy technologies inventions plus a global scale emergency Hemp for Victory campaign, and why both are needed to remedy Earth's current climate crisis, see <http://www.angelfire.com/on/GEAR2000/gear.html>.

David Crockett Williams, Global Emergency Alert Response 2000
<http://www.angelfire.com/on/GEAR2000>, <http://www.myspace.com/davidcrockettwilliams>

Williams recently emailed The Canadian's article "Over 4.5 Billion people could die from Global Warming-related causes by 2012" in <http://www.agoracosmopolitan.com/home/Frontpage/2007/01/08/01291.html> which explains that the global warming crisis is much more immediate and dire than commonly understood. Western Siberia's 400 billion tons of methane in permafrost hydrate is gradually melting, releasing methane into the atmosphere. The released methane will speed the melting even more, initiating the rapid onset of runaway catastrophic global warming. Methane is more than 20 times as strong a greenhouse gas as carbon dioxide. Even a couple of billion tons of methane being emitted into the atmosphere each year would be catastrophic. For comparison, the atmosphere currently contains only about 3.5 billion tons of methane. 2012 is only five years away! A study by several thousand experts "Global Warming: The Final Verdict" in http://www.truthout.org/docs_2006/012207L.shtml dispels any doubts of a looming global catastrophe.

Dean Warwick: Ampliflaire Efficient Wood-Burning Stove

Dean Warwick's patented Ampliflaire is a major break-through in heating technology and is the only heat exchange process capable of raising combustion cycle efficiency within fuel burning systems. Other systems of heat exchange by their very nature must lower combustion cycle efficiency.

Ampliflaire recovers the heat energy other systems lose. Wherever fuel is burned or heat energy is wasted, there is a unit to resolve the problem, and flue-pipe models, retro-fitted to conventional boilers, convert them into overall effective condensing systems with remarkable savings.

Ampliflaire open fires release the electrical energy in plants, absorbed from the sun during the growing cycle. Grown fuels are the most efficient converters of solar energy, and the burning of grown fuels in this way is the safe way to make available energy from a nuclear reaction.

As hydroxides (OH) of carbon (C), the potential energy in plants far outshines their current use. With the largest man-made forest in Europe, the United Kingdom Government already recognizes a commitment to grown fuel which can easily satisfy British needs. Examples are winter species grass for methane gas, bio-diesel, hydrogen from plants, liquids, and wood replenishing solids.

Ampliflaire reduces heating bills by approximately 90%, reduces pollution, increases property value, removes household dust, eradicates condensation, and efficiently circulates refreshed air.

The company's brochure features numerous practical cases of individual or commercial clients who are now enjoying the benefits of Ampliflaire. From small cottages to large hotels, from churches to business premises, the company has an efficient and effective system available.

Dean Warwick keeled over dead October 7, 2006 in the middle of a Unidentified Flying Object (UFO) conference presentation in Blackpool, UK. Mr. Warwick was an alternative energy pioneer, former U.S. Government officer and intelligence insider who had promised to make some momentous announcements. The circumstances suggest a Central Intelligence Agency (CIA) 'hit' using an Extremely Low Frequency (ELF) weapon. These ELF weapons can be set on a 'delta wave' and are able to shut a person's nervous system down.

Much of this technology has been perfected on the 4th level of the CIA underground Dulce facility in the New Mexico desert. The fourth level of this underground base deals with technological aspects of human aura research, dream manipulation, hypnosis, telepathy and advanced mind control. The ELF weapons 'suck' the life out the victim's body, and Warwick literally 'fell asleep' on his feet. The suspected assassin was followed out of the auditorium by a quick-thinking woman who then observed him laughing as he proudly reported his murderous deed on his cell phone. (Sources: <http://www.ampliflaire.co.uk>, <http://www.thetruthseeker.co.uk/article.asp?id=5337>, and <http://www.thetruthseeker.co.uk/article.asp?ID=5290>)

Idaho Inventor: Advanced Zero-Point Energy Device

During the FBI siege at Ruby Ridge, Idaho, where the FBI shot to death a mother and child during a standoff concerning alleged illegal firearms, an inventor happened to be living and working on an advanced zero-point energy device in northern Idaho.

As the story goes (told to Erik Masen by an investor who was on his way to visit "Inventor X," who had just made a breakthrough in free energy but also, like Howard Rory Johnson, had made the mistake of publicizing his breakthrough on a local TV station):

The day before the investor arrived, two U.S. Government agents broke into the home, thinking that both Inventor X and his wife were away. As it happened, however, X's wife was still home and very familiar with the use of her hefty handgun. She held the agents at bay inside the house, while debunking their story that they were cable TV repairmen checking out the lines.

Had it not been for the siege at Ruby Ridge that day, who knows what else might have happened there. (Excerpted with permission from Erik Masen's article SUPPRESSION FROM HIGHER UP Inventors Beware! The Deadly Campaign Against Free-energy Devices, *Electrifying Times*, Vol. 8 No. 3 and also in http://www.electrifyingtimes.com/erik_masen_suppression.html)

Grant Hudlow: Method of Converting Garbage and Tires to Gasoline, Etc

During the early days of the Reagan Administration, much lip service was given and some money was budgeted to develop alternative sources of energy. Pahump, Nevada resident Grant Hudlow, a former rocket scientist, was funded to investigate converting garbage, biomass, and tires to gasoline, low-grade heat, fertilizer, and saleable chemicals. His method began to look so promising that the oil companies and their allies in the Reagan Administration got scared and arranged to cut off his research funds. (Source: Gary Vesperman)

Joseph Newman: Energy Machine

In the news some years ago was Joseph Newman's energy machine. While Reagan stalled on acid rain, and Hodel pushed offshore drilling, the U.S. Patent Office continued to block commercial development of this latest of many government-smothered free energy devices. Newman sued the Patent Office for refusing to grant his machine a patent, in violation of its own regulations and the advice of the expert they chose to examine the device. They also issued false statements to the press about the invention's workability.

Over thirty respected electrical engineers, physicists and technical experts have endorsed Newman's machine and signed affidavits confirming his claim of greater energy output than external energy input. Ten congressmen have introduced bills which would require Newman's patent be granted.

As the Newman battle heated up, President Reagan appointed Donald Quigg, a thirty-year Phillips Petroleum executive, to head the U.S. Patent and Trademark Office. The judge entrusted with the case, Thomas P. Jackson, has violated judicial procedure, ignored expert testimony and ordered Newman's prototype confiscated and destroyed. During Watergate, Jackson was the attorney for John Mitchell and the Committee to Re-elect the President's corrupt finance division.

Newman identified the gyroscopic properties of subatomic particles and built a unique arrangement of coils and magnets to draw energy directly from them, thus converting almost immeasurably small amounts of the machine's mass into energy. Theory and device are detailed in "The Energy Machine", \$38.45 including postage, from Joseph Newman Publishing Co, Route 1, Box 52, Lucedale, Mississippi 39452; 601-947-7147. Free press releases and brief technical descriptions are also available; send SASE. (Newman's claims and theories do not seem to be universally accepted among mainstream physicists and engineers. Gary Vesperman)

Bill Jenkins (Reporter): Free Energy Machine

BILL JENKINS: Free Energy Machine. Live on Something's Happening. Audio cassette #A1008-90 \$9.00.

Bill Jenkins hosted the ABC radio "Open Mind" program for 7 years, the most popular program in the country in its time slot. He dealt with "New Age" topics and was taken off the air. Here he discusses the program and his adventures since, including a near arrest on treason charges for preparing to market a free energy machine.

Volcheck: Engine Powered by Gas with Unusual Expansion Properties

In 1995, a man named Volcheck of Grand Coulee, Washington, made a trip across the United States and back in a car powered by a special gas he developed that had unusual expansion properties. He claimed to have obtained the formula from some unpublished notes of Leonardo Da Vinci.

Volcheck says the gas expands enormously at about 395 degrees Fahrenheit to 450 pounds pressure. In other words, from approximately 390 to 395 degrees Fahrenheit, the gas expands from a volume of one unit to a volume of 10,000 units. He used this gas in a modified Franklin aircraft engine which behaved more like a steam engine. He never refueled during the trip, consuming \$10 worth of this special gas.

Soon after his return, some congressmen invited him back to Washington, DC, for a special hearing and congratulatory meeting. While he was gone, U.S. Government federal marshals or a S.W.A.T. team forced entry into his shop, confiscated or destroyed his record-setting car, plans, components, and special gas containers. They subsequently told him to forget any more projects like this.

Gianni A. Dotto: Anti-Aging and Anti-Gravity Thermionic Couple

DATE/TIME: 06/13/93 10:05
From : ROBERT BONNER
To : DAVID MCWHERTER
Subject: (R) UV radiation + us
Folder : A, "Public Mail"

"Dave, There was an Italian researcher (actually he had a Ph.D.) who did research on how magnetic fields affected the body. He made about 3 or 4 classifications of magnetic type energy fields. Two were bad; one had some health benefits but in the long run had detrimental effects. The last one was, of course, the one he speaks of as far as research goes. This person's name was Gianni A. Dotto, born in Venice. His main area of research was "Bio-physics". Anyways, he built something that resembled a thermionic couple. It also levitated too... I said his name "was"; he's dead – murdered some time back. His device worked really well as far as curing cancer goes. And he was killed for it. Run over, several times to ensure his demise. [Details about the Dotto Ring are available online at <http://www.rexresearch.com>]...

"His ideas on how our DNA is electrically controllable is fascinating. With this device you could theoretically live until you died of an "accident". Once you reach about 40 something, (well, let me put it differently...) Once your body reached 10 base pairs per turn (DNA lingo) you could use the device to SUSTAIN that state of being, anything less than that and you begin to deteriorate. i.e. grow old... Now, if, perhaps, you could find the right setting, maybe you could be 25 forever. But who in the world wants that?!?!"

"There were "reverse aging" effects detected on his elderly patients. So this is where all that mess above comes from. It isn't claimed to just be theoretical; he (Dotto) witnessed it. Anyways, I have the document and have read it. Would be cool to build.

"The most expensive piece is the ring part; it is an alloy. But, it would cost about 13 grand to build, maybe less if you knew the right people. It might be worth it for immortality and a life free of cancer and AIDS and the common cold. --- Robert Bonner"

IPMS: Thermal Electric Cooling Devices

The I.N. Frantsevich Institute for Problems of Materials Science (IPMS) was established in Kiev, Ukraine in 1951. It operated in absolute secrecy and was totally unknown to the American intelligence community until just prior to the implosion of the Soviet Union in August of 1991. The mission of the Institute was to use whatever tools or means were necessary to know everything there is to know about materials. They had no production deadlines to contend with, and there was not a single applications engineer in the entire organization.

The 6600 scientists and technicians who worked in the Institute developed an entirely new model of nonlinear quantum mechanics to describe the forces which make the world we live in behave as it does. This new model suggests that the material world is substantially different from the world described by the models relied on in the West. Seven new sciences, twenty-seven new technologies, and one hundred thirty previously unknown materials developed in the Institute are based on the same revolutionary new model of quantum mechanics.

Research and development in the deposition and culture of layered crystal lattices has produced an entirely new class of materials, previously unknown to Western science. These are referred to in recently submitted patent application documents as "Thermal Electric Cooling Devices". Because of the nature and function of a specially designed combination of crystal layered "hosts" and their intercalated "guest" materials, these specially designed capacitors actually absorb energy when subjected to a flow of electrical current, producing a specific cooling effect on the material surfaces. All other known materials produce heat when subjected to the same conditions. Temperatures of 60 degrees Kelvin (-259 degrees Fahrenheit) have been produced under controlled, carefully documented laboratory conditions. This is cold enough to liquefy free-standing nitrogen gas from the atmosphere.

The potential applications for this technology are manifold, but perhaps the most important is the potential it provides to totally eliminate any need for the use of compressed fluorocarbons of all types in refrigeration. Parallel applications in the telecommunications, computer and electronics industries have also been demonstrated to be highly effective and cost efficient, particularly as they relate to the use of super-conductive materials.

Arrangements to commercialize these useful energy inventions by joint ventures of the IPMS and more than a dozen private sector companies have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

Bob Lantz: Lantz Water and Power System

From : "Jerry E. Smith" <jerryesmith@gbis.com>
To : "Gary Vesperman" <vman@skylink.net>, "gear2000@lightspeed.net" <gear2000@lightspeed.net>, "halfox@qwest.net" <halfox@qwest.net>, "mruppert@copvcia.com" <mruppert@copvcia.com>
Subject : RE: Lantz needs Reno attorney
Date : Sat, 9 Feb 2002 08:58:07 -0800

Hi, I'm not sure who I'm responding to, so I am sending this to all of you. The only lawyer I know in the area who might be interested in this case is Day Williams of Carson City. He is a civil rights and personal injury lawyer who has represented me in the past (also the late Jim Keith and Sirhan Sirhan!).

Day R. Williams
Attorney at Law
204 N. Minnesota St.
Carson City, NV 89703-4151
775/885-8398
daywillia@aol.com
www.daywilliams.com

I hope this is of some assistance.

Jerry E. Smith
Author, "HAARP: The Ultimate Weapon of the Conspiracy"
(Adventures Unlimited Press, 1998)
<http://www.jerryesmith.com>

-----Original Message-----
From: Gary Vesperman [SMTP:vman@skylink.net]
Sent: Saturday, February 09, 2002 8:06 AM
To: Jerry E. Smith
Subject: Lantz needs Reno attorney

Jerry, I don't know anything about this, and I am too busy to even read it.

Gary

From : "David Crockett Williams" <gear2000@lightspeed.net>
To : "Hal Fox" <halfox@qwest.net>, "Gary Vesperman" <vman@skylink.net>, "Michael C Ruppert" <mruppert@copvcia.com>
Subject : Urgently need referral to Reno area attorney for Lantz
Date : Fri, 8 Feb 2002 02:16:08 -0800

WWII vet framed by CIA agent to stop energy inventions?

Below is draft of press release I will finalize with Lantz on the phone this morning and send to media lists etc. Please let me know if you can refer an attorney in Reno area who I can phone today to help with Lantz court appearance Monday Feb.11 at which his date to surrender to jail will be set.

From: "David Crockett Williams" <gear2000@lightspeed.net>
Subject: WWII vet framed by CIA agent to stop energy inventions?
Date: Thursday, February 07, 2002 10:06 PM

Seventy-five year old retired chemist and engineer Bob Lantz of Reno, Nevada, fought for the United States as a Navy pilot in WWII, but Monday the U.S. Government is set to imprison him, to "die in prison" according to his "public defenders", in an apparent scheme to suppress his new-energy invention to replace nuclear and fossil fuel power. Perhaps paralleling the case of Horst Jeske, jailed for years in a bogus fraud conviction set up by wired funds transferred by Frederick van Boduncan years after Jeske introduced him to Lantz as a CIA agent, and the case of San Francisco investigative journalist George Williamson who identified Boduncan from his research as a CIA operative previously involved in smuggling drugs into the US via oil rigs in the Gulf.

George Williamson was later named in a lawsuit by Mohamed Al Fayed against the CIA and other government intelligence agencies regarding purported CIA documents Williamson offered to Al Fayed linking the agency with the death of Princess Diana.

Lantz reports Monday for a custody surrender hearing after his sentencing to 5 years imprisonment for a fraud in fact perpetrated without his knowledge by Norbert Vogler of Colorado who forged investment certificates with Lantz' signature notarized by his friend who later acknowledged that Lantz was not present when the forged signatures were notarized -- one of 237 lies that Lantz has documented by Federal prosecutors in his trial after the government put him into poverty by illegally confiscating over \$250,000 from him after a raid in 1994.

Why would anyone want to put an old man in jail who is so scrupulously law abiding that he never even got a speeding ticket, someone who accepted the government secrecy order suppressing the Papp Air Engine and therefore cancelled his contract to make Papp's prototype, someone who even calmly accepted the multimillion dollar loss in business due to U.S. Government denial of his permit application to export his water purification Sonofloc System 77 to the government of Egypt for seawater desalination?

Could it be that powerful people within the U.S. government are implementing covert policies to keep new energy inventions suppressed that would threaten the fossil fuel and nuclear power industries? Copious evidence says yes, and that Lantz' troubles really started after he began making new-energy system prototypes for other inventors in 1977 culminating with his 1989 discovery of an "overunity" energy generation system which combines his System 77 with an ultracentrifuge so the overall device not only purifies any kind of water but also produces sufficient heat to produce megawatts of electricity without any fuel at all, perhaps by "tapping the zero-point energy" with a kind of device the US Department of Energy in 1998 called "the Holy Grail of energy research".

How else could it be possible for this bogus fraud case to even be prosecuted after expiration of statute of limitations, with falsified evidence and the apparent collusion of prosecutors who lied and public defenders who refused to contest the lies and offer documentation of innocence? Why else would Boduncan have brought this "gold certificate scheme" to Lantz as a funding mechanism for his invention?

The Lantz Water and Power System was first tested in 1989. It can solve our global energy and water quality problems.

And what does he get for it? An unacceptable "deal" offered by prosecutors and pushed by two successive public defenders who each claimed he "would die in jail" unless he took the plea bargain acknowledging guilt and forfeiting his assets (over \$100k of that confiscated was not even in his name), a "raw deal" which this War Veteran refuses to accept.

Are we to sit by and let this happen or will concerned citizens and media bring his story out so he can get the legal help he needs to get his bogus conviction reversed, his name cleared and his money back so he can pursue development of his New-Energy System?

There is a vault at the US Patent Office containing 5,000 patents ordered secret by the government, confiscated from the inventors who are threatened with 20 years in jail if they release the information as per "dual-use" secrecy law uncovered under Freedom of Information Act and reprinted on p.162 of Jeane Manning's book "*The Coming Energy Revolution*". Her book provides overviews of various energy inventions. Isn't it about time we did something to take this situation under public investigation and control, especially motivated by the current Enron fiasco exemplifying the "ethics" of the fossil fuel industry and government complicity in "rigging" the energy industry?

Can we help Bob Lantz become a hero of this coming energy revolution instead of its casualty? Certainly our surviving WWII veterans deserve better treatment from our country citizens that they love and fought and died for.

Dr. Timothy Trapp: 127 Energy Technologies

Dr. Timothy Trapp, Warren, Ohio, is President of the non-profit company World Improvement Technologies (WITS). A contact email for WITS is wits2011@yahoo.com. They also have another non-profit organization called World Improvement Through The Spirit (WITTS) ministry.

Dr. Trapp called Gary Vesperman June 24, July 1, and again on July 4, 2006 with accompanying emails to provide more details on the companies' activities and suppression history.

Currently employing 11 scientists, WITS has been active in producing, installing and servicing free energy systems worldwide for 19 years. Dr. Trapp and the two non-profits have developed over 127 energy technologies. Approximately 20 utilize cracking water into oxygen and hydrogen, approximately 14 are gravity motors, approximately 50 are radiant energy machines, and the remaining are miscellaneous energy, propulsion and pollution remediation devices.

127 energy technologies are currently commercially available, including large-scale over-unity power plants – 5 megawatts and up. Many of these power plants are under construction in foreign countries but not in the United States due to suppression by the U.S. Government. WITS also makes and sells a device for 30 dollars that can be added to any electrical system that has batteries which would drastically increase the efficiency of that system (e.g. cell phone, radio, electric car).

Dr. Trapp states that if governments were FOR this technology instead of against it, a home-power generator the size of a desktop computer could be built and sold for about the same cost as fuel powered generators or less.

When Dr. Trapp moved back from Alaska, upon arrival, the shipping container containing his tools, equipment, etc., had been emptied. In spring 2001, Trapp's lab in Arizona was raided. At the end of 2001 two WITS scientist assistants were (and currently still are) in Ohio prison on trumped up drug charges.

In the past 20 years the U.S. Government has destroyed over 14 WITTS laboratories. As recently as spring 2006 a WITTS laboratory burned to the ground. The contents of each laboratory contained millions of dollars worth of equipment and several costly free energy machines. Dr. Trapp's laboratories were raided, his equipment was smashed, and his people were beaten and arrested numerous times on false charges. False evidence was planted many times.

After beating up one of his WITTS salesmen, the salesman was then killed by driving the salesman's car off a cliff. Another WITTS employee was also murdered by U.S. Government and so-called law enforcement agents. There have been numerous attempts on the lives of Dr. Trapp as well as many of his associates.

Dr. Trapp wrote "This really should be a wake-up call to the people of America who believe we have religious freedom here. We don't, when it comes to anything that might help the little guy.

On the positive side, with energy prices constantly going up, there is more activity than ever in alternative energy. Power plants are going in many countries. And a few countries are seriously working to get off fossil fuels all together."

From : Jerry Decker <jdecker@keelynet.com>
To : Gary Vesperman <vman@skylink.net>
Subject : Re: Trapp energy suppression
Date : Sun, 23 Dec 2001

Hi Gary! His name is Tim Thrapp.... (Not entirely correct. His name is Dr. Timothy Trapp. Vesperman) he used to live in Alaska. He was the one who told me about Henry Ford working with John Keely to create an arrangement inside early Model Ts so that magnets placed in them would make them self-running....the story goes that Ford was threatened by the oil companies for graft (kickbacks) or something along those lines...so he did this magnet trick as insurance...no one has yet come back with any proof of the claim that SOME Model Ts had these slots in the bell housing where magnets could be placed to make it self-running...here is the file; <http://www.keelynet.com/energy/ford.htm> (Vesperman: This can not be entirely true. John Keely died in 1898.)

When Tim called me several years ago with that story, he said one of the cars had been found and the engine or a copy of it had been demonstrated, and the inventor killed on his drive home with the engine on a trailer...the engine was stolen... Tim also said he had some radical new power generator capable of 50 kilowatts but he gave no details about it...this was back in 1997....see ya!

Gary Vesperman wrote:

Dear friends, I have received a letter from an energy inventor the following new energy suppression incident: "Tim Trapp, from Ohio, was put in jail by the federal authorities in Arizona and by the state police in Ohio."

Without success I conducted some searches for Tim Trapp on keelynet.com and google.com.

Do any of you know of any authoritative reports on Mr. Trapp's energy suppression troubles?

Gary Vesperman
702-435-7947

Jerry W. Decker - <http://www.keelynet.com>

Richard Diggs: Liquid Electricity Engine

Richard Diggs, Custom Invention Agency, P.O. Box 11, Carthage, Missouri 64836; patent process on hold, though he has over two hundred others. Diggs developed at an inventors workshop (I.W. International) his "Liquid Electricity Engine" that he believed could power a large truck for 25,000 miles from a single portable unit of his electrical fuel. Liquid electricity violated a number of the well known physical laws that the inventor pointed out. The inventor was also aware of the profound impact the invention could have upon the world's economy – if it could be developed.

David G. Yurth (Reporter): Remediating Nuclear Waste Materials

From: David G. Yurth [mailto:davidyurth@comcast.net]
Sent: Saturday, April 15, 2006 5:27 PM
To: 'STetreault@stephensmedia.com'
Subject: Remediating Nuclear Waste Materials - UNLV

Dear Mr. Tetreault: After reading your article in the Las Vegas Review Journal entitled "Nuclear Project Draws Interest," I thought it may be of interest to you to know that the DOE has played this game with university and privately funded laboratories for many years. Perhaps the most comprehensive review of this subject ever undertaken was prepared by Mr. Richard Shamp, President of Nuclear Remediation Technologies, headquartered in Hyattsville, Maryland (301) 559-5057.

Beginning in 1997, NRT and its chief scientist S-X Jin [once the highest ranked particle physicist in the People's Republic of China, until he escaped to the US in 1994 while addressing the Institute of New Energy symposium in Salt Lake City, Utah] have been submitting critical laboratory documents to DOE, demonstrating the effectiveness of known technologies used to remediate radioactive emissions generated by nuclear fuel waste materials in both solid and liquid form.

After being finessed into providing all the definitive laboratory data to Dr. Frank Goldner of DOE's nuclear remediation division, then-Secretary of DOE Spencer Abraham attempted to confiscate, classify and impound NRT's technology while at the same time pretending to be considering providing grant money to support its continued development.

The fact that the technology in question had already been awarded six patents [K. Shoulders et al] was the only thing that prevented him from succeeding. Instead of providing grant funding, Dr. Goldner was instructed to put an end to NRT's pursuit of DOE funding for the development and deployment of its technologies. And that is precisely what he did.

During a conference call held on November 15, 2003, I was informed by Goldner that not only did DOE not intend to ever provide any funding to anyone for the purpose of remediating radioactive emissions in spent nuclear fuels, he insisted that it is and will continue to be DOE's policy for the next 40 years to encapsulate and bury every ounce of high-grade nuclear waste material stored in the US under ground at Yucca Mountain.

Further, he told us that any attempt to obtain any high-level nuclear waste materials for testing by anyone, including government funded laboratories, would be arrested and jailed without access to legal counsel under the Export Administration Act. I still don't know what the EAA has to do with remediating radioactive emissions, but that is what he said.

In 1999, while Elliott Richardson was Secretary of DOE, NRT was awarded a discretionary grant of \$2,000,000 for the purpose of advancing its test schedule. The work was to have been undertaken in concert with Dr. George Miley, physicist in residence at the University of Illinois at Champaign-Urbana – Dr. Miley's laboratory at the Champaign-Urbana campus was level 2 accredited by DOE, and was therefore acceptable as a test and development site. However, within less than 90 days after the announcement of the grant had been published, pressure from within the Department rose to such extraordinary levels that Secretary Richardson was forced to withdraw the grant, albeit grudgingly.

The only similar technology ever contemporaneously developed in the US for the remediation of radioactive emissions in high-grade nuclear waste materials was developed in the late 1990's by Dr. Paul Brown and his colleagues at World Atomics in Colorado Springs, Colorado. After being granted several patents for the 'Nuclear Spallation Device' he designed, Brown contracted with several Japanese contractors to build three successively powerful prototype versions of his device.

He had them built in Japan because DOE actively intervened more than a dozen times to prevent US companies from building it. The problem with Brown's device was that it was little more than a small, semi-controlled nuclear fission-powered device designed to continuously bombard nuclear waste material targets with a highly charged gamma ray field. Because it was so dangerous to operate, Brown was never able to obtain the necessary State Department or UN transport clearances to have it shipped across international waters into the US for further testing and development.

As you may recall, Dr. Brown was killed shortly thereafter under the most questionable of circumstances, just as the utility of his nuclear spallation technique was about to be publicly demonstrated in Japan.

(Only a month before he died, Dr. Brown met with me, Gary Vesperman, and a few of my business and science associates in Henderson, Nevada to present his method of neutralizing radioactive waste. His method is No. 13 in my list of methods of neutralizing or disposing of radioactive waste in <http://iic.de/docs/GVComparison.htm>. A few weeks after Brown's suspicious fatal car accident, Art Rosenblum also died in a car accident. Rosenblum had been enthusiastically promoting Randall Mills' Blacklight Power Inc.'s energy source.)

We have known how to safely remediate radioactive emissions from spent nuclear fuels, both liquid and solid, for nearly a decade. We have the test data and prototype apparatus to prove it. That data, including all the protocols, policies, procedures and experimental design criteria associated with our work have been submitted to DOE many times over – Dick Shamp can tell you all about it if you want to go to the trouble to ask him – with the net result that DOE will not allow the US Postal Service to deliver our proposals any longer. If you want to see what is really going on with nuclear remediation, this is a very good place to begin.

Thanks for writing your article – you're about to find out how big Pandora's box really is.

David G. Yurth, Ph.D.
Director Science and Technology
Nuclear Remediation Technologies, Inc.

(Yurth's letter to Tetreault has not been published in any Las Vegas publication. Why? Maybe to protect the profitable contracts to be generated by the DOE-estimated \$150 billion lifecycle cost of the Yucca Mountain Nuclear Waste Repository? Gary Vesperman)

Paul Brown: Hyper-Cap E-Converter

Paul Brown, Ph.D., had invented this device which Gary Vesperman wrote up for his "Advanced Technologies for Foreign Resort Project" (see <http://www.icestuff.com/~energy21/advantech.htm>).

"Perpetual Battery. The hyper-cap E-converter is a thick quarter-sized battery which would put out .001 watt "forever" for such applications as critical components inside fail-safe computers, cellular telephones, etc. The energy comes from tapping ether fluctuations."

The following is excerpted with permission from "Inventor Paul Brown's Nightmare Story", *Electrifying Times*, Vol. 10, No. 1, www.electrifyingtimes.com. His story originally appeared in Jeane Manning's book "*The Coming Energy Revolution*" www.jeanmanning.com.

Brown invented a novel method for converting natural radioactive decay material into electricity in the form of a battery. In February 1987 the proud inventor and his associates at a private research company in Boise, Idaho, decided it was time to make a public announcement of his discovery.

A series of traumatic events followed. The Idaho state departments of health and finance filed complaints against both the company and Brown. His license for handling radioactive materials was suspended. He began to receive anonymous threats, such as "We will bulldoze your home with your family in it."

Relocating the company to Portland, Oregon, did not stop the troubles. Despite the fact that a 1988 Fortune magazine article commented favorably on the nuclear battery venture, securities fraud charges were filed against Brown and his company. Oregon's finance department investigated, as did the Internal Revenue Service and the Securities and Exchange Commission.

After meeting each challenge, Brown redoubled his efforts to develop his technology, but events worsened. His young wife was assaulted. Even in their home they did not feel safe; it was robbed three times and vandalized on four other occasions. Brown was accused of drug manufacturing and eventually lost control of his company. The Browns' also lost their home. Finally, the pipe bombing of his mother's car in the early 1990s drove Brown to become a recluse.

"I understand now why inventors drop out of society," he said in a 1991 open letter to other new-energy researchers. His advice to them! "Keep a low profile until you have completed your endeavor, be selective in choosing your business partners, protect yourself and your family, and know that the nightmare stories are true." Brown eventually died in a suspicious car accident in April 2002.

Ira Einhorn: Free Energy and Mind Control Researcher

(Excerpted from "A Snapshot of my 70's" by Ira Einhorn, September 1, 2002)

... What Geller could do, I saw a lot of it first hand, indicated that the basic physical framework in which physics operated was inadequate and that so called "free energy" devices -- devices that would solve our energy problem and end what is now called global warming and allow for the decentralization of most economic activities -- could become a reality. Hence I circulated all previously known anti-gravity information and all the emerging work on "free energy" devices.

Unfortunately, all new technology can be used as weaponry as well as for human benefit. So, I was soon up to my ears in a multi-pronged intelligence game that is still waiting to be unraveled...

... So when the opportunity arose, after a series of dinners and meetings in Princeton and New York with Bogdon Maglich, the head of Migma Fusion, the only private nuclear fusion research operation in the United States, and a number of Yugoslavian government officials, I agreed to help organize a large Tesla celebration. To this end, I enlisted the support of the president of the prestigious Franklin Institute in Philadelphia, Bowen Dees, and after a stint at Harvard and with the blessing of the Yugoslavian Consul-General in New York, I went off to Yugoslavia, to spend days at their expense, as an unofficial ambassador.

I was planning to do many things during this celebratory conference that would have linked the Tesla Museum in Beograd with the Franklin Institute in Philadelphia: besides giving Tesla his just due and showcasing his achievements in a major exhibit at the Franklin Institute, while holding a major international conference on his works, I would also have organized a smaller conference on the suppressed aspects of his work in mind control and free energy and found a way to directly demonstrate mind control to those who came to the conference.

In the fall of 1978 I was a Fellow in Residence at the Institute of Politics within the Kennedy School at Harvard. I taught one course, ran a small lunch time chat series in which Harvard luminaries, Ambassador Reichauer, E. D. Wilson and Karl Deutsch, among others, ate and chatted with 5 or 6 of us for a couple of hours; I lectured in every conceivable venue at Harvard, conducted a number of public symposiums, brought a number of the members of my Network to Harvard to lecture, ate dinner with a host of well known political figures, and made an inordinate amount of noise about mind control technology and the Russian Woodpecker to, among others, then CIA head Stansfield Turner. This led to a meeting in the Boston Airport, arranged by one of JFK's chief aides, on the matter with a top defense intelligence scientist who ended up spending the evening with me and giving me his home telephone number.

In 1979 I received a small private foundation grant to study free energy devices in preparation for a large involvement in such activities. I was planning to visit all of the inventors personally and then prepare a report that would have formed the basis of a venture capital enterprise that had been encouraged, due to some of my mailings, by a number of my affluent friends. The objective was to develop and bring one device to the marketplace...

...All was not to be. I was busted for a murder I did not commit, and all my work on mind control and free energy became history. [signed] Ira Einhorn September 1, 2002

The following is excerpted from Ira Einhorn's July 5, 2002 email:

Robert Eringer proposed all kinds of book schemes for me; schemes in which I was not interested. Nor did I find any of the people my agent sent to me, re: the biography, to be of interest. Thus when Eringer suggested he would like to look at my fourth novel, Cantor Dust, which was near and dear to my heart, I informed my agent and sent it to him. Eringer was very enthusiastic about it. He said he would prefer to do my autobiography, but would work on getting my novel published as an opener to getting my autobiography. I said he was welcome to try. Thus began a continuous stream of many hundreds of e-mails between this alleged intelligence operative and myself, broken only by his journeys to England, wherein he told me he saw a number of publishers without success and one new house that agreed to publish Cantor Dust when they were actually in business, and his family vacations. We were still at it the day I was extradited to the United States: July 20, 2001... [Deleted]...

One of Robert Eringer's closest associates is Claire E. George, past Deputy Director of Operations for the CIA, in charge of covert operations for the entire planet. Sources who have researched the situation indicate that Claire E. George and Robert Eringer have worked together on a number of operations, still work together and have a pile of money at their disposal.

Einhorn presents the highlights of his case in <http://groups.yahoo.com/group/Ira-Einhorn/message/454>.

"We'll know our disinformation program is complete when everything the American public believes is false." -- William Casey, CIA Director (from first staff meeting, 1981) (Source: THE BROTHER JONATHAN GAZETTE DAILY DIGEST Wednesday June 28, 2006.)

How much is good press worth? To the Bush administration, about \$1.6 billion. That's how much seven federal departments spent from 2003 through the second quarter of 2005 on 343 contracts with public relations firms, advertising agencies, media organizations and individuals. (Washington Post; Feb. 14, 2006) (Source: <http://www.washingtonpost.com/wp-dyn/content/article/2006/02/13/AR2006021301897.html?nav=hcmodule>)

Thomas Henry Moray: Radiant Energy Pump/Electricity Generator

Thomas Henry Moray, Ph.D., (August 28, 1892 - May, 1974) was an inventor from Salt Lake City, Utah. Moray graduated from The Latter Day Saint's Business College. Moray studied electrical engineering through an international correspondence school course. He received a Ph.D. in electrical engineering from the University of Uppsala.

T. Henry Moray's research dates from the time he was 9 years old (1901). Over the 73 years of Moray's research, he left behind him a wealth of notes, not only pertaining to radiant energy, but a wide range of scientific research bordering all the way from the devulcanization of rubber, the influence of mineral reactions in the presence of high energy, bio-electronic effects (electrotherapy), sound pick up, solid-state physics, and finally the detection of energy that constituted the major endeavor of his work.

Moray was a pioneer in the field of electrical energy. As a youth he greatly admired Nikola Tesla and in particular was very interested in Tesla's obsession with the earth having a limitless supply of energy available to it from the universe. Like Tesla, Moray wanted to find out how to tap this energy. Like a lot of people he became amazed at the "crystal radio" where a crystal can be tapped with a fine wire to make a radio work – without any battery or power. Moray figured that if this was possible it should be possible to find a crystal (or "magnetic rock") that could be tapped for a power source.

Moray became very interested in the properties of certain rocks and crystal structures and the powders from them. He actually developed and utilized a transistor more than 20 years before anyone ever dreamed of such things. These solid materials are what he made his so-called Moray valves out of; they were like radio valves *but were not using a heated coil* like radio valves (also known as vacuum tubes in today's terminology). They were all cold with no external power to feed them. They were a mixture of semi-conducting materials and intricate one-way conducting materials (diodes in today's terminology). The Moray valve was therefore a solid-state device – unlike a radio valve that heated a plate to produce energy.

It is well documented that Moray developed a bipolar semiconductor as early as 1927. His germanium "valve" was working in 1931. In the 1930s Moray developed advanced semiconductors and transistor-like devices.

Moray provided a complete disclosure of his semi-conductor research to Dr. Harvey Fletcher of the Bell Laboratories. Dr. Fletcher later became head of the department at Bell Laboratories that developed the transistor. Moray, therefore, could be the true father of modern electronics since his work predated the Bell Laboratory bipolar transistor findings by at least 20 years.

During the 1930's T. Henry Moray was refused a patent on his cold semiconductor cathode because the patent examiner couldn't understand how it could emit electrons. The patent examiner reported that he could not allow the patent because he could not see how it would work since "the cathode had no means of being heated".

"He tried to patent his device, but the requests were denied because the item he called the "Moray valve" was too new a thought for the patent examiner. It was actually a germanium transistor, and solid states were unknown at the time." his son John Moray said. 20 years later the development of the transistor apparently proved that his device could actually have worked.

Both Nikola Tesla and Thomas Henry Moray consider harnessing cosmic energy (vacuum or zero point energy in today's terminology) as the most practical method of producing energy yet discovered by man. Furthermore, they thought it is possible to utilize this vast source of energy from the universe without a prime mover at any point on the earth or in space – on the ground, in the air, on the water, under the water, or even underground.

Radiant energy is energy that is transported by waves. This includes energy transmission in the form of waves through space or various media. Radiant energy is also energy transferred through electromagnetic waves. Solar energy is a type of radiant energy. Radiant energy is the sum total of all the energy that comes to the earth from all the universe. The earth also reflects back radiant energy into the universe. Our sun directs electrically charged particles towards us. Radiant energy may be calculated by integrating or summing radiant power with respect to time. Radiant energy is usually expressed in joules.

During the 1920s Moray demonstrated a "radiant energy device" to many people who were unable to find a hidden power supply or batteries. Moray called his device a solid-state detector or the "Moray valve". It basically comprised of a large antenna connected to a complex series of high-voltage capacitors, transformers, and semiconductors. By supposedly stimulating the existing oscillations of radiant energy from space, his device could generate electrical power without any man-made power input. By 1936, Moray had eventually engineered his device so that a 55-kilogram version could constantly produce 50 kilowatts of power for several days.

An electrical generator may be considered as not in the true sense a generator – as electricity is not made by the generator – but is merely an electrical pump. Moray's radiant energy device may then be referred to as a cosmic ray pump: that is, a high-speed electron oscillator serving as a detector of cosmic radiations which causes a pumping action or surging within its circuitry. Moray used the term "radiant energy" to describe that source of energy coming from the cosmos to earth and radiating from the earth back to where it came. This is the energy the Moray device captures and could be described as those particles of energy pervading all space.

What sort of an apparatus is Moray's radiant energy device? Briefly, it would appear to be similar to a radio receiving set of power proportions.

An antenna is connected to a 29-stage solid-state collector material; a small rounded pellet mixture of triboluminescent zinc, a semiconductor material, a radioactive or fissile material, and germanium. The device contains two coils of wire, or inductances. It also contains several condensers, or capacitors, of different sizes. There is a detector tube, or electronic valve, and two oscillator tubes. Added to this is a "bar of silver and a bar of copper", a starting device, and a step-down electrical transformer, reported to be 1000-to-1, primary to secondary.

After tuning of the device the semiconductor material acts as a one-way gate (diode in modern terminology) for surges of high-frequency background atomic ion energy which can go through the material more readily in one direction than the other. For conversion of ionic to electromagnetic energy to then be transformed into useful electrical power by conventional radio circuitry and a transformer, the device must be grounded.

All of this was enclosed in a box measuring about 30 inches long by 16 inches wide by 16 inches high. It weighed about 30 kilograms. There were no moving parts. Moray said there are no dangerous radiations surrounding the box when it is in operation.

Moray's 30-kilogram radiant energy device produced 4 kilowatts of cold electricity which was able to power light bulbs. However, electric motors require special winding to increase their efficiency. While commercially available electric motors will operate on the power from a radiant energy device, they are not as efficient as motors running on ordinary commercial currents. Moray says when his motors are running in the dark they glow with a violet aura. His motors ran cold!

It has been estimated that using current dielectric technology that a 50-kilogram radiant energy device could be built to produce 300 kilowatts – sufficient to power buildings and also electric vehicles.

Some persons who have seen radiant energy power lights say the bulbs look as if they were filled entirely with white light, as if the gas itself which fill the bulbs were fully incandescent. Moray believes this to be true.

Radiant energy will heat electric flat irons and other electrical heating devices. It is claimed heating capacities are reached much more quickly with radiant energy than with commercial currents, and are considerably hotter than when powered with ordinary electric energy.

One photograph shows Moray demonstrating his generator as it powers 50 100-watt light bulbs and a 655-watt Hotpoint iron. Thus he proved that his radiant energy device was not running off batteries – as his detractors said it did.

By 1936 he had developed a generating unit that weighed about 55 pounds and was capable of producing as much as 50 kilowatts of power on a steady basis.

On several hundred occasions Dr. Moray lighted a bank of 35 light bulbs with power from his simple but ingenious radiant energy device. There were 20 150-watt bulbs on the panel. At the same time the generator powered a 600-watt glow heater and a 575-watt flat iron.

Moray, as Nikola Tesla before him, was unsuccessful in introducing his devices working on this principle. Some report that his secret was forgotten. Moray tried for several patents to no avail.

These valves are ONE reason why patents were continually refused – as he was told "there is no such thing as free energy".

"You must put energy in to get it out." As patents were applied for, there were refusals due to the fact that the patent applied for "infringed other patents". Even though Moray patiently wrote details of how this could not be, the US Patent Office refused to allow any.

On the other hand, Moray gradually had perfected his device's output from a capacity to light one small incandescent light bulb to a present capacity claimed to be 50 kilowatts. Fifty kilowatts represents about 67 horsepower and, certainly, 67 horsepower is not to be disregarded. Many small factories do not use as much as 67 horsepower.

According to Moray, one of his radiant energy devices can be built for about \$800 (year is unknown as there has been considerable inflation). Mass production methods might cut this price in half. Under these circumstances, a unit in a home would bring about a substantial saving in power bills over several years time.

As many as 100 persons have witnessed radiant energy demonstrations. Radiant energy, as it emerges from the Moray apparatus, may be considered a form of electricity. It is an alternating current, but an alternating current of very high frequency.

If a photograph of a single bulb lighted with radiant energy is taken the print shows a large, dark ring, perpendicular to the base of the bulb. This ring looks like a circle of translucent black fog. It seems the light somehow reflects itself on the air, or projects a shadow of itself there.

The demonstrations attracted newspapers and scientists from Bell Laboratories and from the Department of Agriculture, but none could attest to how the device actually operated nor could evidence of fraud be found. Even though eminent scientists examined his device during and after its operation, and admitted that they could not understand the source of the power they had witnessed, still he was never able to gain their support for his work.

Moray refused to sell his technology to corporate interests, fearing its misuse.

In the later 1930's engineers from the Rural Electrification Administration (REA) were ordered to work with him by President Franklin Delano Roosevelt. A controversy grew between the inventor and the government engineers. As a result Dr. Moray charged that the REA was trying to sabotage his work.

Moray reported that he and his family had been threatened and shot at on several occasions. His laboratory was ransacked to stop his research and public demonstrations. Repeated assassination attempts were made against his life. It was necessary for him to bulletproof his automobile since he was shot at while driving down the public street. Small wonder that Moray developed an extremely alert and suspicious nature, and visitors to his desk often noticed a fully loaded pistol lying on the desktop within easy reach of his hand!

In 1940 Moray demonstrated before the members of the Public Utilities Commission (in Utah?) his free energy generator. It maintained a continuous output of 250,000 volts with no apparent input.

The next day Moray was found shot in his lab, and all of his notes were stolen. Moray had been wounded by shotgun pellets in his lab by an attempt to frighten him into handing over the secrets of his work. Except for his own skill with a pistol to successfully defend himself against his assailants, Moray would have been murdered.

An REA engineer named Felix Frazer who was Moray's assistant had gone berserk and smashed the Moray device with an axe. It was never rebuilt. The frustrated inventor could not afford to duplicate his invention. He went to his grave many years later convinced that the destruction of his device was part of a communist plot. Frazer apparently was angered that Moray would not sell his device to corporate interests.

There is a rumor that to stop the USSR getting this technology the equipment was destroyed by Moray's assistant. Or, the equipment was destroyed because Moray refused to unconditionally hand over all aspects of the devices he had built. It was further claimed that one of his sons dumped the entire contents of Moray's laboratory into a river – because of continued threats and harassment – not only to himself but to his family as well.

The entire truth may never be known, but it is a fact that Fraser became enraged and grabbed a sledgehammer and smashed Dr. Moray's device to pieces.

"Dad believed to his dying day it was all part of a communist plot," John Moray said. "He had refused to cooperate with certain known communists so his invention paid the price," Moray added.

"It certainly smacks of some kind of conspiracy," the younger Moray mused.

The tragedy of it all was in the fact that Dr. Moray's years of research and development, and his entire fortune were wiped out when his device was smashed with a sledgehammer. It had taken Moray 20 years and \$200,000 of his own money to develop it.

"Because of the expense and hardship in rebuilding the generator, which the patent office had refused to consider, my father never actually completed more than one unit at a time as he perfected it.

"Each updated model used parts from the previous model as he made improvements in successive stages."

Another factor in the total destruction of this marvelous technology was the demise of the various companies that provided Dr. Moray with components. Both the Great Western Radio Co. and the Baldwin Electric Co., which he worked with vanished as part of his resources.

"Inflation, the massive war effort and threats to my father's life spelled doom to any ideas he may have had for replacing the destroyed generator device," the younger Moray claimed. However, more than \$200,000 in the late 1920's and early 1930's would indeed translate into many millions today.

Make no mistake about it; Dr. Moray did what he claimed to have done. He had achieved free energy. The Soviet Union even offered to provide him his own fully equipped laboratory in Russia, with no expense spared, and to back his experiments fully. Fraser could have been a trained Soviet agent who had succeeded in working his way into Moray's confidence and gaining access to Moray's laboratory as a technician and assistant. When Moray still refused to give his invention and services to the Soviet Union, the assistant destroyed the device, smashing it to pieces with a sledgehammer.

Sadly, T. Henry Moray died with his dream unrealized and the original device destroyed.

Walter Rosenthal (Reporter): Small Electrical Power Converter

Walter Rosenthal was a retired aerospace engineer with some test equipment such as oscilloscope and voltmeters. He had closely followed for a long time development of new sources of energy and personally knew some energy inventors. (Rosenthal recently passed on from natural causes. He received much praise for his careful energy invention measurements. See for example Thomas E. Bearden's eulogy in http://peswiki.com/index.php/Site:LRP:Tom_Bearden_Remembers_Walter_Rosenthal_%26_Floyd_Sweet)

More than twenty years ago, Rosenthal became involved with an inventor's invention of a small electrical power converter. Something about converting a flashlight battery's DC to 4 watts of power with a high conversion gain. He realizes now that it would be a very valuable invention because it could be used in cell phones, laptop computers, portable radios, etc.

Then the inventor got a call from a man representing Atlantic Richfield (now ARCO). They offered the inventor \$40,000 to take it off the market. Otherwise, they would subject him to troubles, etc. He refused. They eventually offered \$400,000.

One day he came home to find a group of men going through his apartment. He asked them to leave, and has had no further confrontations. He has not done any further development work on this device. Perhaps consequently, as of a few months ago, he was still alive and well. That energy device is still not on the market.

Later on, Rosenthal figured out that the Atlantic Richfield people could only have known details about the invention by tapping either his or the inventor's telephone.

Joseph C. Yater: Heat-to-Electricity Converter

In September 18, 1975 Joseph C. Yater invented a heat-to-electricity converter that he says will cost the consumer approximately \$200 and would be up to 90% efficient. The device operates by capturing "fluctuation voltage" (the static noise heard on radios and amplifiers). The rooftop device would be heated by the sun and use millions of microcircuits to tap the freed electrons from heated molecules. Yater took his device to the U.S. Government, which declared that his device had "real potential". After promising him a working model within 6 months, the U.S. Government came back to him with the reply that the device would be impractical. Subsequent scientific analysis also revealed flaws in Yater's reasoning.

Adam Trombly: Trombly-Kahn Closed-Path Homopolar Generator

During the early 1980's Adam Trombly and Joseph Kahn, Ph.D., co-invented the Trombly-Khan closed-path homopolar generator which has an output power exceeding its power input by a factor of 4.92. The patent application and drawings represent the result of the expenditure of \$290,000 in two phases. Their US patent application was rejected twice on the grounds of impossibility that the machine could work. Then the United States Patent Office notified the Department of Defense. Instead of congratulations, Trombly and Kahn received a secrecy order. The two authors were warned not to publish any information on the basis of violation of secret homopolar generator work being done concurrently in the U.S. Government's Department of Defense.

Adam Trombly, the senior designer of the machine, received two written gag orders from the Department of Defense – forbidding him to reveal details of the machine – upon threat of 10 years imprisonment for violating security relating to homopolar generator design. The DOD-imposed secrecy has prevented any recompense whatsoever from accruing to the men who performed this work.

According to information obtained under the Freedom of Information act by the Federation of American Scientists, the Pentagon placed 774 patent applications under secrecy orders in 1991 – up from 290 in 1979 – and 506 of these orders were imposed on inventions by private companies. The U.S. Government has standing gag orders on several thousand inventions.

In 1989 Adam Trombly proposed the retrofitting of the Four Corners coal-fired power plant with an advanced Trombly-Khan closed path homopolar motor-generator. Trombly and Farnsworth estimated that the cost of such an advanced electrical generator to be approximately the cost of installing smoke scrubbers on one coal-fired generating unit. (Sources: <http://www.rexresearch.com/trombly/trombly.htm> and <http://www.broandrew.com/suppression.html>.)

Adam Trombly: Trombly-Farnsworth Solid-State Oscillating EM System

Adam Trombly also co-invented with David Farnsworth the Trombly-Farnsworth solid-state oscillating electromagnetic (EM) system. In June of 1989 Adam Trombly and David Farnsworth of Zero Point Technologies, Inc., demonstrated a solid-state resonant device which physically produced over fifty times greater electrical output than input at the Church of the Holy Covenant just prior to a major address by Trombly at Dag Hammarskjöld Auditorium in the United Nations. The demonstration had originally been scheduled to coincide with Trombly's address.

But at the last minute Trombly and Farnsworth were informed by the Director of the United Nations Environment Programme, Noel Brown, that United Nations Security personnel refused to allow the demonstration in the Auditorium for security reasons. (The Church of the Holy Covenant was no longer used as a church but was used by the United Nations as an alternate venue for the demonstration of "sensitive" technologies such as that belonging to Trombly and Farnsworth.)

The demonstration was attended by fifty people including five major Wall Street executives, several engineers, and a Senior Engineer from Boeing Corporation Dr. Charles (Chuck) Clark. Clark had been allowed to spend several hours alone with the technology prior to the New York demonstration. Clark had checked for every conceivable trick that might be used to deceive naïve or unwitting observers.

The demonstration went perfectly. Many present stated that they felt they had attended a historical event; one that would help the human species emerge from the economically stratified and earth destroying dark ages of fossil fuel technology and into a time of universal, pollution-free electrical power. Some participants/observers were moved to tears by the ramifications of what they had witnessed.

After the demonstration the entire entourage proceeded to Dag Hammarskjöld Auditorium where Trombly addressed the standing room only crowd. He asked all of the witnesses to stand, and they did.

He then asked Dr. Clark to comment on what he had seen. Chuck said, "I am not here representing Boeing. I am here because I was hired to find out if this technology really works. I can't tell you how this thing works. David and Adam can explain that better than me. What I can tell you is that it does work exactly as Adam has just said. I have checked for every trick in the book, and all I can say is that this works."

There was a stunned air in the room. When Trombly finished there was a long standing ovation which was followed by a very long walk from the front of the Auditorium to the entry foyer. One senior diplomat called it "One of the longest standing ovations in the history of the UN."

There were just so many people from all over the world expressing their excitement that it took nearly forty-five minutes for Adam to get through. By the time he reached the foyer he saw the five Wall Street executives were huddled up with a man whom Adam had introduced the day before as one of his best friends. They looked anything but happy. As Adam approached, one of them took him aside and said, "Your friend just told us that you faked the demonstration. Is that true?"

"Are you kidding? My entire life has led up to this moment. The future of this planet will depend on the development and deployment of these technologies if we are to have any hope of surviving the hell we are currently creating for ourselves." Adam was stunned.

"I do not know what his motivation is for saying that. He is not a scientist nor is he an engineer. It just doesn't make any sense."

"Well, you said he was one of your best friends. So you have to understand that our commitment of \$500,000,000 is withdrawn until we can sort this out."

In an instant one man had obstructed history for us all. He misrepresented the truth even after the real professionals had agreed that the technology worked, and that there were no tricks. Adam later realized that this individual had cleverly infiltrated his life and won his confidence. He had torpedoed the future.

Adam did hours of interviews that afternoon and into the evening. Dr. John Lilly also asked to be interviewed. He said, "This is the most wonderful and exciting thing I have ever seen! I am coming out of retirement to help Adam promote this thing. Maybe we do have a future that's worth living in after all."

The following Monday Trombly and Farnsworth presented a similar demonstration to some Congressional representatives in the US Senate Banking and Finance Committee Hearing Room. After the Congressional demonstration, Trombly commented: "Here is a technology that points to a better future; a future free of the taint that the politics of scarcity casts upon us all."

After these demonstrations Trombly indicated that he had so far survived 47 assassination attempts over this technology which apparently threatens existing energy industry monopolies.

While David Farnsworth was in their \$20 million Oregon shop/lab, early one March morning in 1994, badge-wearing US Marshals broke in with sledgehammers and chainsaws. Farnsworth watched with his wife and a friend from a motor home while they ransacked his lab and took the energy machines away.

They recklessly removed expensive electrical devices including expensive spectrum analyzers, earthquake forecasting devices and advanced generating equipment away from walls and shelves. They carelessly stacked them in waiting trucks and vans to be transported to a federal warehouse in north Portland.

The supposedly law-abiding U.S. Government employees also took home thousands of dollars of Farnsworth's expensive ham radio equipment.

The US Marshals then filed charges against David Farnsworth and took him to court. Eventually, those charges were dropped.

Adam Trombly has had a total of 54 attempts on his life. One of the latest occurred early in 2006. Also, a suspicious incident occurred July 4, 2006 when Trombly was visited at his Aspen, Colorado home by a man of Middle East origin from Las Vegas who knocked on his door and earnestly tried to give him ten free cases of meat. Having been previously forewarned, Trombly refused, even after an additional offer of a free freezer, fearing the meat had been poisoned. This incident indicates that an energy invention suppression hit squad might be based in Las Vegas.

(References: June-December 2006 emails by Adam Trombly and Bruce Meland to Gary Vesperman. "In Search of Quantum Motors and Generators" by Bruce Meland, *Electrifying Times*, Spring-Summer 2006, Vol. 10, No. 1, www.electrifyingtimes.com. The book "*The Coming Energy Revolution*" by Jeane Manning. Tom Bearden's web site www.cheniere.org/correspondence/080301.htm.)

Gary Vesperman: My Car was Fire Bombed July 3, 2006

John Martens and I share the rent on a house in a nice, relatively crime-free neighborhood in Henderson, Nevada. The evening of July 3, John rode home on his bicycle at 9:45 p.m. The streets were quiet with no one walking in our neighborhood. He left on his bicycle 15 minutes later in a different direction. He still sees no people around. He does recall having a spooky feeling that someone was watching him leave and looked back a couple of times as he was riding away.

At 10:15 p.m. I went to bed and shut off my bedroom light which can be seen from the street. A few minutes later John's dog Coyote started barking. I let her bark for a couple of minutes hoping she will stop. I got up, looked out the front door, and could see what appeared to be fireworks burning in the street behind the car. I walked to the car, looked in the rear window, and saw the bottom of the back of the driver's seat burning!

I ran back into the house, called 9-1-1 and reported my car on fire. The firemen came later than I thought they would and with an iron bar proceeded to break all four door windows, even the two small windows in the two rear doors. I had jangled the car keys in front of them when they had arrived. They then found that the driver's side door was unlocked and sprayed water on the burning driver's seat to put out the fire.

They told me to wait for their arson investigator. He found on the driver's seat the carcass of an incendiary fire bomb three inches long and an inch wide. He said it burns at 2000 degrees.

The next day, being July 4, I asked two fireworks sales stands about it. It is illegal in Clark County where Las Vegas is located. It can be bought at Indian reservations fifty miles north. It appears whoever threw the firebomb in my car knew what he or she was doing.

I asked my mailman who has been delivering mail in my up-scale neighborhood for over ten years. He said he has NEVER seen a car torched in our neighborhood during all those years. My car is only one of numerous vehicles parked in our neighborhood. Yet my car, which is registered in my name, was the one targeted.

The car is a 1991 Chevrolet Corsica which had been painted, its interior in good shape, and has a fuel-efficient strong power train with new tires and many new parts such as new brakes, muffler, etc. It would have been a nice high-mileage reliable car for several years. In addition to the firemen breaking all the door windows, the roof lining burned and there are other burns and melted plastic parts. The interior is a mess. John is a certified auto mechanic and had spent many hours restoring it. John and I eventually had the car towed away to a junk yard as a heartbreaking loss.

Adam Trombly has had a total of 54 attempts on his life. One of the latest occurred early in 2006. Also, a suspicious incident occurred July 4, the day after my Corsica was firebombed, when Trombly was visited at his Aspen, Colorado (?) home by a man of Middle Eastern origin who knocked on his door and earnestly tried to give him ten free cases of meat. Having been previously forewarned, Trombly refused fearing the meat had been poisoned. The man became upset and even tried to add a free freezer. He then gave up and told Trombly he had to get back to Las Vegas. A few minutes later, Trombly took a walk and found the man sitting on a sidewalk curb talking on his cell phone.

Trombly's report hints that an energy invention suppression hit squad might be based in Las Vegas.

One of my energy inventor friends, who himself has been a target of energy invention suppression, happened to visit me a few weeks later. He has emailed "What I witnessed at Gary's house was no teenage prank. It was obviously intended to totally destroy a car, not just scratch the paint or leave a scar. With several other cars parked at the same house, Gary's was obviously targeted, not just the easiest to reach."

Three weeks before my car's firebombing, I had published on the Internet the third version of this compilation of energy invention suppression cases which can be read in www.byronwine.com (do Find for Vesperman). Other sites can be found by entering in the dogpile.com search engine Vesperman suppression.

So it may be that the energy invention suppression terrorists, possibly based here in Las Vegas, had retaliated by firebombing my car. I don't feel intimidated at all. In fact I am mad and more determined than ever to help end energy invention suppression.

Adam Trombly (Interview): The Truth about Zero Point Technology

(Originally published in Spirit of Ma'at: "Free Energy & Alternative Energy - Part I" — Vol 2 February 2002. For the print version see <http://www.spiritofmaat.com/archive/feb2/prns/trombly.htm>.)

The Truth About ZP Technology: A Wake-Up Call to the American People – An interview with Adam Trombly by Celeste Adams

Adam Trombly is one of the top scientists in the world in the development and creation of zero point energy technology. Devices that he built are working today in other parts of the world. And yet, instead of using zero point energy, Adam Trombly's own house in Maui is being fitted with a bank of expensive solar panels.

Why can't Trombly use his own expertise to fuel his own home? Trombly has spent most of his professional life under one gag order or another. But he decided, he told us, "that if I was going to give an interview for this particular publication, I wasn't going to pull any punches."

If much of this seems overly negative, keep reading. Trombly wants to wake us up, and to shine a light upon things that have been kept dark. But his grounding is deeply spiritual. It's just that the Divine forces that seek to assist us cannot do so unless we call upon them. "Now, in this moment," he tells us, "we must come out and ask for help. When we can ask for help, we get it."

Adam Trombly's revelations will shock you to the depths. But it is his hope, and ours, that it will help you to awaken, or to assist you in your task of awakening others.

Trombly's ultimate vision is the "redreaming of the American Dream."

Adams: How did you become interested in free energy?

Trombly: I was raised as a scientist and I have spoken the language of science all of my life. My mother was a blood specialist, my father was a biochemist, and my sister was at one time a biophysicist.

When my father had just gotten his Ph.D. in biochemistry from Purdue University — I was a young child — he was enlisted as a biochemist, by a fellow Purdue alumnus named Frank Olsen, into a U.S. Air Force/CIA joint project. He was stationed at the biological warfare laboratory in Fort Detrick, Maryland. This was in 1952 during the Korean Conflict. He had been a highly decorated U.S. Army Air Corp officer in World War II, but the government felt that he had a skill of strategic importance to the national security.

At Fort Detrick, he and Olsen, along with a couple of other scientists, were working on a very compartmentalized project. Since he died when I was in the eighth year of this body, I knew very, very little about what this project involved. On the seventh anniversary of his death (4/3/1967) I was in my mother's attic, putting out mousetraps, when I discovered a couple of boxes that contained journals my father had kept during his time at Detrick. You weren't supposed to keep journals, but he did.

One of the things he wrote about in his journals was his exposure to alien technology that totally defied what were considered, at that time and even still to this day, the laws of physics.

He wrote a letter to Dr. Quackenbush, who was on his dissertation board at Purdue, saying that what he had seen challenged even his "most vivid imagination." This was right after he got there.

After he had been there about a year, the notes he wrote got really interesting. He specifically described various technologies which he stated plainly were of "alien origin." He described not only flying disk-shaped craft and their related energy and propulsion systems, but Extraterrestrial Biological Entities. His work was actually concerned with them.

On November 19, 1953, my father (along with Dr. Frank Olson and a couple of other colleagues) was taken by Dr. Sidney Gottlieb to a summer camp near Baltimore. While there, he and his colleagues were involuntarily given large doses of LSD in their cocktails; doses on the order of 10,000 to 15,000 micrograms. Olsen knew about the experiment, and out of concern for my father told him, "Harvey you have been given a psychoactive drug and you are beginning to feel its effects. Don't worry."

Olsen had also taken a large dose of acid, and later freaked out because he said he had, "blown the experiment." It was supposed to be a double-blind experiment for all of the participants other than Olsen. He was supposed to keep silent.

Frank Olsen continued to feel unsettled, and was rushed by CIA personnel to New York for psychiatric examination. Something terrible happened instead. Frank was bludgeoned in the head and then thrown from his hotel room window. He was murdered. This, at least, was the conclusion of forensic pathologists hired by Frank's son Eric in 1994.

My father filed an internal protest demanding an investigation of his friend's and colleague's death, and that was what ultimately triggered the events that killed him.

In January of 1954, under the illusion that he was being immunized from a new retroviral biological warfare agent, he was injected instead with a live virus that he had discovered during his research. He became extremely ill. In his notes, he indicated that he immediately knew. "They killed Frank," he said, "and now they have killed me. The difference is that I will die slowly, very slowly."

He died in 1960, from a form of lymphoma as eleven government labs did morphological workups of his cells.

When I discovered that his death had not been an accident of nature, I was heartbroken. I despaired of life. I sat with a knife a quarter inch into my chest, with blood already trickling down, begging whoever was present at Infinity to reveal the truth of existence.

And in the next moment, I suddenly had no doubt of God or, if you prefer, the Buddha Nature, and I saw things with great clarity.

Adams: Do you believe that we're in denial about the involvement of aliens in the affairs of this planet?

Trombly: The American public has been lied to for so long, they wouldn't be able to recognize the truth if Jesus told them personally.

It's very difficult for the American public to know what is going on. In many ways, we are a nation in denial, and all too often a nation of alcoholics and drug addicts. We are in incredible mass denial.

People see what are referred to as flying saucers and UFOs. Sometimes they are not saucers but triangles. Sometimes they're small, and sometimes they're huge and look like buildings.

It doesn't matter how many people in remote places or in cities see them, or photograph or videotape them. The perceptions are simply shut out.

There are amazing mind-control projects going on. People literally cannot maintain their attention span. More than once I have stood and watched crafts 100 or 200 feet over my head and had people say things like, "Well that's not an airplane," or "Oh, my God, are we actually seeing this?" "Is that real?"

But by the next day, the whole chemistry of denial has set in and those same people say, "Wow, that was a strange airplane, it was going really slow, or really fast, and how did it make that right turn?"

This is what got me started in free energy technology — though I hate the term free energy, because it's anything but free. Many have paid dearly for its advent. I don't even know what term I like at this point. I use the term Zero Point Fluctuation Technology — ZP Technology.

I used to have a company called Zero Point Technology. As soon as you put something like that on your shingle, you discover just how unacceptable this concept is to those whose growth stopped so long ago.

People are being bombarded with subliminal messages that tell them that aliens don't exist. Even The "X-Files," which is a joke (thank God they're canceling it), was originally intended, by Chris Carter, to be something more than just random amusement. It was intended to be groundbreaking. But there's government interference. And this is a huge subject. People don't understand that the "other U.S. government" has had contact for decades with cultures that aren't from this planet.

We're like the aboriginal people of New Zealand, or Papua, New Guinea, or any other remote tribe. When they see an airplane, they think that it is a God — or they at least, they used to. Of course, now they think that it's just people who are more primitive than they are, but who have technology.

We are the same way with "alien" cultures. We are the same way with really clean and advanced electrical technologies that could begin to help us understand just how wonderful and abundant Being — simply being — is.

When I got involved in ZP in 1979, I was warned by Buckminster Fuller that if we were successful there'd be hell to pay. If we were actually successful, then it could develop into a real nightmare, because the humans we're dealing with are a species that has been kept in the dark. We've been treated like mushrooms (which are kept in the dark and fed a lot of feces -- there's no nice way of putting this).

The extremes to which these people are willing to go to make your life miserable are phenomenal. They go out of their way to torment those who challenge their utter mediocrity.

Then there are certain people who hang around in the so-called free energy field, who speak at conferences and who have never discovered, engineered, or invented anything in their entire lives that is worthy of note. What they have done is mediocre at best. I won't name them, but they just haven't produced. These are the people who say, "No one has ever bothered me."

These are the same people who — behind my back and behind the backs of those who have actually produced functional technologies — say, "Well I've never seen anything that he's produced."

Adams: Can you tell us more about this alien agenda?

Trombly: I know that there's an alien agenda because my father wrote this in his journals. He said he had discovered that the U.S. government had become involved in its implementation. He went further to say that this alien agenda, in his opinion, was contrary to the good of the human species and the planet.

He believed that a sector of the military/industrial complex was involved in a program, basically, to transform our atmosphere, which is benign to our species and other Earth species, into one that is greatly reduced in terms of its oxygen content.

So this is a force which doesn't have good intentions for us. It is a force that would gladly exterminate us. And yet human beings act as agents for this force. The "human" species is exterminating itself, by its own hands.

My father spoke of alien agendas in his most secret thoughts. This was not something he spoke of in public. He would never have given this interview, I'll tell you that much.

Adams: What species is this alien force?

Trombly: I can't say, but I can say that the species that are trying to harm us are a tiny minority of a vast host of alien species. My father knew of a couple. It wasn't just one, even back then. This sounds very far fetched — I know it sounds nuts. But I decided if I was going to give an interview for this particular publication, I wasn't going to pull any punches.

Adams: Many of the people who read this will share your belief system.

Trombly: Well, this is not about a belief system. I don't like belief systems! This is about reality! We are the ones who are collectively destroying the womb of the Earth in which our species gestates, in which we evolve.

There are real terrorists in Washington, and even, I dare say, in the White House. (See <http://www.nogw.com/shadow.html>.) And we are very rapidly approaching the time when that statement will be considered criminal. The incident we call 9-11 was a mockery. Now, every time someone dials 911 they'll think of the evil demon Osama bin Laden who in fact is someone we helped to create.

Alkhaida was largely financed by the U.S. government. We gave the Taliban 128 million dollars last year to suppress the growth of opium in Afghanistan. Where do you think that money came from? Where do you think it went?

Everyone thinks the 9-11 was caused by Osama bin Laden and his cronies. There's no doubt that some of his money comes from Saudi Arabia, but the fact is that the U.S. government is the primary source of funding for the Taliban. Why? Because Dick Cheney and his cohorts want to build an oil pipeline through Afghanistan.

Adams: What has happened to the free-energy technologies that you've produced?

Trombly: Every single technology that I have either invented or co-produced is no longer in my possession. There's one in Arizona that has supposedly become a national security issue.

A former colleague of mine once went off on his own with a design that he and I had come up with. He built a device that was very successful — and is now in a can, and he is a shell of his former self.

Forget about whatever technologies I have had a hand in reducing to practice. We have heard from very credible sources that these are nothing compared to the technologies already being produced by certain prime contractors right here in the United States.

Why is it a national security issue? Why is a generator that generates several times more output than input a security issue? Why is it that the American people cannot enjoy what their tax dollars are paying for? Why is it that we have a government that is willing to deny the American people access to the very technologies they themselves are secretly producing?

It's not a joke. Our government has produced technologies, with our tax dollars, that could immediately begin to reverse the damage done by the irresponsible use of fossil fuels, and they are not allowed to be used.

They continue to pollute this atmosphere, and they continue to reduce the amount of metabolically available oxygen. Who could possibly benefit from that? What species do you know of that is actually better off today than, say, fifty years ago?

What is it that we do when we burn these fuels? We make fire. What is fire? Fire is a rapid oxidation process that releases heat. The real destroyers of the equatorial rain forest are forest fires, because of the incredibly poor husbandry. There's nothing good you can say about what's being done to this planet!

There are far too many people in the U.S. government and other national governments who are acting in a way that is completely moronic and self-destructive. It is not a human agenda! This is what I'm trying to get you to see. There is this whole other thing happening.

We are exploited by a corporate structure — by the "military-industrial complex" Dwight Eisenhower warned us against in his farewell address to the nation. Eisenhower got the term "military-industrial complex" from Mussolini, who was describing Fascism. These are words you don't want to use in our society.

At Project Earth we get mail from all over the world, and the one word that keeps coming up since our last so-called presidential election — about that debacle, that tragedy — is the word "coup." From the perspective of the vast majority of the human species, it was a coup. They say this in India, Japan, South Korea, France, Holland, Spain — everywhere. In spite of the fact that we never posted an article on our website that said or even suggested that we had a coup, people write to us and say, "How come the American people don't realize that they just had a coup?"

Then, following on that coup, we have 9-11. Everybody is terrified, but people don't want to talk the way I'm talking now. They think it's self-destructive.

I tell you truly, it is our collective silence that is truly destructive.

The United States of America is a sacred idea. It is a sacred thought-form. What was America to the people who risked and frequently lost their lives to create it? It was the New Jerusalem. The spiritual foundation of the United States of America is an absolute necessity of our spiritual dimension. It was founded on the basis of the absolute need of the human spirit for freedom.

But freedom brings with it great responsibility and demands great intelligence.

We do not want to live in hell, but we are creating hell for ourselves. We are tormenting each other and ourselves. We're doing these things as if we have no choice. We are truly brainwashed.

The real ultimate cult that's going on in America is this one of jingoistic, flag-waving, unquestioning patriotism. We can get ourselves all hyped up on Zoloft, and that still doesn't change the fact that we as a nation have lost an incredible amount of prestige and trust because of what happened in 2000.

No matter how much money we put into the military budget, we will not be able to restore that trust in our own people or in the rest of the world until, through grace or the incarnation of the Divine Process, our democracy is resurrected from its present contrived state. It is a travesty.

When Dick Cheney refuses to turn over documents to investigators, he gives comfort to our enemies. Truly dangerous and deranged people in truly difficult countries like Pakistan cite the actions of our corrupt public officials as justification for their actions.

If we say to the world that we represent Freedom and Democracy, then by God we have an obligation to be Free and Democratic.

In the meantime, the world laughs, because perfectly capable intelligence officers in the United States are oppressed for the sake of short-term political agendas.

The Central Intelligence Agency attempted to warn the White House before September 11. The entire affair was handled with what can only be called incompetence. While three-letter agencies spent our tax dollars listening to my calls, true terrorists were going to flight. And in spite of over an 18-minute warning crash, a second full-size passenger jet went into the World Trade Center.

Even so, we are all supposed to fall into line and cheer.

Once, in 1986, I was introduced to a man in Toronto, Canada, who turned out to be a major Soviet technology spy. When he offered me a lot of money and a lot of benefits if I would turn over mechanical drawings for an electrical generating technology I had co-invented, I told that agent to go screw himself. I told him I was under a gag order, and that I would not violate that order.

He responded by saying, "What loyalty do you owe to your country? They have done nothing to help you or your work. If you cooperate with us we will appreciate you and take good care of you and your family. Three hundred million people will benefit from your technology. Who cares if a shaft is made in Leningrad or if assembly occurs near Moscow?"

Once again, I told him to go screw himself, to go back to the totalitarian hell that he came from — and then I got the hell out of his office.

In September of 1986, I turned this man in to the FBI — and as a consequence, I ended up under investigation myself!

In February of 1987, the counter-intelligence unit of the FBI contacted me. During my second so-called "interview," one of the special agents who interviewed me was Robert Hanson, now known as a famous spy for the former Soviet Union.

Hanson interviewed me about whether or not I was a spy. But he knew I wasn't a spy, because he was!

It's not just the U.S. government that's suppressing all this stuff, it's the whole theater of this species. The "human" species has rarely demonstrated qualities that say that it should be maintained or can be sustained.

This species has never acted in a way that is consistently to its own benefit. For thousands of years, this species has acted in a manner that can only be described as both sadistic and masochistic, and on a planetary scale. It has not acted intelligently.

At the same time, there is no decision to change, because the vast majority of the human species don't even realize that we have a choice to do that. They don't realize that we have the choice live intelligently. They don't even know or what that would entail.

My protests to the "powers above" are consistently related to this central fact: "I know there's a choice, you know there's a choice, but the general population on this planet has no clue that there's a choice. We can choose to live in a completely abundant and pollution-free environment. We can make that choice and have more abundance, and not less abundance. We can stop spending money for fuel. The capital expenditure for fuel could be completely eliminated. That would free up trillions of dollars annually, globally, from the world budget, from the planetary budget."

If you want to know why I got involved in this technology, it's because we have a way to generate almost boundless levels of electrical power without any pollution or fuel, without even the need for solar panels or wind power.

It's ridiculous that I am installing solar panels in my home, when I have spent the last 23 years of my life in the field of ZP Fluctuation Technology research and development and have one more than one occasion successfully demonstrated it along with colleagues who have also learned the same hard lessons that I have.

Adams: Can we still restore this planet?

Trombly: We can if we act with great clarity and great speed. No obstacle could stand in our path.

We could even reclaim the Sahara Desert. It didn't used to be a desert. It was destroyed by people who cut down the forest and overgrazed the grasslands that were once there. Now the same thing is happening in Brazil, Indonesia, China and South East Asia.

These forests and grasslands are like your skin. What does the skin do? It keeps us from becoming dehydrated. When a person gets third-degree burns, one of the leading causes of death is dehydration. The same thing is true of the forests and grasslands.

It's about maintaining that tissue and understanding that it is very vulnerable. These membranes are being taken away.

We can also reclaim the desert that is forming in the northeastern corner of Brazil, where there was rainforest a hundred years ago. The Brazilian desert exists because the Brazilian people won't stop cutting down their own trees. I say this very bluntly. If the Brazilian people want to demonstrate that they have some intelligence, then they'll stop cutting down the rainforest, which is the equatorial life support of our planet.

If the United Nations and if the American government want to demonstrate their intelligence, then they will suggest that we should give credits to these countries for their oxygen production.

We can reclaim the deserts by these new technologies, by taking the water out of the oceans and using it on the desert.

Where you run into the logjam, over and over with all these issues, is the question of energy.

How can we heal the ozone layer? It's going to take a tremendous amount of energy to do that. We have to replenish the oxygen that's not getting into the stratosphere.

One of the fundamental points that I try to make is about chlorine. It is a molecular demon once it gets into the ozone layer. One chlorine ion can interfere with the production of 100,000 molecules of ozone. So we have to eliminate as much free chlorine and bromine as possible.

But even if we entirely eliminated chlorine and bromine production, that would still not be enough to heal the stratospheric ozone layer.

Another significant cause of ozone depletion, one that is often overlooked, is the reduction in the amount of oxygen that should be transported into the stratosphere over the equatorial rainforests. Project Earth has been trying to educate people to this fact since the mid-eighties. The oxygen source has literally been cut off by deforestation. But we can heal that by reintroducing a tremendous amount of oxygen up there, and replanting the forest down here, on Earth.

It will take energy. Lots of it.

Adams: Can you describe how your life has been endangered because of your perspectives on free energy?

Trombly: If I had described my life to you since 1980, it would be a long, long story, and it would sound like a bad spy novel.

I've had a number of attempts on my life through really serious poisonings. My wife has had to revive me and give me CPR.

So we've had a whole nightmare component to our life. But we don't live in a nightmare at all. It's quite the opposite.

However, I must say that it has been almost unimaginable at times.

Once, in 1988, I was visited by a couple of scientists at my home in Colorado. One of them was Bob Dratch, a man who has done a lot of work in creating microwave detection equipment, which is widely used by the Department of Defense.

Basically, I was standing in my office, which was a large room, 27 feet long, and Bob Dratch was shaking change in his pocket, to demonstrate that his very sensitive microwave detector could pick up the signal this jingling generated. The signal would appear on the meter and the printout.

I pointed the horn of the device at Dratch to measure the effect. And then, as I pointed the horn away, I kept my finger on the trigger and happened to point it out the window of my office. To our surprise, the alarm went off on the machine! The red light went on, and the meter peaked.

My office was being microwaved!

I walked into my back yard and found the place where the signals were being broadcast. It was right behind my house, in a little forest, right next to an engineering company that is well known for making satellite antennas.

I clipped the cable to the antenna that was broadcasting microwaves at my house, and I called the FCC in Denver. I said told them that this was illegal, and I wanted it stopped now. I said, "Stop microwaving me." I already had cancer.

Within three weeks, this engineering company was totally gone. I assume they themselves had something to do with the broadcast, or they wouldn't have left so suddenly.

So dozens of people had to relocate to Kansas, or where ever.

But why were they trying to kill this body? We are perplexed at times by the strange modus operandi of this group.

The world is not going around very well right now, because people aren't loving. When people love, they become geniuses. Intelligence isn't about thinking, it's about feeling. I don't care how many times the force of darkness, which resists love, has attacked you and made you feel separate.

I don't care how difficult anyone's life has been. I guarantee you, I can match it. But suffering is finite, it's limited, it's not eternal. You can transcend suffering through love.

The resurrection we are called to is our resurrection. Once Jesus stood in front of Lazarus' tomb, and commanded, "Lazarus, come out." And we are told that Lazarus came out.

That is similar to what is happening right now. Surrounding this planet, there is a gathering which is inviting the human species into a new dimension. They are saying, "Lazarus come out, come out of your subjective tomb and out of your corruption. Come out of your doubt of God and out of your doubt of Love. In the midst of Infinity and Eternity, We command you."

Now, in this moment, we must come out and ask for help. When we can ask for help, we get it.

People don't understand that you become realized by incarnating love. We live only as expressions of love, in eternity. The only thing that is eternal is Love. Love as the presence of consciousness is eternal and infinite.

Time and space are subsets of eternity and infinity. Space and time are subjective states, and they have nothing to do with limiting the ultimate reality of consciousness, not even a little bit. They have to do with the gnarled subjective states of the contracted world.

Scientists talk about the accelerating expansion of the universe, but it's not that, it's the unremitting *transformation* of the universe that's happening, the inescapable transformation of the universe.

You don't have a choice about it this time. It isn't the same as it was two thousand years ago. We are in the midst of the time of the resurrection. It involves you and me and everyone on this planet, I don't care who they are.

There will be miracles everywhere. The most powerful thing is love. The whole astrophysical community is now acknowledging this power, but they call it the "dark energy." They give it this Darth Vader quality, because they don't know how to relate to the Light. It is the contraction of form and the denial of the Infinite Divine that causes the appearance of darkness.

Adams: How long has there been a conspiracy to prevent the development of free energy?

Well, if you are referring to the technological side of things, I guess you could say it started with Nikola Tesla. (Although the crucifixion was really an attempt to stop Free energy as well.)

Nikola Tesla was given the vision of infinite electrical power, without fuel, in the 1880s. He demonstrated it in 1886 and 1889, and then throughout the 1890s. He tried to give this gift, but the fossil fuel boys decided he couldn't give it. The fossil fuel boys decided that maybe they could make use of him, so they didn't kill him right away. They killed Tesla in 1943.

One of the detectives approached me in 1981, at a conference. This man told me that Tesla had been murdered. So I guess you could say that it all began right there. When I was a kid in school, nobody knew about Tesla. Tesla was the father of alternating current electricity. Tesla said he was inspired by aliens, beings from other dimensions. He was anathematized because he refused to kowtow; he refused to attend the same temple that the others worshipped in.

Adams: How can we make free energy available to the planet?

Trombly: There is no such thing as free energy without enlightenment and liberation. The technologies point to free energy. We are the technology. We are the free energy.

Great yogis like Sri Babaji demonstrate this. Yogananda talked about him. He was the physical demonstration of free energy. He was the physical demonstration of what the Tibetans called the Rainbow Body. He was transparent and transfigured in God realization, the realization of the Buddha Nature.

There are alien cultures and cultures in other universes who happen to be attentive to the events on this planet because this is one of the last archetypal moments. This will not continue anymore. This entire kind of universe is obsolete and will not occur again, because it would be masochism and sadism to allow it to be perpetuated.

There's a transformation that is occurring. It is about the liberation of all the energy that has been bound up in all of these worlds that are subject to corruption. That is the real physics. This is what is really important.

In the meantime, by understanding that this is true, we can tap into a field that we call Zero Point Vacuum Fluctuation or the quantum ether, and we can generate electrical power. Electrical power exists in complete abundance, without any capital cost for fuel.

Solar technology is so very expensive. We have 108 solar panels in our two facilities on Maui and it takes up a great deal of space. I would love to have ZP Technology here, but the fact of the matter is, if I had that working right now, this place would become a target.

The other side of this story is always the same thing. Just when Light appears on this planet, the subjective forces of darkness manifest with great tenacity. This government was overthrown and nobody knows anything about it. People are silent about it.

On the cover of *Newsweek*, on September 11, was an article about the secret vote that made Bush president. The article was about a conspiracy in the Supreme Court. *Newsweek* at that time was willing to challenge the Supreme Court. The Executive Branch of the United States government was about to fall, because it was going to be exposed.

But then the planes hit the World Trade Center.

If Al Gore had been elected, I know the man well enough to know that we would have been in a different economy after four years. We would've begun to implement these technologies.

The United States government has, right now, the technology to eliminate the energy crisis. This consoling gesture that George Bush made the other day, about developing hydrogen fuel-cell technology, is just a carrot that he's dangling before the American people.

Now there are military people who have come forward and are talking about the presence of aliens and alien technology on this planet. They are even talking about the fact that we are making our own flying saucers. This Disclosure Project is extremely important for people to know about (see Secrets from the Stars elsewhere in this issue).

We could be having the greatest economic boom in the history of history. We could actually do that. The technology exists. As early as the 1970s, Henry Kissinger, George Bush, Richard Nixon — all kinds of these guys — knew about this physics. But the downside is that we are on the brink of oblivion.

Parents are paying all this money to educate their children into the lie of physics instead of the truth of physics. Meanwhile, they are taking Prozac. We have legalized the anesthetization of our species. Depression is appropriate.

Adams: What is the purpose of your organization, Project Earth.

Trombly: The original foundation of Project Earth was to reveal to the human species the actual condition of our planet. We're not being told the truth about it. For the most part, the scientific community doesn't know the truth and has been so disempowered by their so-called education that they've lost vision.

Vision is the only thing that will save us. You have to be able to see where you're going.

The agreement that I made with the Divine is one that Bucky and I talked about. We would never just illuminate the problem, we would always offer a solution. If we talked about an energy crisis, we would talk about only it in the context of the fact that there is no energy crisis.

Electrical power is already abundantly available, pollution free. We like electricity. We can power our cars and flying saucers with infinite electrical power. We could have so much fun that living on earth wouldn't be a drag, but would be really great.

Your eyes would be so open that you would walk out the door and you wouldn't see the smog in Los Angeles, but you'd see the clear, sacred air.

Project Earth is not just about communicating the problems. It's about the transformation of humanity.

(End of interview transcript)

Adam Trombly, Director of Project Earth, is an internationally acknowledged expert in the fields of physics, atmospheric dynamics, geophysics, rotating and resonating electromagnetic systems, and environmental global modeling.

Taking the advice of his friend and mentor R. Buckminster Fuller, Adam has maintained a "synergistic, global view" within a multi-disciplinary scientific background. From this perspective, Adam offers unique insights into the changes humankind has effected on our environment, and the adjustments our future requires of us.

For further information about Project Earth, please visit ProjectEarth.com.

Trombly and Celeste Adams spoke on January 21, 2002.

Adam Trombly (Speech): Climate Change Factors, Ozone Layer Crisis, and Zero Point Energy Technologies

(Transcript, slightly edited from <http://www.repp.org/discussion/green-power/200205/msg00011.html>, of Adam Trombly's speech to the 1988 International Tesla Society Symposium, Colorado Springs, Colorado. Trombly provides additional details regarding Tesla's murder by painful poisoning, likely by the U.S. Government. It is reprinted in its entirety because I believe Trombly's message concerning energy in 2007 is even more urgent and troubling. Gary Vesperman)

As this is the last speech of the conference here, I'm going to give an overview of the development of zero point theory and I'm going to try and take into account all of you have been very patient...

The basic principle which we are obviously here to address, was originally elaborated by Nikola Tesla. The sense that Nikola Tesla conveyed of existence was, if not unique, then certainly it was profoundly inspired, not so much by initial analysis but by initial vision.

We have become a rather left brain biased society, an analytically biased society. As a result of this analytical bias we tend to refute or deny the validity of intuitive jumps or intuitive leaps and insight.

Tesla was an extraordinarily prolific inventor obviously, but in addition to being a prolific inventor, he explored very thoroughly, for his time, the dimension of the psyche. And I think that perhaps too often we tend to forget that he himself claimed that the source of his inspiration was not conventional.

He saw what he built, and then he described it to a draftsman, and built it. The draftsman was his interface with substance. To consider that when he was riding in his carriage or his Pierce Arrow here in Colorado Springs, not too far from where we are right now, he would often see devices in their totality, spontaneously.... is quite remarkable. (I myself have seen descriptions with drawings of some of Tesla's complicated machines. Genuinely amazing! Gary Vesperman)

When you see something in its totality, it tends to have a different meaning than if you tried to put the pieces of the universe back together to arrive at a conclusion. Tesla insisted that he rested in the conclusion in his own psyche. I think this is very important. Tesla was not an analytical apologist; he was not somebody who made gestures to the scientific community to make himself necessarily acceptable in his time. What was acceptable was that he produced. The means by which he produced were often unacceptable, especially in the last couple of decades.

Therefore, we heard a lot about Thomas Edison, and we heard a lot in our education about just about everybody else except Nikola Tesla. The reason I'm sure this Society exists is this left a vacuum, a huge vacuum that is not merely filled by the acknowledgment of Nikola Tesla, but by the acknowledgment of the function of a human being, the function of a being not being polarized to the left hemisphere, but balanced to the two hemispheres of the brain, in other words vision coupled with analysis.

In the development of our generator, which we originally called the "Acyclic Closed Magnetic Generator," vision was implicitly necessary to arrive at our conclusions. Basically we had to work from very little information. There were very few explorers in the field, and we had to begin to consider that perhaps the way we considered reality actually is fundamentally incorrect, that fundamental cornerstones such as the law of induction, for example, that particular cornerstone was not necessarily as we believed it to be.

What stimulated me, and I've said this before, since 1980, was the recognition that certain astrophysical phenomena express energies in excess of what the apparent input is. This is a very common thing in astrophysics, whether you're talking about quasi-stellar objects, or whether you're talking about the planet Jupiter.

When we first found out that the planet Jupiter was developing a looped current between itself and the moon Io, Jupiter was called, in a paper published by a Goddard scientist at NASA, a "Homopolar generator."

They tried to rationalize that the relative motion between the moon Io and Jupiter was actually responsible for the current that we could measure by virtue of its magnetic flux tube as tested by satellite probe. But when you went through some very simple calculations, you found that was not true.

So we decided that we would look into the matter of "Homopolar" generation itself – the history, who came up with it, as Bruce DePalma and others have pointed out. Even though Michael Faraday did an experiment on December 26th, 1831, in which he co-rotated a magnet with a copper disk and measured a current output. Even though he had done that experiment, his own law of induction tended to ignore that fact.

A professor with the Royal Society in London, a professor of science history, told me that the original Faraday cage was designed not to keep electromagnetic noise out, but to keep Michael in. You see he played with a substance we call mercury, and in those days there was very little appreciation for the toxicity of mercury. And so Faraday apparently suffered from a form of dementia, which we've heard very little about because it's one of the cornerstones of the building we have been living in, in science.

We found out after we found Faraday's diary, after we found the citations of the experiments that he had done, that there was a gentleman by the name of Bruce DePalma in Santa Barbara, California, who had suggested that on the basis of the co-rotation of a magnet and a conductor, which we were at that time contemplating ourselves, it might be possible to generate more energy out from the generator than input in.

I must say that my initial response to that was probably not as skeptical as some people might be when they heard such a thing, because in the fields of astronomy and astrophysics it is not uncommon, not uncommon at all to find an object that is obviously exceeding what we "know" to be its thermonuclear, or any other form, it's exceeding the output that it could possibly have by thermonuclear means, by fusion, by fission, by anything we normally consider.

And so, because we had seen that already in space there was this planet Jupiter clearly being a demonstration of what we initially considered to be an anomaly. Clearly putting out three times as much energy as it could possibly be receiving from the sun. We decided to reduce to practice a form of generator with the intention of practical commercial use, and through various good fortunes we arrived at funding.

We actually, for this field in those days, got substantial funding. And as a result of that work, we applied for a patent in 1980 which was, as many of you know, denied by the U.S. Patent Office as being implausible to the extreme. The statement was to the effect that, "This device could not even generate electricity." It wasn't that it couldn't generate electricity in excess of input, it was that the machine couldn't generate electricity at all. The patent officer himself was, as many of us, as all of us basically were unfamiliar, he being totally unfamiliar, with the fact that you could co-rotate a magnet with a copper disc, even though we had provided him with a copy of a page from Faraday's diary. He actually suggested that the diary notes might have been something created *ex po facto*s.

My initial naiveté in entering this field was rapidly destroyed.

We felt that if we could produce a practical, commercial, viable unit, then the world would be very excited indeed. And what we discovered instead was we were dealing with a profound level of inertia; inertia in a frame of reference we didn't normally consider.

Economic inertia, intellectual stasis and dogma. Certainly the explorers in this field, over time, whether it's myself, or Bruce DePalma, or Tewari or going back to Moray, Tesla, Hubble. These people all discovered this inertia. It is an astonishing thing when you first encounter it. It is irrational. It says that no, indeed the Earth is the center and everything revolves around it. And the moons around Jupiter couldn't possibly be doing that what you say.

Galileo wasn't vindicated by the Catholic Church until 1984. If we took that many centuries to acknowledge zero point vacuum fluctuation-based technologies, we will all be dead. And that's the sobering realization that I have come to over the last five years.

Buckminster Fuller was a huge influence in my life. I met him when I was sixteen years old and largely because of his influence I wasn't permanently lost in space; lost in the theoretical level of things. And therefore, when I began to encounter this resistance he said something that was very important to me. He said that every new idea, every new technology, every major breakthrough, has an inevitable period of gestation. He said you must learn to be patient. He had experienced profound resistance, as you may know, to various ideas that he had in the thirties.

I think that what we are really seeing is not the resistance or inertia imposed upon this technology, but instead a resistance to a fundamental shift in perception about the Universe itself.

We have tended to describe ourselves in discrete terms, as encapsulated beings, with rather defined boundary layers, both temporally and spatially.

We're born and we die. The boundaries of our body are the boundaries of our being. Inspiration has a difficult time entering into a closed bottle. Where would it come from? Where would it appear?

How could Nikola Tesla say he got ideas from space? He was considered a very eccentric and crazy man as a result of his statements. People point out that he always had all these napkins piled up next to his plate. But by the end of his life, people had forgotten that his vision is what is powering these lights. And if we had continued with his vision, we wouldn't have a fossil fuel economy today. And J.P. Morgan and Rockefeller and a number of other individuals would not have amassed extraordinary fortunes on the basis of that fossil fuel economy.

I think this is extremely important for us to understand because when Nikola Tesla's vision was denied, a part of our own vision was denied. Just as when Galileo's vision was denied. The fact of the matter is that as we sit or stand here, a field of energy pervades us. This even relatively conventional physicists like John Archibald Wheeler stated in a 1962 article in the Review of Modern Physics. "Energy has a mass equivalence of ten to the ninety-fourth power grams per centimeter." You just need to look in the literature. That ninety-fourth power grams per cubic centimeter represents a rather coherent state. It represents something that we could very easily call a continuum.

But because of the taboo against the idea that you might perhaps be able to get water from the well of space, or what people call "perpetual motion", there has not been a sense of any kind of practical application.

Once in a seminar, well over a decade ago, I asked a question I found was extraordinarily taboo, and I said, "Why can't we tap into this field?" It had been established in the literature in Europe by Philip Sipolan (sp?) since 1951 and 1952, that not only did the fluctuation field exist, a fluctuation field of extraordinary energy equivalence. And that the vacuum field was bias able; that it was polarizable.

The polarizability of a vacuum, fluctuation background, I believe is the essential issue, and a very simple issue indeed that we need to really consider.

David Deutch in 1982 explored briefly in a book called "General Relativity," on Einstein's centenary, which was edited by Hawking, considered very briefly the fact that not only is the vacuum polarizable in terms of density, but that an ideal theoretical situation density polarization could asymmetrically approach infinite density and asymmetrically approach negative energy density. That means that within the vacuum fluctuation itself, stress can be created. That means that the vortical dynamic that Tewari speaks of is really not that difficult to imagine, because you have fluctuation density that wishes to remain isotropic, or uniformly distributed, disrupted, polarized, in a curved manifold, and that vacuum density once polarized wants to relax from that stress back into a more isotropic state.

Anybody who studies vortical physics, fluid dynamics, plasma dynamics knows that there is no greater stress than that by which we invoke a vortical momentum. And therefore it is not hard to imagine, if we simply consider the fact that we are dealing with a medium of this extraordinary density. It is not hard to imagine or even begin to feel that just by simply biasing this field in a rotating cylinder or perhaps in an oscillating circuit, by biasing this field correctly, we can precipitate vortical momentum.

Now we may only precipitate a quasi-electron. In the vacuum fluctuation of space, their production is occurring all the time. In a bias environment however, where an electrical potential exists, that quasi-electron, instead of annihilating with its anti-particle, might indeed be distracted along the potential and find its way into what we refer to very blithely as manifestation.

It doesn't necessarily take giga-electron-volts for this to occur. And that's why Tewari, DePalma, myself and others speak of the generation of power from space.

We need to very simply and seriously consider that it's already in the literature. It isn't just in the literature of the fringe; It's in the literature now even of Physical Review since 1975. Review of Modern Physics, since 1962. And in the European literature since the 1950's. It's a remarkable thing that because of the bias against so-called "perpetual motion", or so-called, "free energy", that nobody seems to want to extrapolate what is implicitly obvious.

The atom itself can then be seen as a dynamic modification of field space. Only a dynamic modification of field space, with no quality of stasis what so ever.

Harold Puthoff, in his May 15th, 1987 article in Physical Review, pointed out that in order for the hydrogen atom in its ground state not to collapse, it had to be absorbing energy from the fluctuation background. In this moment. This is not something that happened at T equals zero – before the Big Bang.

This is something happening at this moment, real time present context, now with every atom and molecule that we see configured before us. It is happening right now.

It is wonderful to have Dr. Puthoff describe this energy in terms of the Bohr atom. It is implicit that the electron orbit dissipates energy. If we consider that to be a resonant shell with no locatable density bias, then it still pertains because the atom itself, even in its ground state, resonates in space.

We have a picture, that we got when we were young, that says a thing is solid, even though particle physicists are telling us that nothing is solid, and while that's all very fascinating on Nova television, we still have a picture that persists. Can an atom, existing in certain states of polarization and stress, perhaps become a conduit drawing upon the energy of space? A transducer in a certain light.

Obviously it must be, or else it couldn't exist. The electron itself must be spontaneously appearing out of the background field. If it was not spontaneously persisting then we have to invoke the somewhat Neanderthal concept that everything had to start at a certain moment. And because we have embraced this new cosmology of the Big Bang in the last couple of decades, we have some real problems.

This is not the best forum to go into this in great detail, but I will say this - the Universe is clumpy. That's a term that is used frequently in astrophysics to describe the fact that mass is not uniformly or isotropically distributed. It is simply not. On a large-scale basis with models that have assimilated data from observatories from all over the world, especially over the last few years, we have seen that the Universe we observe is indeed clumpy. It is in fact concentrated in a way that cannot be the artifact of a Big Bang.

Now that's a bold statement. Alfven (Swiss Nobel Laureate), famous for Alfven waves, has come up with an extraordinarily beautiful description of the plasma dynamics of space. And so far, interesting to note, although he was considered to be a complete heretic when he came out with his theory, every single observation we have made from space with satellite probes, has confirmed his predictions. I think it very important that everybody here who is interested in the reality in which we adhere, become familiar with either the esoteric or the exoteric level of Alfven's work. It's just beginning to appear in the literature. I think Discover magazine had a rather prosaic presentation of it, but it was also quite good. (June '88; the "Big Bang Never Happened.")

If there was not a Big Bang, where things conveniently began with a single event, then we need to begin to consider the fact that something that has a gram equivalence of about a gram per cubic centimeter, which is our body, must be a rather insignificant modification of a field that has a potential of ten to the ninety-fourth power/grams per cubic centimeter.

This impacts the way in which we live together; it impacts the way in which we live with the Earth itself.

I had not initially planned today to show some slides from the NASA program, but because this is a cap speech at the end of the day, I feel that it might be very useful to digress for a moment and observe the rather catastrophic impact that the very concept of discrete encapsulation has had upon human existence and the Earth itself.

And I would suggest to you, after considerable study of the subject, which is now becoming accepted in the literature worldwide, that we cannot sustain the dynamic of human existence any longer unless we begin to transcend the arbitrary, subjective boundaries that we presume to be true. Whether these boundaries are about ourselves, or all phenomena of manifest existence, until we begin to move beyond this anal-retentive state, in which everything must be particularized. Everything being particularized, leaves Humpty Dumpty.

We will never be able to re-assemble existence.

As Fuller pointed out to me at an early age, "existence is already implicitly whole, we break it into parts only in our minds only."

It is already unified whether or not we have a unified field theory or not. And as Einstein suggested at his last series of lectures at the Advanced Institute at Princeton, "perhaps we can only appreciate the unified field by entering a conscious relationship with it."

Again, this is something that would not have been at all contrary to what Nikola Tesla proposed, and yet some people would be embarrassed to say it.

I think we need to very succinctly consider that we cannot continue to burn fossil fuels on this planet, and that we really haven't found anything to do with our nuclear waste.

And that the appearance of bona-fide third party confirmation of the generation of energy from space is a significant event in history. It's not significant because it will make a few men popular, or unpopular. It's not significant because it will somehow create a minor change in our concept of being. It's significant because it represents a dramatic shift that we desperately need to embrace.

Right now we are sitting at the edge of an unprecedented human catastrophe on this planet. A friend of mine, Sayed Sayed (sp?), at Texas A&M who has for twenty years been a climatologist, in an elegant experiment recently carried out in Antarctica, has shown clearly that if we lose between 6% and 7% more of the remaining stratospheric ozone the phytoplankton in the oceans will die.

The phytoplankton in our oceans contribute 50% of the oxygen that we enjoy on this planet. It is extremely important to point out that prior to the appearance of photosynthesizing biomass; oxygen was a trace gas which basically appeared through the natural transitions of H₂O.

We simply cannot afford to lose any more oxygen than we already have. At this moment, literally hundreds of millions of internal combustion engines are running. A six-cylinder engine, of normal displacement, consumes eight hundred thousand (800,000) cubic centimeters of oxygen per hour. This transforms the breathable oxygen into combustion by-products, an entire spectrum of combustion products.

In the last twenty years, in Africa alone, we have destroyed 64% of the biomass ground cover. In the last twenty years! This is a United Nations Environmental Program figure, confirmed by satellite and manned space flight telemetry. (Remember that Trombly gave this speech in 1988. Perhaps these gloomy figures and reports are likely to be even worse now in 2007? Gary Vesperman)

Also, in the last twenty years we have consumed 29% of the photosynthesizing ground cover in Central and South America. In the last twenty years! You cannot consume oxygen at the same time you consume the factories that metabolize carbon dioxide and return oxygen to us, and expect to have a sustainable environment. Because as oxygen tensions decrease even a few percent in the troposphere, ozone tensions decrease disproportionately. This is because there is a column of oxygen and other gases that rises from the biosphere to the troposphere and then to the stratosphere. It is on the basis of the mixture of these gases, that we have ozone in the atmosphere.

I would suggest that we can not afford to wait to demand that serious money is applied to this research, Federal money. We need this to happen desperately and we need this to happen immediately. And for those of us who feel that we can be blasé, and wait and wait and wait until somehow this becomes acceptable, (the implementation of this new kind of technology) let me just say that if we think we can wait; we're sorely deluded.

You wonder why there is a drought in Ethiopia. You hear in Time magazine that the so-called scientists can't figure out why there is a drought. Well, Ethiopia at the beginning of the century was covered by 43% forest. Ethiopia today is covered by less than 4% forest. How is the hydraulic cycle supposed to maintain itself?

This at first, this entire consideration at first, seemed to be in rather left field of the consideration of energy generation. But, as I began to explore it further and further and lectured around the world, I began to discover that most of the human race has been entirely uninformed. Some people have suggested this is rather conspiratorial. The slides you are going to see in just a minute have been available, some of them, for several years. We finally got a few of them on CNN December 25th (1987?)

I think when you see them you're going to realize why they are so significant. And as always I would like to thank Richard Underwood of NASA, now retired, for providing these images. They are in the public domain, but anyone who has tried to get photographic data from the NASA space flight program, especially during the Reagan Administration, will find that it is a very difficult thing to do. As a matter of fact, most of the infrared photography is now stored at AMES, and you can't get into the building. Even though this material is not classified, the building itself is off limits.

I would like to have the lights dimmed, and I would like to show these slides and then we can go on from there. We can discuss in more detail about this and other things.

This is the way clouds are supposed to look over the rain forest. These are healthy clouds. These clouds are appearing over the Northern Congo area and this photograph was taken in the mid-seventies from Skylab. Cumulonimbus, stratocumulus, very beautiful cloud formations and an extraordinary density of water vapor as you can see.

Next slide. This is what the ground looks like after you get rid of the forest. This picture isn't from Africa, it's from Brazil; but literally millions of hectares worldwide look like this today. You can see that the watershed to this river, which is the Sao Paulo River, has been almost totally devastated. You can see that evaporation would occur rather rapidly instead of in a moderated sense through the membrane canopy of the forest.

The next slide shows the way clouds look after you do this. By the way, this is the same coordinate almost exactly, taken from the Space Shuttle in 1984, as the slides show big billowy beautiful clouds from Skylab ten years earlier. What you see beneath this cloudbank is now desert. So the cloud building is no longer healthy. Instead of that nice kind of veil of water vapor, you see an extraordinary, Los Angeles scale, optical density. That's dust.

Dust that has been lifted and aerosolized and now remains in chronic suspension over much of the African continent. The clouds are flat. The convective, humid currents that rose from the rain forest no longer carry water vapor in significant quantities.

(At the end of the above "Charles N. Pogue: 200+ MPG Carburetor" suppression case, this writer, Gary Vesperman, mentioned that he had taken an introduction to meteorology class given by University of Wisconsin-Madison climatology professor Dr. Reid Bryson. One memorable lesson was a study Bryson had conducted of why the Harappan Empire of ancient India had failed. Due to over-grazing by sheep and goats, the Harappan Empire's land had become barren. Each drop of rain is comprised of enough water vapor coalescing around a single dust particle that it becomes heavy enough to fall.

Bryson discovered that increasing dust in the air can reach a critical point where there are so many dust nuclei per unit volume that none of the drops of water can become heavy enough to fall as rain. A feedback cycle then starts up where lack of rain causes even more dust to be stirred up into the atmosphere. More dust causes even less rain to develop.

Bryson's suggested simple solution? Stop goats and sheep from over-grazing the land so as to allow the land to re-vegetate and keep down the dust. The feedback cycle then reverses itself – causing more and more rain to fall.

Currently the American southwestern states are enduring the worst drought in many decades. Are they about to suffer the same fate as the Harappan Empire?)

There was a great effort, a joint effort of the United Nations and several other countries to seed what clouds remain to see if the hydraulic cycle could be restored. Unfortunately somebody forgot to plant anything under the seeded clouds, so the desert is now growing. The Sahara desert is now growing six miles per year and is three thousand miles across. This is significant.

Next slide please. This is to give you an idea of the scale. We are not looking at the desert floor here. We are looking at a pall of dust that stretches as far as the eye can see, to the curvature of the Earth. Twenty-five maybe twenty-eight thousand square miles here. This area all used to be called the sub-Sahara and now is moving into the Sahara. Flat clouds, no rain.

The next slide will show you conclusively that when you see breaks in the pattern, you have a deeper understanding of the optical density. This density is equivalent to a critical day in Los Angeles. This again is chronic and has serious ramifications for us on this continent. Serious ramifications.

This has happened because somebody denied vision. This has happened because when in 1906 Nikola Tesla said that fossil fuels would one day create a corruption in the entire atmosphere of the Earth, he was called eccentric. Next slide please.

South of the aridification process, in Zaire we have fires. These fires are burning out of control. They have no planes to drop chemicals on the fires. They have no fire departments. They have no money. This is a small area, only a hundred by a hundred miles. You can see where the forest that was once there has already been stripped away, and the hydraulic cycle therefore undermined.

The next picture is Angola burning. The CIA did not win the war in Angola; fire did. 13,000,000 acres burned in 1985. When NASA scientists examined this photograph, they thought that this was some sort of strange cloud until they realized it was the combination of the plumes of smoke from the fires. Just consider the area involved, and consider the fact that this is now being visited on our country.

Alaska in the last three weeks has lost 750,000 acres to fire. The Secretary of the Interior, Hodel, said, "Let Nature take its course." They saved part of Yellowstone that was close to Old Faithful, but decided that the rest of the wildlife habitat was expendable.

And this while we are spending hundreds of millions of dollars producing neutron bombs and other clean kill weapons, which can never be used and God forbid that they ever should be.

The next slide please. This is Junguoy (sp?) Bay on the coast of Madagascar, and it is not uncharacteristic of bays all over the world now. This is what happens after the deforestation and after the fires. This bay was over six hundred feet deep twenty years ago. Now you can walk across it during the dry season it is so filled with silt. This is happening now, today. It is not theoretical. We have to move now.

Next slide please. This beautiful lake was called Chad. Lake Chad was the size of Lake Erie. Lake Chad supported 1.8 million human beings in peripheral agriculture and fisheries. The next slide is Lake Chad in 1982. (In his movie, An Inconvenient Truth, I remember Al Gore showed possibly this very same pair of satellite photos of Lake Chad in central Africa. For an alarming update on Africa's huge lakes, see http://news.yahoo.com/s/ap/20061209/ap_on_sc/warmer_world_african_lakes. Gary Vesperman)

It's the hole that was left when the hydrological cycle was destroyed in Africa. This is not a cyclical drought, and it is not a drought that will be only visited on Africa. The water vapor distribution on this planet is being changed dramatically by the destruction of biomass.

The water vapor budget on this planet is being changed dramatically because we have failed to feel beyond our own little subjective event horizons. We tend to exist like psychic black holes. We take a lot and give too little.

A few years ago I pointed out at the fourth International conference on Atmospheric that the drought of 1986 and 1988 would occur. Now they have occurred. They are not going to cease because we don't want them to occur. They are not going to cease until we realize that we need to mobilize every democracy on this planet, and hopefully this will someday soon include the Soviet Union, to implement this new class of technologies.

We can address these issues by planting forests and by using energy generated by these new technologies. Whether you call it an “N” machine or something else, I’m sure these technologies will continue to evolve.

By utilizing this energy which we can get directly from the “vacuum” of space, we can desalinate and re-irrigate. The Israelis if nothing else have shown us that you can resurrect a desert. We are going to need to resurrect a planet. We cannot posture ourselves and say that national security comes before the security of the human race. It is the security of the human race in total that is now threatened.

This is the last slide. I’m only going to show eleven slides today. I think they speak for themselves. This is a veil of dust that stretches out towards the horizon across the Atlantic Ocean, reaching from the Caribbean Sea, in the lower portion, all the way to the African coast. This is not a phenomenon that occurred in one year. This is a phenomenon that occurs every year – between eight and nine million square kilometers this year. (8-9,000,000 square miles)

This dust acts as condensation nuclei for water vapor causing precipitation in the south, over water, in Honduras, in Nicaragua, while the Midwest and Southeast are parched.

We are changing the way things work, and we haven’t even begun to inspect the ramifications. It isn’t just the “Greenhouse Effect”; it’s a much more complex issue.

Only by stepping over the threshold into a more synergistic view, which is not just a kind of convenient term bandied about for the sake of the “New Age,” but only by entering into a more synergistic view which acknowledges the inherent coherence of phenomena, can we begin to comprehend the fact that when you do something here it affects something over there. In quantum geometrodynamics, actually in a number of other studies, what we call action at a distance, in a coherent field, distance is not presumed.

I hope that this all has said something. Fuller’s suggestion was that Project Earth should either determine whether there was a reason why we had to implement these technologies, or whether it was no big deal.

“Can we last longer? – I need to get my next grant from DuPont.” To produce more chlorofluorocarbons? “Yes, it does seem that it might have that effect, but if I say that in the literature than I am defying my contract.”

Scientific integrity, which used to be something that characterized science, is something that is sadly lacking in too much of the scientific community. Too many have become grant whores and parasitic on society, posturing themselves as authorities, condemned to the inertia of the past and past conceptualizations of reality.

Recently I was lecturing at John Hopkins, which is in itself sort of a miracle, about zero point physics and while we were considering zero point physics somebody said, “Well this is all well and good that Mister Tewari did this over in India, and that it’s all well and good that you’ve done this in the United States. DePalma, it’s all well and good to demonstrate it, but what about the United States Government?”

“I mean wouldn’t the United States Government be doing something?” the child asked. A sixty-two year old child, a very nice man actually. And I said all you need to do is get a hold of the 1986 fiscal year “Request for Proposals” published by the Department of Defense.

Look on page 193 of that document, and you will see something very interesting. In AF section, which is Air Force section 86-77 subsection 6, you will see that a government which denies the reality of zero point technologies is requesting “further research into esoteric energies heretofore unknown including the zero point dynamic fluctuations of Space.” ... for propulsion. But it doesn’t exist you see...

But we want you to research it if you have a bona fide organization that happens to be a prime contractor with triple security clearance. This for propulsion for the Air Force when the entire human race is threatened. Now there is a certain kind of insanity somewhere implicit in that. It’s in the literature; you can order a copy from Project Earth, or call the Pentagon. This is not a classified document. I won’t get in trouble for saying anything. This is actually a program that is ongoing, right now, today, within the government enclave. Call Los Alamos and ask a question about it, and you might get a very long silence on the other end. Call Lawrence Livermore Laboratories and their Aberdeen Testing grounds. The same phenomenon will probably occur.

A significant amount of funding is going to make sure that this irrelevant, mythical phenomena is applied to weapons systems and weapons-carrying systems. Something is very wrong about that. I don't believe that anybody sitting in this room would say that it's in the best interest of our people, or any people of the world, for this kind of technology to be applied outside the realm of civilian application at such a time.

Six to seven percent further depletion in stratospheric ozone, and we are seeing depletion rate trends that indicate that this level of loss will occur very easily within the next two decades. Those of us who have really considered this, and as you consider it more and more I'm sure you'll realize that two decades pass very quickly, for all of us. It doesn't give us time, as I said before for subjectivity.

This field has survived, but not on the basis of being acceptable in the literature. Tewari has tried to publish. I know the IEEE (International Electrical and Electronic Engineers) is involved in this conference, but Tewari tried to publish in IEEE and was summarily rejected. Many of us have tried to publish and have been rejected. The reason Tewari even bothered to try to duplicate this "Acyclic Closed Magnetic Generator," after years of correspondence with DePalma, was because he was able to convince some mechanical engineers that it had some engineering method. You see they actually did material stress analysis.

We also analyzed. We used beryllium copper for a reason. It's just engineering. There are a lot of you in this room who are perfectly capable of doing it. There was nothing magical. We just operated on a different presumption. We said, "Maybe this experiment will work." And if it doesn't work, well then it's like 88% of the rest of them. If it does work, heh, then there is another level of confirmation.

Robert Kinchloe, Professor Emeritus of Stanford University, went to visit the, how can we call it, encumbered "Sunburst Machine". This machine was originally developed by DePalma, Richardson and Bernard at Sunburst Farms, Santa Barbara, California. Dr. Kinchloe just out of curiosity of his own mind, decided that he would just see if there was something about it that was unusual. He presented a paper on it, and I understand that it only got to Bruce through somebody else. But that's not unusual; my own attorney has directed my attention to an article I never knew existed. It's funny about that.

It's funny when representatives from our own Government look me straight in the eye and say, "Yes we know this is real, but we wonder why you would disclose it to foreign nations?"

I said, "I didn't disclose it to foreign nations. It was in an international publication in 1982, and I didn't even know about it."

I would suggest to you that it's time for us to not simply entertain a curiosity. I would suggest to you that it's time for us to enter a human process of inter-relationship, to try to attempt to reintegrate ourselves with one another and not in a floaty kind of "new age" sense necessarily at all. Just call ten people and ask them to each call ten people and tell them that we have an emergency on our hands. Demand that the people we are hiring represent us, supposedly, not the major corporations. We are hiring these people to represent US! Which one of you has the power to lobby in Washington?

We need to send a very clear message to Washington that states, "Gee, don't you think it's silly to be talking about Star Wars? We're only talking about Global Genocide." This without doing anything except for what we are doing right now. We don't have to drop a bomb or fight a war. Just continue exactly as we are now. All we have to do is remain in this collective state of inertia. And I don't personally believe we are going to do that. I don't believe that human beings are not going to rise to this occasion. I don't believe it for a second.

But, I do believe we need first to understand what we are confronted with. And then we need to understand that we can do something about it. We need to act, and we need to act like somebody who is being chased by a hot poker, or someone who cares.

Whichever your response is, Act!

Ten people calling ten people calling ten people, covers the country in a week. It's called "Exponential Networking." I didn't come up with the idea; Fuller did. Call ten people. Ask them to call ten people and find out what happens. It's the equivalence of an electron avalanche in human society. It works.

So, I wanted to try to give a wrap-up and I wanted to cite the fact that we wouldn't be here if it weren't for somebody's vision. Yes, their vision was applied. Yes, their vision, his vision, Nikola Tesla's vision was brought into life. Otherwise he would have been a mere mystic, wouldn't he?

Yes, we do have to sit down with our Macintoshes, or sit with our Hewlett Packard 41C calculators. We had a lot of money (for this field). A total between the two phases of the experiment of about \$200,000. And now I'm finally happy to say it looks like it's going to be produced, or at least this one is going to be produced. It looks like DePalma is also moving into that modality.

We are certainly hoping that more people will come out of the woodworks and say, "Hey, well I've had this thing for the last thirty years. But I was told that if I brought it out into the public when I was working at Los Alamos twenty years ago, they would basically permit character assassination to ensue."

It's hard to believe in some ways, and I don't want to paint a black picture, but I think we have to see the end of times when the New York Times calls a National Center of Atmospheric Research scientist to ask, "How come everyone in the world says that the Reagen report on acid rain is a lie?" And the man answers, "You don't understand the kind of pressure we're under here. People's careers are in jeopardy." This when all our lives are at stake.

So I would like to open the floor to questions....

".....I raised a question in another seminar about the oxygen depletion, and the speaker told me that even if we were to kill all the forests at once it would take a very long time for the oxygen to dissipate out of the atmosphere....

We are talking about a change in the mixture of gases, okay? There are people who say that even if you combusted all the carbon on the Earth, biomass and post-biomass, the oil reserves, everything, there would still 75% of the oxygen in the atmosphere. Unfortunately, they fail to take certain things into account. For example:

Today we sit, and if you knew what we went through to get this acknowledged in the world press (And it would take me an hour to tell you), but we now have it publicly acknowledged by NASA that we have between a 2.3% and 6.6% depletion in world wide atmospheric ozone depending on latitude and time of year. This not taking into account the rather large depression over Antarctica.

When this level of ozone depletion occurs, the level of ultra-violet influx increases the probability of photosynthesis in the lower atmosphere. So, the O_2 is preferentially converted into H_2O_3 for example. This would normally only appear in great quantities after a lightning storm in the past.

We have a lot of H_2O_3 in the atmosphere. We have a lot of O_3 in the troposphere, which until very recently was being attributed to internal combustion. But O_3 was appearing in large quantities in rural areas where there was very little internal combustion, relatively speaking. It became an embarrassment when the Department of Agriculture had to admit that 2.6 billion dollars worth of crops were being destroyed per year by ozone alone.

So the photosynthetic reaction that is occurring as the result of increased ultra-violet influx must be taken into account if we are going to begin to understand what is going to be sustainable in terms of oxygen tensions. It is the mixture of gases that rise from the biosphere through the troposphere and into the stratosphere that determines the tension of ozone, O_3 .

The Nimbus satellite, by the way which NASA has conveniently said is out of calibration even though it was in fine calibration last September, and in almost perfect agreement with the instrumentation on the ground in Antarctica. Which by the way at the center of the Antarctic hole, six miles up, we had 96% depletion levels last year (1987). The jumpsuits worn by some of my friends from the Center for Atmospheric Research, please understand there are a lot of good people there, people there I respect a lot, their nylon jumpsuits were actually degraded by ultra-violet exposure in just one flight. Several people had serious eye injuries.

Now anybody who is going to suggest that this type of influx is not going to effect the species of molecules that we have in the atmosphere, and the mixture of those gases, is denying an extremely important fact. So whereas I'm not suggesting we're all going to die of anoxia, what's going to happen when the phytoplankton in the oceans die? They are the basis of the entire oceanic food chain. If you are not familiar with them, they are the little critters that actually made all this possible. This conference would not be occurring today without their sponsorship.

I think we need to realize that we are sponsored by living things, and we need to support them so they can support us. Does that answer your question?

Yes, thanks.

It occurs to me that the resurrection of Nikola Tesla's vision and other people who have had the vision of the quantum ether, may yet be called on for a second offering. I think it's a good time to invest in this second offering of free energy. We did not invest the last time and now we are paying for it. I don't want to see anybody suffer. What will it be like in ten years, when already the American Cancer Society says that even with sunscreen protection ratings of 15 SPF, direct sun exposure should be limited to an hour?

I hope the Tesla Society will prosper, and move into a new age of manufacturing, implementation and further development. I want what has happened so far to be totally obsolete in ten years. One kilowatt in your pocket, why not?

There is absolutely no reason why not. You've got ten to the ninety-fourth power, grams per cubic centimeter energy equivalent field. It's not in a great big area, but it's a Lot of energy. If we can just scrape the surface, ever so slightly, we would never have to worry about it again.

That's what Nikola Tesla was scheduled to tell Franklin Delanor Roosevelt back in 1943. In 1943 he had proposed to FDR that perhaps we should look carefully at the fact that we can get all the energy we need from any space we happen to be in.

He didn't show up for his meeting with the president. He was found dead in his apartment, "Natural causes."

There is some suspicion that maybe his visionary paranoia of poisoning was not exactly paranoia, ... but premonition.

I have never mentioned this before, but when I spoke at the 1981 Conference at the University of Toronto, a detective, an older gentleman from New York, with a heavy New York accent, approached me afterwards and said that he was a detective at the time when Tesla had been found dead, and said he was involved with the investigation.

He said, for national security reasons, that nobody was to know that the coroner's report had indicated he had been poisoned.

I have never personally read the coroner's report, but the man was about the right age. He showed me a badge, and I had no reason to doubt this man who had come all the way up to Toronto from New York, just to tell somebody after all those years.

The coroner's report did say he had been poisoned. Now it turns out that the only medium to my knowledge it actually cites that Tesla had been poisoned is the Yugoslavian film on Nikola Tesla called, "The Secret of Nikola Tesla." So everybody can watch again the introduction, because they say it right at the beginning. And they also say perhaps that he was killed by the Nazis.

I did not really want to mention all this, but science cannot exist in an environment where science is not allowed to grow.

Any other questions? Well, you have all been a tremendously patient group. Thank you for your attention.

Thank you Adam.

Em-Tech Technologies: Advanced Solar Photo-Voltaic Crystal Lattice Cells

In 1989, during another flight of the Space Shuttle Atlantis, the U.S. military photographed a newly launched Soviet communications satellite in geo-synchronous orbit above Moscow. There were several things about the new Soviet satellite which were unusual. First, spectroscopic investigation of the signature of the satellite revealed the familiar tell-tale presence of nuclear material located in the aft section of the satellite. It was presumed (incorrectly, it later turned out) that this signature confirmed that the satellite was, indeed, powered by a small on-board thermo-nuclear reactor.

What did not make sense, though, was the fact that the power requirements, which American military analysts believed were needed to support the variety of functions being performed by the Soviet satellite, were believed to consume considerably more power than could possibly be produced by a nuclear reactor of the kind and size believed to be installed and operating on the satellite.

Further, the photographs revealed the presence of a peculiar kind of parabolic dish suspended from the nose of the satellite. It was shaped like the much larger satellite receiving dishes commonly used by television viewers in the West. The peculiar thing about this dish was that it was very small, less than three feet in diameter, and had a very flat parabolic surface. This meant that it did not focus the signals they presumed it received onto any boom-mounted collector or decoder device. No such device was mounted on or attached to the dish.

Finally, it appeared to be constructed of a material or combination of materials which was unknown at the time, but which appeared to be highly reflective, almost like a mirror. Interestingly enough, the dish was also apparently transparent to interstellar signals which originated behind it. For years it was believed that the strange parabolic device was a special kind of high-gain directional antenna. That assumption later proved to be totally false.

In fact, information recently supplied by the I.N. Frantsevich Institute for Problems of Materials Science (IPMS), Kiev, Ukraine, to support several of its patent applications confirms that the dish was constructed of the same crystalline lattice material which is used to construct the interior of exceptional energy storage devices, but built with some very special features. The purpose of the device was to convert sunlight and other ambient wavelengths of energy into ion flow or electrical current, in sufficient amounts to maintain the electronic and other operational functions of the satellite. In the West we refer to devices which act this way as photo-voltaic devices or solar cells. The device which looked like a high-gain antenna dish was certainly a solar cell, but it was much more than that.

The quantum physics and the new technologies which made it possible to produce the crystalline lattice structure of the energy storage devices also made it possible to produce a similar crystalline structure which was capable of simultaneously converting wavelengths of widely varying characteristics into ionic flow or electrical current. The strategy employed by this revolutionary new material worked across almost the entire spectrum of known wave lengths, from far out in the realm of extra-low frequency long wave lengths propagated by the original Big Bang all the way up through the visible light spectrum and beyond, into X-rays and ultra-high frequency, ultra-short wavelength wave forms associated with pulsars, quasars and quantum singularities.

The quantum mechanics which describe the characteristics of the crystalline lattice structure recognize two distinct features of wave/particle propagation which are nowhere integrated in the linear quantum mechanics or solar cell technologies of the West. First, the characteristic of crystals which differentiates them from all other known material substances is that they resonate (or oscillate, to be more precise) at both primary and harmonic frequencies.

A crystal-based tuning fork which resonates at "A" natural will also resonate in sympathy with any harmonic of "A" natural propagated across the entire wave spectrum if the wave form is detectable and of sufficient intensity to activate the crystalline structure of the tuning fork.

The crystalline lattice of the Soviet solar cell was deliberately designed and constructed to resonate at all the harmonic frequencies of the entire wave length spectrum, as defined by six discrete bands which embrace all known wavelengths. These bands are each a harmonic of the next, and all of them cause excitation (oscillation) of the crystalline lattice structure at the same time.

This phenomenon reflects a new feature of quantum mechanics, instantaneous simultaneity of crystalline oscillation regardless of the distance of separation. The potential of this phenomenon in future applications is truly awesome. Properly harnessed, for example, this property of crystal structures as defined by the IPMS version of quantum mechanics could make it possible to communicate over vast distances with no time lag. The oscillation characteristics demonstrated by these structures operate outside the normal context of space-time.

This writer, Gary Vesperman, happens to be the inventor of a major advance in torsion field communications, made possible by these special crystalline lattice structures. The maximum theoretical capacity of torsion field communications apparently is 40 billion channels of three-dimensional holographic television through the entire earth without attenuation at one billion times the speed of light.

It has long been recognized in the West that oscillating crystal structures can be engineered to create a usable flow of ions in the form of low-voltage direct electrical current. However, instead of relying exclusively on light in the visible spectrum alone to create ion flow, the Soviet system operates on all known ambient wave lengths simultaneously, in six harmonic resonant bands. It creates ion flow wherever and whenever such wave forms are present. It means that these devices operate on ambient heat remaining in a room or in the dead of night when there is no visible light present at all.

One more feature distinguishes the Soviet material from the Western photo-voltaic or solar cell. The Western cell operates by trapping photons of light in a cleverly designed network of glass, mirrors and other inter-connected reflective materials which are deposited on a substrate of a dielectric material. When the volume of "photon" traffic striking the dielectric material reaches a minimal threshold, electrical current is created.

That is, when enough photons have been captured to excite the surface of the substrate by either directly impacting molecules on the substrate surface or by creating heat energy sufficient to cause those molecules to oscillate, ion flow is induced. It is not a particularly efficient method, but it is the best that has been devised in the West.

In the Soviet material, because photons are known to behave in precisely the same manner as electrons, the photons (which are present in all wave forms, including visible light) are simply introduced to the energy wells between the tips of the molecular pyramids on the sheets of crystal lattice which overlay each other. The material is so efficiently designed that it actually absorbs (here is another place where imprecise common language gets us into technical difficulty) the individual photons in the same way it accommodates electrons.

During the discharge cycle, when a circuit is open and available, the photons simply follow the path of least resistance, which is out through the crystalline lattice and into an electrical circuit, energy storage device, or some other similar application.

The Soviet solar panel operates at a nominal efficiency of no less than 51% in the least consistent pieces which have been tested in the United States. The best pieces have produced test results demonstrating operating efficiencies in excess of 80%. These devices/materials produce electrical current at a higher rate per unit of exposed surface area in the dark of night than the best solar panel ever produced in the West will generate in the most ideal sunlight conditions.

The simple circular device attached to the Soviet satellite was a single solar cell which was used to power the entire ship and all its functions. The nuclear fuel signature detected by the Atlantis crew was nothing more than the emissions produced by a piece of spent nuclear fuel placed on board the satellite, intended to mislead the American surveillance team. It worked.

Advanced solar photo-voltaic cells produced by Em-Tech Technologies of Toronto, Canada, have demonstrated actual hands-on efficiencies in laboratory applications of more than 50%. These cells are based on designs developed by the IPMS. Theoretical models have yielded energy production efficiencies of more than 80%. These cells operate on such wide band-widths and at such high efficiency rates that their performance characteristics in the dark of night exceed those demonstrated in broad daylight by the best current, state-of-the-art solar cells produced anywhere else in the world. When applied to current global electric energy requirements for domestic, commercial, industrial and military use, the cost of electricity could be reduced to less than \$.002 per kilowatt hour, with the added capability of operating not only in daylight but at reduced loads throughout the night, regardless of weather, on virtually any scale.

(When I, Gary Vesperman, was peripherally involved with the IPMS inventions during the 1992-1994 period by way of preparing Rodger Ward's electric car IPO, I heard a cute story. Ashurst Technology Corporation was based in Las Vegas, Nevada, where I was also working. Ashurst wanted to bring some of the IPMS scientists to Las Vegas and set up laboratories. The scientists, who were used to the much colder climate of Kiev, Ukraine, balked at moving into the hot desert. Toronto, Canada was chosen as a compromise location for Em-Tech Technologies.)

For comparison, the very best solar cells ever produced in the West have been produced by the Japanese. These cells operate at a maximum of 19% efficiency. That is, they convert as much as 19% of the ambient visible sunlight shining on a clear, cloudless day into ion flow, which then becomes low-voltage direct electrical current flowing through a circuit. The Japanese panels require months per section to manufacture and literally cost more than their weight in gold to manufacture. They are very heavy and are so sensitive to vibration and calibration that once installed, they cannot be moved at all.

Joint ventures of the IPMS with more than a dozen private sector companies to develop these useful inventions have been repeatedly sabotaged by the U.S. Government's Defense Intelligence Agency and others. (Source: David G. Yurth, *The Anthropos Files: Tales of Quantum Physics from Another World – 2nd Edition*, 2007)

David G. Yurth emailed to Gary Vesperman on August 5, 2007 his own suppression story:

When I was hired in the Spring of 1992 by Ashurst Technology Corp, whose offices were then located on Western Avenue in Las Vegas, I was assigned the task of understanding everything there was to know about the new sciences and technologies developed by the I.N. Frantsevich Institute For Problems of Materials Science between 1945 and 1991, when the Berlin Wall came down. The owners of Ashurst had accidentally hooked up with three top scientists from the Institute, as reported in the publisher's proposal I submitted to my agent in the Spring of 1994. (Yurth's proposal comprised the original edition of *The Anthropos Files: Tales of Quantum Physics from Another World*. "Anthropos" is a Greek word meaning 'of man' or 'things related to humans'. Yurth used it in the title to his book about IPMS technologies because it occurred to him that their epic scientific and technological achievements offer everything needed to save Planet Earth from what we humans have been doing to it.)

My publisher's proposal was released by my agent to former Secretary of Defense Frank Carlucci at a luncheon they both attended at the Washington Press Club two weeks after I gave her my manuscript. Two weeks later, two guys in dark suits and thin black ties came into my office and attempted to confiscate my computer and all my records. I called the police, had them arrested and then was forced by the Director of the Western Regional Office of the Defense Intelligence Agency to forego publishing the book for five years under threat of prosecution and personal injury. When you read the treatment, you will understand why it was important. That was a major league suppression exercise, the scope of which you will come to appreciate after you have read my manuscript. They are still successfully suppressing many of the technologies that are cited in that piece of work. (Some of them are described elsewhere in this compilation of energy invention suppression cases.)

However, the most important scientific technology suppression story, in my estimation, is the successful squelching of the report issued to Discover Magazine by the CDF Collaboration at Chicago's Fermi Labs, citing the discovery and verification of sub-quarks as the constituents of quarks. I reported this information in my still unpublished book manuscript *Seeing Past The Edge* in considerable detail, including copies of the press releases and report abstracts issued by the more than 450 signatories to the report when it was issued. (This writer, Gary Vesperman, edited *Seeing Past the Edge*.)

If ever there was a significant suppression of essential, baseline scientific information, this was it. What it means to science, and what it suggests about the sufficiency of the Standard Physical Model is one thing. But what it says about the extent to which the gatekeepers for the scientific establishment are willing to go to suppress information that threatens their stranglehold on their own territorial imperatives is another matter entirely. If I were to choose between all the instances I know of scientific or technological suppression during the past century, this would have to be number one on my list, bar none.

Dave

Like energy inventors, physicists occasionally also encounter suppression. See <http://rense.com/general77/21.htm>.

Marshall Douglass Smith (Author): The Rise of Fascism in the American Energy Business

The ruthless geo-political strategy of corporate American energy oppression is clearly exposed by Marshall Douglass Smith in his book *Black Gold Hot Gold – The Rise of Fascism in the American Energy Business*. The book details the collusion of oil companies and the US military and federal government since the 1920s. A preview of Chapter 3 is available online at http://www.theforbiddenknowledge.com/hardtruth/black_gold_3.htm, and is recommended reading.

To be fair, an experienced oil and gas geologist, a friend of Gary Vesperman, thinks Smith's account is false of how the end of the Vietnam War was intentionally delayed until the very day that Standard Oil had completed its exploration of oil offshore of Vietnam.

And what do you suppose is really happening with Iraq and Iran? The *Los Angeles Times* article "It's Still About Oil in Iraq" (8 December 2006) -- see http://www.truthout.org/docs_2006/120906Y.shtml -- affords us some clues. The U.K. *Independent* article "How the West will make a killing on Iraqi oil riches" (http://news.independent.co.uk/world/middle_east/article2132569.ece, 7 January 2007), and Truthout's "New Oil Law Means Victory in Iraq for Bush" (http://www.truthout.org/docs_2006/010807A.shtml) confirm the suspicion of what many people think is the real reason why the United States invaded Iraq.

Perhaps the key to peace in Iraq would be to share Iraq's oil dividends among the Iraqi people, in the same manner that Alaska shares oil dividends (see <http://www.iraqdividend.com>). Instead, the American and British oil companies, in collusion with Bush administration, are planning to keep the lion's share. Realizing the real purpose of the U.S. invasion and reconstruction of Iraq, Iraq's oil workers unions are struggling to prevent the handover of ownership of Iraq's oil to foreign oil companies (see http://www.truthout.org/docs_2006/060907A.shtml).

To order a video about the US warning to the Taliban in August 2001 to allow an oil pipeline through Afghanistan --- or bombs would start dropping in October 2001 --- visit http://www.nutech2000.com/category1_1.htm.

It is logical to assume that the real reason for both Gulf Wars, and the interim between the two wars which featured US Navy patrols of Iraq, was to allow major American oil companies to use explosions from US Navy bombs -- for well over a decade -- to seismically explore for oil in the Persian Gulf off Iraq's shore, at nearly no expense to themselves, just like Standard Oil did during the Vietnam war.

Is it now time to explore for oil in the Persian Gulf off Iran's shore? But first the oil companies have to secretly stampede the United States and Iran into a very long war with each other...

CONCLUSION

It should now be evident that the oil/auto and power monopolies viciously defend their global energy markets by threatening, persecuting or even murdering targeted energy inventors, and even entire nations.

U.S. Patent Office Holds Secret 5000 Patents

The most straightforward way to suppress development of new sources of energy and still maintain an appearance of legitimacy might be by controlling the United States Patent Office.

Under the Invention Secrecy Act of 1951, the government may restrict the publication and dissemination of information about new inventions if their disclosure could be "detrimental to the national security." At the end of fiscal year 2006, there were 4942 invention secrecy orders in effect. These "secretized" patents are kept in the vault at the U.S. Patent Office (Park 5 Building). They never receive a patent number, and the inventor is rarely, if ever, compensated by the government for use of the invention. (Source: [http://www.fas.org/blog/secrecy/2006/12/patent secrecy orders_lifted_o.html](http://www.fas.org/blog/secrecy/2006/12/patent%20secrecy%20orders_lifted_o.html). Other patent secrecy links: <http://www.fas.org/sgp/othergov/invention/admin.html>, <http://www.fas.org/sgp/othergov/invention/37cfr5.html>, www.fas.org/sgp/othergov/invention/australia.pdf, <http://www.fas.org/spp/starwars/>, [http://www.fas.org/blog/secrecy/2006/12/patent secrecy orders lifted_o.html](http://www.fas.org/blog/secrecy/2006/12/patent%20secrecy%20orders_lifted_o.html), [http://www.fas.org/blog/secrecy/2006/12/navy mind control.html](http://www.fas.org/blog/secrecy/2006/12/navy_mind_control.html), and www.fas.org/sgp/othergov/invention/program.html.)

The U.S. Patent Office has a nine-member committee that screens patents in order to protect "national security".

An understandable reason for suppressing certain types of energy inventions is that the knowledge behind them is also capable of producing tremendously destructive advanced electromagnetic weapons such as the "death ray" apparently invented by Nikola Tesla and the Russian military's deployment of plasma beam weapons. Hence many such new energy technologies, particularly those using this kind of knowledge of advanced electromagnetic principles, are considered "dual use" technologies that are among the 5000 un-numbered patent applications confiscated in a vault at the U.S. Patent and Trademark Office because of their military potential and the need to keep that knowledge from America's enemies.

A hidden purpose of this committee is to also find and remove from public access energy-related patents which could threaten the fossil fuel and power monopolies.

Canada's patent office doesn't have a similar screening committee. It is recommended that energy patents possibly in danger of being classified should be first applied for in Canada. Once granted, up to one year is allowed to apply for the same patent in the U.S. Patent Office. Now the patent can not be classified because it is already out in the public domain, courtesy of Canada.

Text of Generic Patent Secrecy Order

SECRECYP ORDER
(Title 35, United States Code (1952), sections 181-188)

NOTICE: To the applicant above named, his heirs, and any and all of his assignees, attorneys and agents, hereinafter designated principals:

You are hereby notified that your application as above identified has been found to contain subject matter, the unauthorized disclosure of which might be detrimental to the national security, and you are ordered in nowise to publish or disclose the invention or any material information with respect thereto, including hitherto unpublished details of the subject matter of said application, in any way to any person not cognizant of the invention prior to the date of the order, including any employee of the principals, but to keep the same secret except by written consent first obtained of the Commissioner of Patents, under the penalties of 35 U.S.C. (1952) 182, 186.

Any other application already filed or hereafter filed which contains any significant part of the subject matter of the above identified application falls within the scope of this order. If such other application does not stand under a security order, it and the common subject matter should be brought to the attention of the Security Group, Licensing and Review, Patent Office.

If, prior to the issuance of the secrecy order, any significant part of the subject matter has been revealed to any person, the principals shall promptly inform such person of the secrecy order and the penalties for improper disclosure. However, if such part of the subject matter was disclosed to any person in a foreign country or foreign national in the U.S., the principals shall not inform such person of the secrecy order, but instead shall promptly furnish to the Commissioner of Patents the following information to the extent not already furnished: date of disclosure; name and address of the discloser; identification of such part; and any authorization by a U.S. government agency to export such part. If the subject matter is included in any foreign patent application, or patent, this should be identified. The principals shall comply with any related instructions of the Commissioner.

This order should not be construed in any way to mean that the Government has adopted or contemplates adoption of the alleged invention disclosed in this application; nor is it any indication of the value of such invention.

(The harsh punishment for a violation of this secrecy order, should an inventor exploits or even simply discusses his or her invention which is classified by a patent secrecy order, is 20 years in federal prison. In effect the U.S. Government brutally and suddenly orders unlucky energy inventors to keep absolutely quiet and not do any more work on their inventions – without compensation for their well-meaning efforts. Thus a shocked, intellectually shackled and frustrated inventor would end up losing everything he or she had invested in his or her invention. The public is also ruthlessly denied any benefits from the invention.)

US Congress: Energy Inventor Protection and Patent Declassification Act

The newly elected United States Congress should immediately write, introduce, and pass a bill titled, "Energy Inventor Protection and Energy Patent Declassification Act of 2007". Included should be 24/7 protection of energy inventors and their property by armed guards, and declassification of as many as 5000 energy patents unfairly held in secret by the U.S. Patent Office. (In spite of what one email correspondent suggests is the appearance of appointing a fox to guard the henhouse.)

Remy Chevalier suggests that the U.S. Congress needs to put back into question the entire review process of patent law, and its consequences on environmental health, by imposing strict fines to who ever is caught buying energy patents for the sole purpose of keeping its protocol out of commercial circulation.

In this fourth version of Gary Vesperman's compilation of specific energy invention suppression cases, the body count rose to a disgusting high of as many as 17 innocent people who were brutally murdered just to ensure the global market supremacy of giant energy monopolies. 31 energy inventors and associates are known to have been threatened with death, and 5 energy researchers and associates have been imprisoned or falsely charged.

The Congressional bill should also include a provision to hunt down and imprison for many years the secret government/corporate energy invention suppressors and their hired bullies and assassins.

The U.S. Congress in 2005 gave the oil companies \$2.6 billion in tax breaks as a reward for \$190 million in campaign contributions. (Source: League of Conservation Voters)

Wilhelm Reich: Orgone Energy Motor

In the mid 1930s Wilhelm Reich, MD, began noticing an energetic connection that is shared by all living beings and had the clarity of mind to not dismiss the observation as unimportant. Dr. Reich called this energy "orgone" and worked for decades demonstrating its laws and studying its various manifestations.

Dr. Reich in 1948 got a "synchro" type of electrical spinner motor to run from both an orgone energy accumulator and an orgone-charged high-vacuum tube. James DeMeo and Nicholas Reiter have each written an article on the orgone energy motor construction and use, with eyewitness quotes and many construction details. DeMeo has also published a third article on the subject of electrostatic motors, which are powered by sources bearing some resemblance to what Reich used in conjunction with the orgone accumulator.

An assistant, either suspected to be secretly working for the U.S. Government or was simply an incompetent and thief, had helped with its mathematics and construction. This assistant then took some of Reich's money and the motor with him that winter on the pretense of working on further refinements. Instead he disappeared. None of his claims about his past including previous employment were verifiable.

The U.S. Government then campaigned for many years to thoroughly ban and burn Reich's books and any other printed literature that included the word "orgone". U.S. Government violations at the time included the warrant-less invasions and searches of the homes of people peripherally associated with Reich. In one such case, a home was searched, and Reich's books were confiscated from private bookshelves. School teachers and doctors who worked with Reich were fired from their jobs.

Reich died at the age of 60 after serving eight months of a two-year federal prison sentence. Reich had been falsely labeled a quack and a racketeer by the U.S. Government and the corrupt American medical system. (Sources: Emails from James DeMeo, <http://www.proliberty.com/observer/20030310.htm>, <http://www.orgonelab.org/cgi-bin/shop.pl/page=xpulse.htm>, <http://www.orgonelab.org/cart/xpulse.htm>, and http://pw1.netcom.com/~rogermw/Reich/orgone_motors.html.)

Energy invention suppression much too frequently involves energy inventors unjustly being deprived of their constitutional rights. Years ago James DeMeo, Ph.D., wrote a scathing well-referenced article "Anti-Constitutional Activities and Abuse of Police Power by the U.S. Food and Drug Administration and other Federal Agencies" (see <http://www.orgonelab.org/fda.htm>). The flagrant abuses by the U.S. Government he cites are clearly reflected by U.S. Government-sanctioned energy invention suppression terror tactics. At its end, he lists the pertinent constitutional rights which for over two centuries hundreds of thousands of Americans have defended with their lives as sacred:

The Constitution of the United States Bill of Rights, 15 December 1791

Amendment I: Congress shall make no law ... abridging the freedom of speech, or of the press...

Amendment IV: The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated...

Amendment V: No person shall be ... deprived of life, liberty, or property, without due process of law...

Bruce DePalma (Interview): A Peaceful Revolution against Energy Oppression

A University of California at Santa Barbara 1983 interview by Daily Nexus Staff Writer Evette Justus quoted Bruce DePalma, local physicist and scientist:

"A peaceful revolution can occur providing we can free ourselves from the oppression which is dominating us and controlling our day-to-day existence. This oppression is the necessity to make payments to a system which gives us the energy to heat our homes, transport ourselves, brings our food and fertilizer to grow our food, and makes the plastic that goes into our clothes. When we can be released from that we will have a choice. And this can be the only revolution – a peaceful revolution, and free energy technology makes this peaceful revolution possible." (Quote submitted by David Crockett Williams.)

How to Stop Energy Invention Suppression

Compiling energy invention suppression cases is the most disgusting project this writer, Gary Vesperman, has ever done. All too many times while writing these stories, I have recoiled in dismay at the meanness of the energy invention suppression bullies who for DECADES have conducted their vicious operations paid for by giant lying greedy energy monopolies and their secret allies in the United States Government.

Even if HALF of these suppression cases can somehow be found to be false, the conclusion is still inescapable that we have a very, very serious problem of which very, very few people are even aware.

Hundreds of billions of dollars of energy business are at stake. I can not think of another issue that is more fundamental to American politics than energy invention suppression.

Energy invention suppression indirectly impacts on the largest scale economics, national security, foreign policy, Middle Eastern oil wars, the environment, food production, preservation of beloved parks and wilderness areas, protection of endangered species from extinction, trade balances, climate change, conservation of scarce natural resources, company and personal bank accounts, and the health and safety of ourselves and our loved ones.

The perpetrators of energy invention suppression constitute the world's single most powerful economic force. They are secretly committing acts of high treason for which their leaders should be hunted down and severely punished. The Internet can educate and empower a widespread grassroots revolt against energy invention suppression. To stop paying hundreds of dollars a month of tribute to the energy tyrants as soon as possible, each of us millions of energy consumers must again and again identify and carry out specific organized actions – the combination of which hopefully will culminate in a peaceful overthrow of those traitors, restoration of full constitutional rights to energy inventors, and gaining our rightful energy freedom.

- In each energy activist's immediate geographic area, establish or join an Adopt an Energy Inventor Group to financially support and even physically protect a local energy inventor against harm.
- Petition the U.S. Congress to pass specific legislation against energy invention suppression such as the above suggested "Energy Inventor Protection and Energy Patent Declassification Act of 2007". One by one, each Congressperson must be closely questioned, monitored and held accountable for his or her actions concerning energy invention suppression. Government and corporate officials as well as Congresspersons who are found to be committing high treason by supporting often vicious energy invention suppression should be hunted down, quickly brought to trial and, if convicted, severely punished.
- Review and modify, where needed, existing federal and state laws and regulations which either intentionally or unintentionally suppress energy inventions. For example, in the suppression case described above of the Fish/Kendig Variable Venturi carburetors, the possibly corrupt California Air Resources Board forced a young college student to remove a Fish/Kendig carburetor from his Mercury "gas hog", even though it doubled mileage and reduced pollution.
- Educate and persuade local groups, companies, labor union locals, and government agencies to pass resolutions advocating energy invention freedom.

- Monitor energy research web sites such as www.keelynet.com, www.rexresearch.com, www.zpenergy.com, www.nexusmagazine.org, www.pureenergysystems.com, www.orgonelab.org, www.bob-dratch.org, www.teslatech.info, www.byronwine.com, www.commutefaster.com, www.freeenergynews.com, www.padrak.com/ine, www.cheniere.org, http://peswiki.com/index.php/Congress:Member:Leslie_R._Pastor, <http://www.atlantisrising.com>, <http://www.newenergycongress.org>, http://peswiki.com/index.php/New_Energy_Congress, <http://www.borderlands.com/freeenergy.htm>, <http://www.lenr-canr.org>, www.green-salon.com, <http://www.novainstituteoftechnology.com/>, <http://www.electrifyingtimes.com>, and <http://www.energysuppression.com>.
- Sell or give away millions of "End Energy Invention Suppression Now!" T-shirts, bumper stickers, yard signs, banners, etc.
- Subscribe to and buy back issues of alternative energy research publications such as Fusion Facts, Cold Fusion Times, Nexus, New Energy Times, Infinite Energy, Extraordinary Technology, Journal of New Energy, Borderland Sciences Research Foundation, New Energy News, Electrifying Times, Space Energy Journal, New Energy Movement, German Association for Field Energy, Swiss Association for Free Energy, and Canada's Planetary Association of Clean Energy.
- The mission of <http://www.energysuppression.com> includes a repository of energy invention suppression cases. Energy freedom activists may post notices relating to putting a stop to energy invention suppression. Energy freedom activists who organize a local "Adopt an Energy Inventor Group" will find resource materials and a place to announce and coordinate their anti-suppression activities.
- <http://www.energysuppression.com> will enshrine an honor roll of "Warriors for Energy Freedom". These are companies, university student groups, labor union locals, individuals, environmental organizations, and other groups who advocate restoration of full constitutional rights and adequate financial support to inventors of new sources of energy. A description of their actions, which can be as simple as a publicly declared corporate resolution, would accompany their listings. New nominations will be voted in by majority vote of the New Energy Congress.
- <http://www.energysuppression.com> will display an "Energy Invention Suppression Hall of Shame" listing the names of those who have been clearly identified as perpetrators of energy slavery. New nominations will be voted in by majority vote of the New Energy Congress.

The U.S. Congress and the environmental organizations quibble about raising automobile mileage standards a paltry few miles per gallon. Let's get real! Let's instead now begin this ultimate environmental crusade with millions of bumper stickers, meetings, state legislative resolutions, demonstrations, emails, yard signs, labor union boycotts, T-shirts, energy inventor adoptions, movies, live concerts, crusades, letters and phone calls to the U.S. Congress, web sites, television documentaries, sit-ins, college lectures, protests, and banners in the streets and on vehicles blowing in the wind...

End Energy Invention Suppression Now!

DISCLAIMER: Inclusion of any invention or technology described in this compilation of energy invention suppression cases does not in any way imply its suitability for investment of any kind. All investors contemplating any investments in these devices and technologies should first consult with a licensed financial professional. Prospective investors should exhaustively perform their own investigation of pertinent facts and allegations of facts. Investors should also ensure thorough compliance with regulations of the federal Securities and Exchange Commission and appropriate state securities divisions. For more information, see <http://www.zpenergy.com/modules.php?name=News&file=article&sid=1655>.

Gary Vesperman
 Chief Operating Officer and Director of Research
 Blue Energy Corporation
 Henderson, Nevada
www.blue-energy.us
garyvesperman@yahoo.com
 September 3, 2007

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10047.

Comment Date: February 20, 2011 23:24:18PM
Solar Energy Development PEIS
Comment ID: SolarD10047

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

Robert Nelson, Las Vegas, Nevada, has accumulated a very large inventory of energy inventions in his www.rexresearch.com.

The New Energy Congress, of which I am a co-founding member, has compiled "top 100 energy inventions" that could be added to the mix of energy inventions. See http://peswiki.com/index.php/Congress:Top_100_Technologies_-_RD.

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of some of these new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10048.

Comment Date: February 20, 2011 23:32:24PM
Solar Energy Development PEIS
Comment ID: SolarD10048

First Name: Gary
Middle Initial: C
Last Name: Vesperman
Organization: Blue Energy Corporation
Address: 588 Lake Huron Lane
Address 2:
Address 3:
City: Boulder City
State: NV
Zip: 890051018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: List of Inventions with Cost and Time to Market Guesses.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

Attached is my 10-page list of inventions that I know of. Approximately half of these inventions relate to energy.

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of some of these new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Gary Vesperman's List of Inventions

Energy

Gravitational Systems pumps in cattle runway use weight of cattle to pump water
Gravitational Systems piezoelectric crystals embedded in road pavement generate DC electricity
Snaper low-cost propellerless wind turbine
electronically shaded photo-voltaic glass
Casimer-effect self-charging battery – three versions
Borrowdale's motor/generator
Frank Richardson generator
plasma solar panel
hydro-magnetic dynamo
hydrosonic pump
Davis tidal turbine
colliding plasma toroid fusion
GeoExchange heat pump uses heat of earth or lake water to heat and cool a structure
metallurgical separation of hydrogen from water
high-density charge cluster device
hybrid cold fusion hydrogen reactor
electrino fusion power reactor
rotating and solid-state magneto-voltaic generators
Clem over-unity vegetable-oil engine
super-steam technology
uranium reactor in pail; available on E-Bay for \$5,000,000
gas-phase catalytic fusion
wind-solar hemisphere power station
LUMELOID™ light-polarizing photovoltaic thin film
LEPCON™ femto diode photovoltaic glass sheet
POWR/MASTR™ is high-efficiency industrial engine fueled by natural gas, propane or butane
Tesla turbine combustor
buried contact multijunction thin film solar cell
fiber-based cold fusion power cell
solar hydrogen producer
Hawkings' generator of cold electricity
double-exposure flat-plate solar collector
low-temperature phase-change engine
Muller's magnetic motor/generator
hyper-cap E-converter
aluminum-water fueled hydrogen producer
converter of zero-point electromagnetic radiation energy to electrical energy
water-fueled internal combustion engine with Garrett electrolytic carburetor
metamatter for revolutionary energy sources and rocket engines,
motionless electromagnetic generator,
Q-cell
WIN zero point electrical energy converter
vortical energy, conversion of aluminum internal combustion engine to magnetic motor
motor/generator with electro-magnetically separated magnetic poles

Energy (Cont'd)

2-to-1 cylinder noble gas power plant
cold operating start technology for 100 miles/gallon automobiles
Boyce hydrogen carburetor
continuous charger for batteries – flux shifter
magnetically powered rotary unit
DiMatt Wankel closed-cycle freon/rotary turbine and generator
fluid thrust diode
Russian electrochemical energy source
high-voltage injection of rain water into cold fog
SPARTEC vacuum triode amplifier
portable power supply solar unit for hot water for Sterling engine
advanced Stirling cycle power unit
vapor generator
gas-generating BingoFuel Reactor
remediating nuclear waste with electron-captured protons with significant net energy gain
Brown nuclear battery
Brinsbury hydrogen steam rotary engine
gate impulse turbine
flux capacitor
pressurized vapor driven rotary engine
self-restoring mechanical oscillator engine
electric rocket
energy buoyancy source
pulsed capacitor discharge electric engine
zero point energy modules
Swiss M-L converter
“negative” resistance in carbon fibers
neutrino voltaics
plasma biomass gasification
orgone energy motor
Electrodynamic field generator
Stirling Energy Systems utility solar
ENECO solid-state chip converts heat to
W2 Energy Birthing Affordable, Renewable Petrol
SolarCube™ by Green and Gold Energy
Cool Earth Solar – inflatable solar concentrator
EEStor Ceramic "Battery" – "energy storage" ultra-capacitor device made from ceramics
Nanotube Super Capacitor Battery
DayStar Technologies' Silicon-Free Solar Cells – unique metal foil
Sines Reluctance Generator uses thin film superconductivity, vortices and magnetic flux gates.
Nelson Scientific's device captures free electrons in a vacuum for electricity
Solar Hydrogen Energy Corporation – process converts landfill methane into clean hydrogen
Enviromission Solar Towers are like an inverted funnel
bladeless turbine with wide range of waste-heat-harnessing applications; produces methanol
cadmium telluride thin film solar PV modules
radiation-free fusion process fuses boron-11 with a proton; results in carbon-12.
flexible very thin film photovoltaic solar panels consist of unique metal alloy

Energy (Cont'd)

very quiet O'Conner wind turbine can operate at low speeds while tolerating high wind speeds
offshore wind technology

Kokhala: Electricity from low-temperature heat 120+ degrees and storage

StarTech's waste-to-energy plasma arc technology

Rauen superclassical ambient heat engine based on Proell effect

StarRotor continuous-cycle engine could replace internal combustion engine

plasma focus fusion may be far more feasible and less expensive approach to hot fusion

Kanarev's electrolysis process enables water to be main power

hydrino process generates light, power, plasma, and a vast class of new compositions of matter

vanadium redox battery is low cost and environmental impact; superior deep cycling life and can be mechanically refueled in minutes

Blue Energy's highly efficient underwater vertical-axis windmill-like generator

Zotloterer gravitational vortex mini-power plant is simple to construct, has a turbine efficiency of 80% but is safe for fish due to low turbine speed. The gravitational vortex hydro technology can be applied in rivers with water drop as little as 0.7 meters.

Flynn Research magnet power motor/generators; flux fields within core increase motor output by 3.5x or more. Possible solid-state generator applications. Also in all future motors.

Verdant Power low-impact kinetic hydropower solutions harness energy from rivers and tides

Valentin Technologies 130 MPG car seats 5 passengers car, free-piston hydrostatic powertrain

vertical axis wind turbine creates pull on the back side for 40%+ efficiencies, doesn't kill birds

Correas' pulsed abnormal glow discharge reactor produces about 1 kW DC electricity

Skystream's is wind generator designed specifically for the grid-connected residential market

Cyclone Technologies Schoell Cycle Engine is external combustion engine; uses any fuel

Engineair's ultra-efficient rotary compressed-air motor

Hydristor converts vehicles into green hybrids with variable vane hydraulic pump/motor

permanent magnetic levitation wind power generator 20% more efficient wind turbines

MotorWind's plastic micro wind turbine brings generation cost down to around 1 cent/KWH

A123 Systems lithium-ion battery replaces cobalt oxide in lithium-ion cells with nanophosphate

gun engine is environmentally friendly and transmission-free; 92% efficient; based on fired bullets

massive yet tiny internal combustion engine features multiple firings in one cycle to give 40 times higher power-to-weight ratio, low parts count, low maintenance, high efficiency

Quasiturbine four-chamber Wankel-like engine burns fuel using photo-detonation

Plurion Systems zinc/cerium redox battery has highest power density; 250kW - 5MW

Steorn all-magnetic motor

sea wave power plants can generate electricity for 2 cents per kWh.

Nansulate Paint insulates and generates electricity from thermal difference between inside and outside temperatures

Laddermill generator is high-altitude series of wings or kites connected to ground via cable

MDI Air Car uses compressed air to push its engine's pistons, 68 mph tops, range 125 miles

AquaBuOY generator is competitive with onshore and offshore wind farms and fossil fuels

Ergenics metal hydride heat engine converts solar hot water into electricity for less than 1¢/kwh

Manchester (UK) Bobber is patented new wave energy device

Papp's noble gas engine utilizes nuclear process to generate tremendous energy

Torbay's magnetic transgenerator uses repelling power of magnets

thermionic solar cells use amorphous diamond nanostructures; 50% efficiency; half cost of silicon

thermal hydraulic engine generates from low heat input 180°F; silent; solar, geothermal or waste heat

Norsk Hydro floating wind turbine captures off-shore winds in deep water; no footing needed

Energy (Cont'd)

Neo-AeroDynamic Wind/Water Turbine employs lift on the leeward edge, harnessing turbulence
low-impact hydrokinetic turbine harnesses tide and river flow without harming fish; no dam needed
Ecowatts Thermal Energy Cell is an electrolysis based energy cell that converts electrical power into heat at an efficiency significantly greater than that of a conventional immersion heater.
Tectane's Aquahol is made from sorghum; water-ethanol ups mileage by 20-40%
converting abandoned oil wells which contain hot water to geothermal plants
SkyBuilt uses shipping containers as foundation for renewable off-grid energy systems
Magenn's Floating Wind Generators use inflatable, rotating balloon
Matteran Energy produces electricity and refrigeration from 150 degrees F water
D2Fusion has cold fusion home heaters and electricity generators
Kanzius radio wave generator splits water into hydrogen and oxygen causing the oxygen to burn RF
Nanometer-scaled generator produces direct current with mechanical energy from ultrasonic waves
Australian process makes ultra-thin silicon solar cells
Milkovic two-stage mechanical oscillator leverages secondary oscillations for 12-to-1 power gain
closed loop ammonia turbine-powered generator uses solar and other forms of low-temperature heat
Searl effect generator cheaply and safely produces electricity without fuel, pollution, friction, or noise
RSI Silicon debuts a far more inexpensive method of producing solar grade silicon
low-cost inflatable electric car is announced as world's first crash-proof, long range, flat-pack vehicle
PowerPlus retrofit water overspray for gas turbines cuts emissions 40%, saves fuel and ups capacity
Crower's six-stroke engine adds two strokes to inject water which turns to steam and cools engine
MagneGas plasma arc flow reactors process liquid wastes into clean burning fuel known as magnegas
thermoacoustics converts heated gas into sound waves to cook, cool, and/or generate electricity
pump-less, hydraulically operated, super-high-pressure diesel injector - 30% more power with less fuel
Joe cell harnesses orgone energy to power a vehicle with no fuel line connected
Magnetronic motor uses small magnetic force to control large magnetic force; retrofit cars
BiosFuel directly uses water for fuel directly; bypasses hydrogen. Catalyst mixes water with waste oil
photosensor measures daylight to send signal to microcontroller that adjusts power for lights
Whisson vertical windmill cools air passing through whirling blades; then traps water from condensate
hydrogen boost technology improves vehicle fuel economy
bi-directional energy tower exploits differences in air density and earth density for passive solar power
two-piston combustion engine drives magnets by induction coils; generates electricity, not torque
Green steam engine runs on very low steam pressure and volume, low cost, lightweight, few parts
Revetec cam-drive engine uses pair of counter-rotating scissor cams, triples torque
Edwards heat pump is like solar hot water heater without collector panels, very efficient
WhalePower wind turbine has blades that mimic humpback whale's flipper, capturing more wind
pyramidal antenna transfers atmospheric electrostatic discharge impulses into circuit; converts to AC
thin, light, flexible polymer-based battery packs more power than standard alkaline battery
Tesla wireless power and free energy from ambient
Golka high-powered tesla-type energy tower
DePalma N-1 homopolar generator
Puharich method and apparatus for splitting water molecules
Schmidt hydraulic wind turbine
hydrogen fuel system kit
over 30 methods of producing hydrogen as fuel for automotive, home, industrial and scientific uses
novel aqueous electrolysis methods for converting water into hydrogen and oxygen
Dingel conversion of cars to run on water
Rasmussen water-to-energy electrolysis process

Energy (Cont'd)

Boyce brown's gas carburetor
Meyer water fuel cell-powered car
solar-produced hydrogen turned into liquid hy-fuel
engine runs on water
Joe cell-powered truck
motionless electromagnetic generator
Frank Richardson magnetic electrical generator
Frank Richardson bladeless steam turbine
advanced form of plasma-discharge energy
thorium powerpack
IPMS thorium-227 electricity generator
magnatron – light-activated cold fusion magnetic motor
Johnson permanent magnet motor
Hendershot magnetic motor
8-kilowatt battery-popper motor
Hitachi magnet motor
vacuum triode amplifier
'school girl' motor and battery energizer
Model T Ford generator with magnets added
Takahashi magnetic Wankel motor
Kawai motive power generating device
Grander magnetic motor
John Richardson 90+ mpg carburetor
John Richardson atomic isotope generator
Fish/Kendig variable venturi carburetor
Belland 100 mpg carburetor that runs on gasoline fumes
Brandt 90 mpg carburetor
Myers efficient carburetor
Wiseman fuel savers
Ogle 100+ mpg oglemobile
Pogue 200+ mpg carburetor
Caggiano 100+ mpg fuel implosion vaporization system
Bbolon automobile steam engine
magnetic vortex hyper-ionization device
vibrating energy source
Stewart cycle heat engine
flywheel/dual hydraulic cylinder
Christopher Bird/Walter has list of 48 suppressed energy inventions
Schauberger jet-turbine
standalone water-based electricity generator
Warwick's Ampliflaire efficient wood-burning stove
Idaho inventor's advanced zero-point energy device
Hudlow method of converting garbage and tires to gasoline, etc
Newman energy machine
Bill Jenkins knows of free energy machine
Volcheck engine powered by gas with unusual expansion properties
Dotto anti-gravity thermionic couple

Energy (Cont'd)

IPMS thermal electric cooling devices
Lantz water and power system
Timothy Trapp's 127 energy technologies
Diggs liquid electricity engine
hyper-cap e-converter
Moray radiant energy pump/electricity generator
small electrical power converter
Yater heat-to-electricity converter
Trombly-Kahn closed-path homopolar generator
Trombly-Farnsworth solid-state oscillating electromagnetic system
advanced solar photo-voltaic crystal lattice cell
Reich orgone energy motor
using low-grade heat, such as the heat from your hand to make electric power
ambient thermal energy "power" for single family home, excess power sold to local utility
H2HyPod producer of hydrogen for internal combustion engines

Advanced Self-Powered Electric Vehicle

solid-state Quantum High-Energy Density Storage or Retrieval (QUENSOR™) device
nickel-iron and new lead-acid battery
NiMH batteries; solid-state lithium-ion batteries
IPMS energy storage/battery devices
Ukrainian capacitor-like battery
Richardson blade-less tesla-type steam turbine
closed-cycle freon/rotary turbine
compressed air-driven air-conditioner/heater
monocoque (unibody) basalt/carbon fiber foam body/frame
advanced computer-controlled suspension system
low-temperature diamond or titanium nitride coating of vehicle parts
self-charging electric vehicle
electric vehicle power source

Materials

diamond semiconductor devices (spin-off from aforementioned low-temperature diamond coating)
IPMS micro-channels and filters
IPMS-Chernovitsky super ceramics
IPMS high-temperature gas plasma detonator
IPMS-Kiev and Arzamas-16 super magnets
electric field permanently trapped in material
manufacture of synthetic diamond
manufacture of synthetic sapphire and ruby
high-temperature material has low heat transfer, lightweight, insulates more than asbestos, less toxic
transparent polymer
ultrasonic energy blends and hardens gel of polyester resin and water into very hard and strong sheets
unusual single crystal structure oriented plastic 1.1 micron film
polarizing-analyzing filters

Materials (Cont'd)

low-cost Teflon [tm] coating on glass, metal and wood
ultra-purification of semiconductors such as silicon, germanium, copper, zinc, tin, etc
Novolac resin, used to "pot" or encapsulate integrated circuits
non-linear and linear optical crystals for optical communications, etc
edge-emitting luminescent crystals are new light sources, for communications, lighting, medical uses
method for "launching" soliton-like forms
non-linear crystals for opto electronics (optical transistors) for optical fiber communications switching
metallizing is hard coating in liquid bath on nearly all metals, silicides, diamonds, carbides, nitrides
bearing coating ...basically doubles the price, minimum

“Diamonds... of several types made in the laboratory: a] diamonds and cubic boron nitride All of these are for industrial applications, not gems. We are talking about grit...small crystals. b] Diamond films... thin layers for "windows" in, on and for satellites, X-ray detectors, X-ray tubes and source tool emitters radioactivity detectors – many, many kinds. The big hit: Diamonds ...for heat sinks for electronics applications ... Diamonds to be used as the king of semiconductors and detectors. We are not talking about gems... or pretty and fat pieces... these are VERY thin films ... and fine dies, blades... tiny expensive pieces. Very precise and very pure metals, non metals, and compounds. NEW: there are several types of 'detectors' and diode materials that are "new" and unusual.... many come from the era of 1895 to1935 and out to 1957. But, today, no one even knows of them. Ask ANY electronics person if I came to him and handed a thing that looked like a resistor ... with a ceramic and glass hermetically sealed opaque package... and he or she hooks it to a meter or oscilloscope... no markings on this thing.... and I hold it up to a light bulb... and read FIVE VOLTS or..... briefly hold a match or flame of a cigarette lighter under it... for less than 1/10th second and get a pulse of slightly OVER five volts? What is it? I can produce these for you now. This is the very tip of the list. There is an entire ARRAY of very valuable devices that do nothing but switch, control and/or modulate light... the light used in communications. These are simply made of glasses, and clear minerals of various types. The last companies of these types... small ones have been being bought up by the IBMs and Ciscos for from 10 to 80 millions of dollars. Check the stories of businesses involved with the optical aspects of communications by light. Anything "fiber-optics". Fiber switchers, routers, cross-point switches... the list goes on. All of these types of signal path devices are in use now... but they are not anywhere near enough. The market is projected in the billions in the next 2 and 3 years. And it will go up.”

Communications and Computers

torsion field communications
three-dimensional holographic television
wireless video conferencing
dialog language replacement system
astronomical methodologies for acquiring information from sun activity, sun spot activity, meteor activity, photosphere and magnetosphere activity, and ionosphere activity. These activities can and do cause disruption of electrical power. The methods can warn of power surges.
new method of producing miniature low-cost tagging RF transmitters for Bluetooth, etc
new method of making a length of cable a sensitive mechanical or microphonic transducer
method for making several types of novel antenna including but not limited to antenna at distance off the ground with no tower, active antennas, physically small yet electrically large antennas, and invisible antenna
methods of communications

Communications (Cont'd)

methods of light manipulation for communications, such as internet switches and similar
using water to make light from fluorescent lamp
magnetic mased systems
new methods of making light
US Patent 5842002: Computer virus trap
highly directional and inexpensive gravimetric sensor; detects objects in space and plots their position
computer chip cooling technology enabling the world's fastest personal computers

Security

low-cost ultra-low frequency accelerometer, used in many industries for different uses from detecting earthquakes to setting off air bags in automobiles.
sensing of interaction of near electric field evanescent waves with matter and other fields
methods of seeing properties of solid matter for many uses. Images of the insides of devices and packages can be made as in airport security and to detect explosives
sensing of concealed weapons such as hidden pistols
improved ballistic armor is new kind of "bullet proof vest" to stop rifle bullets and knife
3-D visualization of electronic waveforms is new method of "seeing" electronic signals. One application detecting buried non-metallic or "plastic" anti-personnel land mines. (Mike Windell also has a method of detecting metallic land mines and other metallic objects up to 60 feet deep.)
novel magnetic ultra-low frequency sensing and analysis of mechano and magneto seismic activity

Health

Genesis electromagnetic frequency generator
zappers
restoring an organism to match its genetic template
electronic brainwave tuner for permanent cure of substance addiction
bio-energetic spheres
electrolyzed oxidizing water
ultimate system modeling software with cardiology as one application
theory of an anti-proton source and/or anti-neutron source, and
reversal of the order to disorder arrow in the second law of thermodynamics
(Both of these methods require large, high-energy linear accelerator facilities. For 50 million dollars all aging, disease, and decay processes could be reversed in a one-mile radius)
Dotto ring for anti-aging
defibrillator technology which uses no batteries
novel method for side tone training of professional singers and for helping hearing impaired
acquisition of biological signals by means of optical methods as opposed to bio-potential methodologies, for methods of sensing brain waves and heart beat but needs no electrical wires.
Can help in preventing sudden infant death and also can help doctors in many areas of health.
US Patent 5724982: Apparatus and method for measuring fluid flow (such as inside blood vessels)
US Patent 5439003: Apparatus and method for measuring fluid flow (such as inside blood vessels)
virtual telemedics system

Education

torsion field-linked network of computerized segmented courses

Agriculture

mineral fertilizer
aquaponic food factory
etheric weather engineering
vapor generator 1
snow vaporization
oil viscosity
soil decontamination
vapor generator 2
air well

Waste Treatment

Brac Systems recycles and filters gray water from showers and laundry for toilet flushing
high-temperature incinerator
Korell sewage treatment method
hydro-cavitator
soil remediation system
solid waste recovery

Radioactive Waste Treatment

theory of an anti-proton source and/or anti-neutron source
reversal of the order to disorder arrow in the second law of thermodynamics
Canadian method neutralizes radioactive waste using an esoteric technology
Purdue U patent describes relatively inexpensive way of getting rid of radioactive material
Hawkings' generator makes yard-long white spark of cold electricity several inches in diameter.

Substances inserted in spark sometimes transmute to heavier elements
collective ion accelerator treats both solid and liquid nuclear waste
dematerialization devices A, B, C and D using highest powered positive ions ever
photo-deactivation using gamma rays
implosion machine is electric arc welder modified to duplicate nature's ball lightning
Roy transmutation process
Barker invented easiest, most effective, and least messy method for remediation of radioactive waste
Dr. Ronald Gillembarado's method of neutralizing waste
Keller catalytic process which is also known as "volcano in a can"
Transmutation of low-level nuclear waste into glassy substance with super high voltage
96% reduction of radioactivity by welding with Brown's gas; further reduction is possible by utilizing
liquefied Brown's gas
Combining Brown's gas with bucking magnetic fields inside a plasma ball
Joe Champion's transmutation method
Searl effect generator-powered anti-gravity spacecraft for one-way trip out of solar system
Hamel's gravito-magnetic device-powered anti-gravity spacecraft for one-way trip out of solar system

Radioactive Waste Treatment (Cont'd)

David Burns' anti-gravity spacecraft for one-way trip out of solar system
Russian process uses liquid lead bismuth to trigger transforming in the form of neutrons
accelerator-driven transmutation of waste
Brown's gas-metal matrix process
photoremediation:
ZIPP fusion process
RIPPLE fission process
Low-energy nuclear transmutation electrolytic cells
plasma induced/injected transmutation
Kervran reactions
Monti process
higher group symmetry electrostatics
recovery of uranium from incinerated low-level radioactive waste using super-critical CO₂
plasma gasification melting converts radioactive waste into inert material and clean energy
E.coli cleans up nuclear waste cheaply, efficiently – Birmingham University
compact low-energy nuclear remediation with ultra-low momentum neutron generator
flame-free incineration in a catalyzer
geomelting can encase nuclear waste in glass that is harder than concrete and lasts 200,000 years
destroy radioactive waste with fusion-fission hybrid reactor

Urban Design

21st century city adjacent to Tonopah airport, includes architect Jorg Ostrowki's ideas
Foundation of New Society
New Zealand building
Resort/town on east coast of Guatemala
Roger Scherrer knows of clever urban designs
Zooid Mission is "a blueprint for the city of the future"
Belize government has express interest in rural and urban community design

DISCLAIMER: Inclusion of any invention or technology described in this list of inventions does not in any way imply its suitability for investment of any kind. All investors contemplating any investments in these devices and technologies should first consult with a licensed financial professional. Prospective investors should exhaustively perform their own investigation of pertinent facts and allegations of facts. Investors should also ensure thorough compliance with regulations of the federal Securities and Exchange Commission and appropriate state securities divisions. For more information, see <http://www.zpenergy.com/modules.php?name=News&file=article&sid=1655>.

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September 26, 2010

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10049.

Comment Date: February 20, 2011 23:47:13PM
Solar Energy Development PEIS
Comment ID: SolarD10049

First Name: Gary
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Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Advanced Technologies2.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

I am convinced that funding a massive energy invention development and manufacturing organization in the greater Las Vegas area will generate thousands of badly needed green jobs and fill dozens of vacant commercial buildings. Listed below are the various departments I am seeing of such an organization.

Boulder City Headquarters

Corporate Library

Teaching Institute

Technical Advisory Board

Group of Consultants

Incubator of Russian Inventions

Torsion Field Devices

Baseload Electricity Generators

Small Power Generators

Energy Storage Devices

Advanced Self-Powered Transportation Vehicles

Agriculture

Education

Radioactive Waste Treatment

Non-Radioactive Waste Treatment

Health

Security

Materials

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My Blue Energy Corporation business card shows a blue halo around an astronaut standing on the moon. For the original photograph, see the cover of James DeMeo's Orgone Energy Accumulator Handbook at http://www.amazon.com/Orgone-Accumulator-Handbook-Construction-Experimental/dp/0962185507/ref=sr_1_1?s=books&ie=UTF8&qid=1291348835&sr=1-1.

The astronaut's blue halo is apparently a visible manifestation of orgone energy.

In 2008 a spherical Moe-Joe energy cell was installed in a 1993 Saturn which operates as an orgone energy accumulator. It is a hollow metal sphere five inches in diameter filled with specially charged water. Three smaller hollow spheres of 4, 3 and 2 inches in diameter are nested inside. A hole in each of the inside spheres allow the special charged water to circulate. The outside sphere is wired to the battery.

Orgone energy is accumulated and fed from the sphere through a tube into the engine via its positive crankcase ventilation (PCV) valve intake. As the engine draws orgone energy, the Moe-Joe energy cell instantly replenishes itself by drawing additional energy from the universal orgone energy field.

The car's carefully measured mileage jumped from 30 MPG to nearly 50 MPG. The car's exhaust has been measured to be approximately 90% cleaner. The car noticeably feels lighter as well as more powerful due to a possible anti-gravity effect.

Exactly how universal orgone energy replaces some of an engine's gasoline consumption is a subject of scientific debate. One theory is implosion of orgone energy which enables the engine to run noticeably cooler. A detailed explanation of the Moe-Joe energy cell is in pages 34-37 of the attached "Advanced Technologies for Foreign Resort Project" under "Joe Energy Cell".

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Advanced Technologies

for a

FOREIGN RESORT PROJECT

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Introduction

I used to be associated with a resort complex to be built on a large tract of raw land which is located outside the United States. This project presented a rare opportunity to incorporate on a large scale current thinking and ideas prevailing among experts in urban planning, ecological sustainability, wildlife habitat preservation, etc. The project also provided an opportunity and the freedom to utilize advanced technologies which may lie outside the generally accepted theoretical constraints of mainstream science. The resort ended up being built by other people on an adjacent property. The exercise still was somewhat fruitful in stimulating some fresh ideas.

For the past few years, I have been accumulating knowledge of futuristic technologies not commonly known among mainstream scientists. I have personally had the pleasure to know some of the top scientists and inventors involved with what has been referred to as a mostly unpublicized international “underground” science research network. Disregarding the scientific dogma taught by academia, these people have chosen to follow their own independent paths of scientific discovery to whatever they feel the genuine scientific truth may be.

I have selected several advanced technologies which seem to be usable for the foreign resort project. Their selection was based on their being available for purchase and are definitely past the research and development stage. Implementation of most of these technologies could occur anytime before, during or after the construction phase of the project. However, it should be noted that the electric station car and photo-luminescent therapy technologies ought to be adopted as soon as possible as they happen to substantially impact architectural design and construction. The electrical power infrastructure could also be affected by adopting one or more small-scaled electrical generation technologies. Retrofitting at a later date could be costly.

I also have selected a few advanced technologies which are still under development but may have potential applications for the resort project.

Please be warned that investments and purchases in any of these advanced technologies should proceed only after a thorough and cautious exercise in due diligence. Yet their developers usually do deserve respect and fairness. In most cases, I can not personally take responsibility for the accuracy and validity of my descriptions; I am only editing other people’s reports.

The literature on the devices which involve extracting energy from radioactive substances, the ether, hydrogen, etc. contains anecdotes of strangely behaving devices and explosions and, in some cases, of bodily injury and even death!

WARNING!

Before experimenting with such devices, protect yourself from harm! Please try to be well-informed of other experimenters’ experience with these strange devices and beware of danger.

Gary C. Vesperman

TABLE OF CONTENTS

<u>Title</u>	<u>Page</u>
DAVIS TIDAL TURBINE	1
ELECTRIC STATION CARS.....	2
CRIME, SUBSTANCE ABUSE, AND BIRTH DEFECTS	3
PHOTO-LUMINESCENT THERAPY	5
VIRTUAL TELEMEDICS.....	9
POWR/MASTR INDUSTRIAL ENGINE	9
HYDROSONIC PUMP.....	10
PULSED ABNORMAL GLOW DISCHARGE REACTOR	10
ETHERIC WEATHER ENGINEERING	12
TESTATIKA FREE ENERGY MACHINE	15
GEOEXCHANGE HEAT PUMP	16
SEWAGE TREATMENT	16
HIGH-TEMPERATURE INCINERATOR	16
FOOD.....	16
MICROPOROUS SOLID GEL	18
COMPUTERIZED FIBER OPTIC SCHOOL NETWORK	18
TORSION FIELD-BASED COMMUNICATIONS.....	20
GRAVIMETRIC SENSORS.....	20
SMALL-SCALED ENERGY PRODUCTION	20
ADVANCED SELF-POWERED ELECTRIC VEHICLE CONCEPT	37

Davis Tidal Turbine

The worldwide electrical energy market has been estimated at \$800 billion (US) per year and rising. "There are 2 billion people who still lack electricity today, and the world demand in developing countries is doubling every eight years." (World Watch Institute, May 1997)

The Institute for New Energy maintains a database of 127 new energy production devices which includes a list based on commercialization criteria ranging from 0 (found to be lies) to 10 (proven prototype – ready for commercialization). (I know of several such devices that don't appear to be included in their database.) The Davis tidal turbine, invented by Canadian aerospace engineer Barry Davis, is one of only two new energy devices which have earned a ranking of 10. His company, Blue Energy Canada, Inc., owns one patent and has filed additional patent applications.

The Davis tidal turbine captures the power of ocean currents and tides to generate electric current in a module fitted with slowly rotating hydrofoils. The module does not emit gas of any kind, nor do the hydrofoils offer any threat to marine organisms swimming through them. With fixed rotor blades mounted in durable marine concrete caissons, the Davis tidal turbine's mechanical simplicity is profound. The basic concept is the multiple vertical-axis hydro turbine. They are large marine structures of reinforced concrete and steel that provide the necessary economies of scale. They generally can be installed in areas with a tidal regime of about 1 meter or more, or where velocities exceed about 2 meters per second. Standardized tidal turbine modules can be grouped to meet any site application from ocean to river in sizes that range from 7.5 megawatts to 15 megawatts for ocean use, and 5 kilowatts to 500 kilowatts for river use.

The Davis tidal turbine is a low-cost, eco-benign energy alternative. Fueled by the free forces of rivers and ocean tides and currents, tidal power can provide a significant amount of the world's energy needs. Energy costs with the Davis tidal turbine will be around \$0.06/kilowatt-hour and eventually should drop to \$0.035/kilowatt-hour for tidal fences in the 1000-megawatt range. Power outputs from the larger units can be accurately predicted to within 2% accuracy.

In many instances, tidal fences can double up with transportation corridors, providing dual infrastructure use with essentially single infrastructure cost. Coupled with existing grid prices and mounting social and environmental costs associated with conventional power generation (health care, climate change, etc.) tidal power is an outstanding and sustainable energy choice. Remote sites can also produce hydrogen, hydrogen peroxide, methane and other valuable energy intensive products for widespread distribution, as well as provide irrigation and desalination facilities.

Tidal energy sites in the world's oceans can provide a significant, viable and cost-effective source of reliable, inexhaustible energy. Many are strategically located close to populated areas where they can be economically harnessed using an ecologically benign, low-head technology. For example, British Columbia may have up to 50,000 megawatts of potential tidal power resource.

The Philippines Presidential Office had announced on December 20, 1997 a \$136,000,000 (US) order for a pilot tidal power generation facility which is likely to be in the Hinatuan Passage area just north of Mindanao. Its average power output will be 30 megawatts, and its peak power will be 55 megawatts. The pilot project is performance-coupled to the future development rights of a 1000-megawatt commercial project. The Philippines hope to become energy exporters.

Electric Station Cars

The Las Vegas Chapter of the Electric Auto Association appears to be one of the association's stronger chapters. I have attended over 80% of their monthly meetings for the past several years. I myself have written an Advanced Self-Powered Electric Vehicle concept (see end of this paper). The "super car" concept is a proposal for combining advanced technologies I have collected over the past few years into a futuristic self-powered car superior to conventional cars.

On November 20, 1997, at their November meeting, Martin J. Bernard III, Ph.D., Executive Director of the National Station Car Association, spoke on "Station Car Potential in Las Vegas". Of all the meetings I have attended, his talk was the most practical application of electric vehicles I have heard. Because I could see an obvious application of the station car concept to the foreign resort project, I thought I would list a few key points for further discussion:

Many pages of additional information and diagrams concerning electric station cars are available on the National Station Car Association's Web site (www.stncar.com). The Web site includes a photograph which shows some of the 40 electric station cars currently being used in conjunction with the Bay Area Transit District in the San Francisco Bay Area. There are a total of 60 other station cars in several other cities around the United States.

The resort project as presently planned probably allows for lots of parking space for gasoline-powered cars, gas stations, auto repair facilities, etc. Because the project is still in the planning stages, there is a high probability that it can be easily converted to emphasis on electric station cars. Only three simple changes would have to be made to the plans:

- A substantial reduction in paved parking space in exchange for a substantial increase in landscaping and preserved wildlife habitat. (I think Martin said up to 90% reduction.)
- Reductions in gasoline refueling stations and auto repair facilities.
- Installation of electric vehicle charging stations in the remaining parking lots.

In return, the resort would gain the following benefits:

- A more pleasant environment in the immediate vicinity of the resort's buildings, featuring silence (except noise from an occasional diesel or gasoline-powered truck), less dust and particles from vehicle exhaust, and zero runoff from oil dripping on pavement.
- More efficient use of the small country's electric power plants which otherwise can not be operated as efficiently in a small market as compared to huge markets such as the United States. When I looked up the country's power information on the Internet, I noticed that a new coal-fired power plant enters operation in mid-1999. It happens to be impractical to reduce power output in a coal plant during the middle of the night.
- Lower vehicular operating costs.
- Less pavement, more landscaping, and increased preservation of the resort's natural features and greenery.

Electric station cars are *not* owned by the drivers. Instead they are owned by an operator such as a municipality or transportation authority. They are intended for use at places featuring frequent usage and regular access such as train stations, airports, hotels, convention halls, and downtown areas.

A driver who has previously bought a smart card (similar to a credit card) swipes the card through a card reader which allows him access to the station car. He or she then unplugs the car from the charger, drives off, and leaves it either at the same charging station or a different charging station, which is then available for the next driver to drive. Arrangements can be made to leave it at home overnight providing it is driven again the following morning.

The cars are manufactured in Norway by a family-owned plastic manufacturer. The car body is a simple lightweight one-piece plastic shell framed with extruded rods made of recycled aluminum. It is surprisingly sturdy and can carry two passengers. The pack of nickel-cadmium batteries is hung underneath the body and range up to 65 miles.

It is reasonable to anticipate that a variety of sizes and improved models of electric vehicles will become available in a few short years. For instance, on October 23, 1997, a pre-production Sunrise prototype built by Solectria Corporation, Wilmington, Massachusetts, was driven from Boston to New York City on a single charge of its Ovonic nickel/metal-hydride battery with enough electricity left over to drive an additional 66 kilometers to Atlantic City for a total range of 405 kilometers (IEEE Spectrum December 1997). Power Technology, Inc., has a brand new battery, compared to lead-acid batteries, that is 30% to 50% lighter, insensitive to temperature, long-lived, cheaper, environmentally friendly, quickly rechargeable, and quadruples the range.

Blacklight Power, Inc., is developing a battery which weighs only 10 kilograms but can supply 150 horsepower for 1,000 miles. Blacklight compresses hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which is considerably more than the energy from chemical reactions but less than from nuclear reactions.

Each car is equipped with a commercially available electronic tracking device. The San Francisco Bay Area is ringed with 15 transmitting towers. Each car can be located with an accuracy of 4 feet in case it is stolen.

At each station, a driver returning a car is responsible for cleaning the car and plugging the car into a battery charger before leaving it.

Crime, Substance Abuse, and Birth Defects

In 1996, 10,510 crimes in Atlantic City, New Jersey were reported. Of that total, the number of crimes that had occurred on the floors of the city's 12 casino hotels was 5,705 (Las Vegas Review-Journal December 22, 1997).

One unpleasant memory I have of my stay in Honolulu, Hawaii about 15 years ago was the necessity to leave unessential valuables in a hotel lock box before venturing on to the streets and beaches.

Fortunately, once the root cause of crime and substance abuse is understood, a substantial reduction in social misbehavior could be surprisingly simple and inexpensive to achieve and require only moderate organizing. A relatively crime-free resort area should offer competitive advantages.

I own an interesting book "RARE EARTHS: Forbidden Cures" which substantiates the thesis that mineral deficiencies in food causes crime and substance abuse in addition to medical problems. The book's authors are Joel D. Wallach, BS, DVM, ND, and Ma Lan, MD, MS, and it can be ordered at 800-755-4656. One of their more authoritative sources of information and data was the U.S. Department of Agriculture (USDA). The USDA has been noticing with dismay statistical correlations between mineral depletion in soils and the combination of increased crime and declining mental and physical health among the U.S. population since at least the 1930's.

Veterinarians ensure nearly 100% healthy and strong livestock by adding trace elements to their feed. Research has found that people also equally need trace elements. The tally so far is 60 minerals including many obscure elements such as gallium, 16 vitamins, 12 amino acids, and 3 essential fatty acids. Furthermore, to be usable by the human body, the minerals in particular must be in a plant-derived colloidal suspension. Evidently, combination vitamin/mineral pills taken by many people are mostly useless as well as incomplete.

Decades of application of synthetic fertilizers have severely depleted agricultural soils of trace elements. One result of mineral deficiencies in food is increased disease such as cancer and heart disease. Not so obvious but proven are substantial increases in alcoholism, narcotic addiction, and violently anti-social behavior.

Studies have also proven that nutritionally complete diets from conception through college age ensure the raising of children who are taller, stronger, brainier, well-behaved, more energetic, longer-lived, and relatively free of birth defects and disease. 98% of birth defects are caused by nutritional deficiencies.

Some health food stores sell colloidal mineral dietary supplements. Mineral supplements could be added to the lunches that are served children in schools and colleges. Prisons and mental hospitals could easily add minerals to the diets of their inmates. Government-sponsored educational campaigns would be required to educate general populations.

Another Las Vegas company sells an inexpensive mineral fertilizer from the world's most complete deposit of trace elements. Enriching agricultural soils with their mineral fertilizer so as to add trace elements to foodstuffs would also help alleviate crime and substance abuse.

(Since the foregoing was written, questions have been raised concerning the effectiveness of colloidal mineral dietary supplements. The human body's need for trace elements remains undisputed; it's the delivery system using colloidal mineral suspensions that is being questioned. Some experts claim that chelated minerals offer more thorough absorption by the body, and that with chelated minerals, manufacturers are able to control which minerals are placed in their dietary supplements.)

Photo-Luminescent Therapy

For a couple of years, I have been accumulating information on alternatives to the unsatisfactory and expensive conventional cancer treatment methods of radiation, surgery, and chemotherapy. The following is a list of about two dozen cancer treatments that I sometimes provide in private to friends and relatives. To my knowledge, none of them have been legally approved for cancer treatment by the Food and Drug Administration. Please note that I am not a licensed medical practitioner. I can not legally recommend any of them for treating cancer.

- Induced remission therapy. Cancer practically never occurs in the small intestine even in very advanced cancer cases. The small intestine has its own fast-acting immune protection in the form of lymphocytes. They are necessary for destroying hostile organisms in food coming through from the stomach and also stopping bacteria from migrating up from the large bowel. Not surprisingly, they are extremely fast and thoroughly effective in killing cancer cells.
- Some diseases such as syphilis attack cancer tumors and cause them to disappear. After introducing syphilis, for example, antibiotics can then be administered to cure syphilis.
- Micro-colloidal silver. Kills 650 species of viruses and bacteria. The FDA has partially banned micro-colloidal silver because it was impacting veterinarian profits from antibiotics.
- White powder gold (also known as orbitally rearranged mono-atomic gold). Strangest material I ever heard of. For example, in its mono-atomic white powder state, gold loses 46% of its weight. When reheated, the gold gains back all its weight. Ingesting white powder gold corrects the body's implementation of its DNA coding and is apparently the secret of the long lives of Biblical figures such as Noah.
- Nature's Tea (sold by Enrich) and other herbs such as pau d'arco. It's a complicated subject.
- Powdered dried rattlesnake. Mexico's Yaqui Indian tribe use dried rattlesnake powder as a seasoning like salt and pepper and don't get cancer.
- Essiac tea. Also known as Ojibwa tea.
- Dimethyl sulfoxide (DMSO). I have heard that there is another version called MMS which offers the same potency as DMSO but without the negative side effects.
- Noni fruit juice. Used for its healing properties by the Polynesian Islanders for 2,000 years, I became a distributor of Tahitian Noni Juice™ for Morinda, Inc. I understand noni juice is also beneficial for numerous other ailments. I am currently circulating a handout comprising of my own one-page article on noni juice, Morinda's three-page article on scientific research studies of noni, and Morinda's four pages of testimonials. Noni may have been responsible for the shrinkage of my brother's lemon-sized lung tumor.
- Shark cartilage. According to a promotion for the monthly newsletter ALTERNATIVES, "... it is being used to totally eliminate cancer in thousands of cases once thought to be hopeless". However, some shark cartilage products are supposedly better than others.
- A local Las Vegas company told me April 1, 1997 that they know of a substance that can cure cancer in 10 days. It was undergoing testing, and they expected to be selling it late in 1997.
- Dr. William Koch's treatment for cancer and allied allergies focuses on blood purifying remedies.
- Dr. Jerry Jacobson's electromagnetic/relativistic cancer cure. An extremely weak but precisely calibrated electromagnetic field provokes oncogenes to revert to normal genes.
- Wilhelm Reich's orgone therapy.
- Helga Clark's intestinal parasite killer.
- Hydrogen peroxide. Hydrogen peroxide kills disease organisms as it spreads through tissue.

- Ozone blood treatment. Ozone infused into blood simply oxidizes molecules in virus shells.
- Vitamin C megadoses. Vitamin C creates extra hydrogen peroxide in the body.
- Rudolph Steiner's therapy.
- Dehydroepiandrosterone (DHEA). However, the April 1997 AARP Bulletin claims that "women who take DHEA have suffered hair loss, deepening of the voice and hair growth on the body, which may be irreversible. In men, DHEA may stimulate the growth of prostate cancer."
- Dr. Max Gerson's vegetable/fruit juice diet. I read a book on his apparently successful cancer treatments 20 years ago.
- Reikki. I almost cured someone terminally ill with cancer doing this a couple of years ago. I had a feeling I should go back and try again with another session, but didn't because I didn't know him (he was a friend of a friend), and a few days later he died from a pulmonary blood clot. But he did make an immediate and impressive short-term recovery.

All I do is rub my hands together for a few seconds, close my eyes, mentally say to myself "The mind has no providence for limitations", open my eyes, and then lay my hands on the patient's problem area. If I can feel heat flowing through my hands, I know it is working. When the heat stops, I either quit or move to another spot on the patient's body. I have cured elbow pain, headaches, and even my brother's shortness of breath for a short while.

Since 1989 when I learned Reikki, I have struggled to understand the underlying mechanism. I have repeatedly seen it work, but it's obvious Reikki's effects are hardly explainable by conventional science. Recently I finally picked up a clue from a French acupuncturist's report in www.keelynet.com/keely/belizal.text. The ancient Egyptians were able to correlate different wave forms with different geometric shapes. There is an implication that objects can store and transfer between them, when touching, subtle forms of information. So possibly when an ill or injured person is touched by healthy people with positive minds, information is somehow transferred to be used for correcting damaged tissue.

Monarch butterflies are unique in that migratory information is passed from generation to generation. They are somehow able to fly north for the summer from their winter homes in Mexico and certain Central California coastal areas such as Monterey and Santa Cruz and then able to fly back to their winter homes, passing along *precise* migratory information from generation to generation. It has been suggested that their migratory information is somehow embedded in their genetic code. Another possibility is that their migratory information is accurately retained by their physical bodies in more subtle form, possibly in the halo which appears in Kirlian photography, as the Monarch butterflies reproduce again, again, and again for thousands of generations with absolutely no loss of migratory information.

If true, an even more startling speculation arises: Many of the ancient peoples have acquired beliefs (colored by various religious symbols and rituals) that people don't just die and that's the end of them. Instead, the information and memories accumulated within each person as a result of genetic heritage and his or her living a life is retained in a very subtle form not normally perceivable by people still living. Their information packages are sometimes called "spirits", "ghosts", or "souls".

If the progression from Reikki healing and the association between waveforms and the shapes of objects to Monarch butterflies to a conscious being surviving the dying process is accepted, then perhaps we have physical evidence, however flimsy, of the existence of the soul.

- Lactoferrin. It's an immune stimulant - a protein in mother's milk.
- North poles of strong permanent magnets (for localized cancerous tumors only, I believe).
- Antineoplastins. Instead of being treated as a hero, the researcher was jailed by the FDA. However, he was later acquitted of all charges. Disgusting.
- Bob Beck's electronic pulse generator. Battery-operated, it is strapped on the wrists for minutes per day. Seems to kill a variety of parasites such as most viruses, infectious bacteria, etc. Information on three commercially available devices can be found at www.sota-inc.com, <http://www.action-electronics.com/ps.htm>, and <http://www.ioa.com/~dragonfly/vrs.html>.
- Royal Rife's electronic frequency instrument. The basic premise of the instrument is that each pathogen has a particular crystalline structure. When exposed to an electromagnetic frequency of the correct frequency and waveshape, the pathogen's crystalline structure will resonant and shatter in a manner similar to an opera singer shattering a glass crystal. The July 14, 1997 issue of Business Week has an article on how pathogens can trigger cancer. A business associate used one on her son several years ago and cured him of an otherwise untreatable virus-caused disease.
- Germanium. Organic germanium (bis-carboxyethyl germanium sesquioxide) increases the oxygen level in the body. Germanium is known to enhance the immune system by stimulating production of natural killer cells, lymphokines, interferon, macrophages and T-suppressor cells. Germanium deficiencies can result in immunity reductions, arthritis, osteoporosis, low energy as well as cancer.
- Non-invasive photo-luminescent therapy combined with a multiple range of frequencies. It is assumed with this therapy that cancer is a group of mutated cells that lack proper DNA programming. Includes use of super magnets, herbs, and cleaning of bowel, liver, gall bladder, and kidneys and also re-tuning the brain which organizes the immune system. The process is to hyper-oxygenate the entire body and create an alkaline environment in which pathogens can not survive.
- Grapes. Johanna Brandt's book "The Grape Cure" recommends starting with fasting to starve cancer. Then grapes or grape juice only. Then a very restricted diet.

I have been told that there are a total of 28 alternative cancer treatments worldwide. It has been predicted to me that in five to ten years, radiation and chemotherapy will be banned, and surgery greatly reduced because they are so brutal and ineffective as well as being excessively expensive.

It also has been explained to me that cancer must have two conditions in tissue to thrive — acidity and lack of oxygen. It does appear that the basis for some of these alternative cancer treatments is increasing the flow of oxygen through the body and increasing alkalinity. But it is not readily apparent what *all* of these cancer treatments may have in common.

I have some articles on the negative health effects of fluoridation of drinking water. Among them is "couch potato syndrome" which is the cute name for a not so cute physical condition induced by ingesting too much fluoride. One of the characteristics of couch potato syndrome is an overly docile personality. Because fluorine is a proven excitotoxin, there is a hypothesis that the fluoride which is part of poisonous chemotherapy compounds may reduce the will to live among cancer patients by destroying some of their brain cells.

It has been suggested that the machine also generates a strong Reikki-like healing effect which includes correcting the body's implementation of its DNA coding. (See Reikki discussion above.) It appears that only half an organism's blueprint is stored in its genes. The other half is stored in the organism's electromagnetic aura. Perhaps the machine tunes the body to match its electromagnetic design specifications.

The reality and effectiveness of photo-luminescent therapy is backed by many years of research and thorough documentation. More information can be found in the December 1997 issue of Nexus, www.kalamark.com/rife_conference, www.genesistherapy.com/index.html, www.rt66.com/~rifetech/, www.wj.net/dimshah, and www.cseti.org/bearden/aids/priore.htm. I have listened to a demonstration and lecture on the similar "resonant frequency therapy" by James E. Bare, D.C., at the 1995 International Tesla Society Symposium. Dr. Bare later authored an article on the therapy in the Jan/Feb/Mar 1996 issue of the society's Extraordinary Science.

One way to provide photo-luminescent therapy in the proposed resort complex would be to equip each hotel room with a photo-luminescent therapy unit. The electronics could be hidden inside a wall behind a keyed panel. A wall switch would be wired to the electronics. Guests would have the option, by simply flipping a wall switch, of using photo-luminescent therapy for attempting to treat any diseases they may have or just to feel energetic and healthy during their vacation.

A side benefit of installing photo-luminescent therapy machines in hotel rooms is that insects and spiders are irritated by the frequencies and leave the premises. The effective radius of insect control for each power level such as 250 watts or 500 watts was not known at the time of writing.

One variation would be to substitute a credit card reader and a timer for the wall switch. Then additional revenue could be earned from selling photo-luminescent therapy time which would also help pay for the equipment. A coin-operated timer could also be used but probably not without problems of currency convertibility and the extra expense of collection.

The easier to implement but less convenient way to make available photo-luminescent therapy would be to rent portable machines at the hotel's front desk.

Some of the guests could be so impressed with the results of their using photo-luminescent therapy that additional revenues could be earned by selling photo-luminescent machines. However, the machines may need to be disassembled before shipment to certain countries such as the USA for legal reasons.

Because the resort is located in a small, independent country, realistic claims could be made about curing various diseases without offending the U.S. Government's Food and Drug Administration. Thus the resort complex could gain an enormous competitive advantage.

Currently, photo-luminescent therapy in its various forms has not received serious study from medical scientists that it appears to deserve. People staying at the resort may be invited to participate in studies of the effects and possible benefits of photo-luminescent therapy. When they first check in, volunteers would be provided a free medical checkup to document ailments. When they leave, they would be tested again as part of a second free medical checkup. As time goes on, a data base on the medical effects, if any, of photo-luminescent therapy could be accumulated.

Virtual Telemedics

A demonstration virtual telemedics system to be show cased at the March 1999 annual convention of the American Telemedicine Association has been completed and funding is now being sought to support this initiative. The presentation budget has been set at \$100,000, with full build out of the prototypes expected to require upwards of \$250,000 over a period of six-nine months. This is the system which incorporates wireless broadband digital transceiver technology [802.11], Intel-based computer platforms, 10Base-T LAN systems, video conferencing software [H.320/ 323], digitized optical examination instruments [American Medical Devices] and a variety of FDA-certified pharmaceutical evaluation software into a single operating system. The system qualifies for Telemedicine billing under all five codifications and billing systems and has been pre-approved by Utah's Dept of Health and Family Services Division for use in remote and rural areas.

POWR/MASTR™ Industrial Engine

The commercially available POWR/MASTR™ is a high-efficiency, long-life industrial engine which is fueled by natural gas, propane or butane. A POWR/MASTR™ can be directly connected to gas company pipelines and so never needs refueling. Each POWR/MASTR™ unit can generate over 145 horsepower for mechanical power needs, or 100 kilowatts of electricity for electric power needs. POWR/MASTR™ units can be linked together in parallel and/or linked to utility company electricity to satisfy energy requirements of any size.

POWR/MASTR™ offers savings of up to 50% over other mechanical power costs, or up to 70% over utility company charges for electricity. A San Diego shopping center saves \$125,000 per year in electricity costs.

POWR/MASTR™ is environmentally friendly, using only clean burning gases at a maximum rate of 9 therms/900,000 Btu/900 cubic feet per hour of natural gas. When less power is needed than 100 kilowatts or 145 horsepower, POWR/MASTR™ automatically self-adjusts to use less fuel. Operating at less than a quiet 60 dB at 20 feet, POWR/MASTR™ sounds no louder than a new car engine at idle. It also produces far less harmful exhaust emissions than a typical gasoline-fueled automotive engine. POWR/MASTR™ is fully automated and designed for 60 months of continuous use with maintenance regularly scheduled every 1,500 hours.

Each POWR/MASTR™ unit weighs 3,200 lb., and its size is 8 feet long by 5 feet wide by 6 feet high. A POWR/MASTR™ unit can be transported on its own delivery trailer and installed by one person in about four hours after site preparation. No cranes, work crews, nor special foundations are necessary. An adjustable level platform system is built-in so that no poured nor perfectly level pad is required. Controls are included at no charge to allow more than one POWR/MASTR™ unit to deliver electricity with other power generation units or in conjunction with utility company power.

Hydrosonic Pump

The hydrosonic pump seems destined to become a billion-dollar invention with many applications. It is really a zero-pressure boiler, not a pump. The inventor has been calling it a pump so as to avoid entanglement with strict American Society of Mechanical Engineers boiler codes.

Mechanical input power rotates the shaft, and plain water is converted to steam without the need for hot surfaces. The process seems to be actually a form of fusion where collapsing microscopic bubbles momentarily create extremely high pressures and temperatures. The technical term for this phenomenon is “sono-luminescence”. The energy conversion efficiency is around 130%. (To prevent confusion, it should be clearly understood that the hydrosonic pump on the macro scale does *not* operate at high temperatures and pressures as is the case with nuclear or fossil-fueled boilers.)

One application is to use a windmill to turn the shaft. Out of the nozzle comes steam which drives a steam turbine to produce electricity. The steam then enters a condenser from which can be obtained potable water and hot water for space heating. For remote islands, for example, the hydrosonic pump would be very useful. One utility is reportedly already looking at increasing the efficiencies of its nuclear and fossil-fueled power plants by 3 - 5 percentage points.

Nevada has large underground reservoirs of useless mineralized water. The hydrosonic pump could be the centerpiece of a large-scale scheme to generate electricity, heat and potable water.

The hydrosonic pump is actually being commercially manufactured and sold. The inventor definitely is using the correct approach in that since the pump is such a new technology, for some time he has been simply building one unit at a time in various sizes and configurations. He has been purposely restricting their sale to local installations so he can closely monitor their performance and incorporate improvements and changes into future units.

As of May 1996, he had 14 units actually installed and operating. One application is for producing clean steam on demand for a commercial laundry. Based on feedback from customers' experience with them, he is evolving step-by-step in an organized manner towards eventual mass production of *fully validated* units. It seems to be much easier to obtain expansion capital for actual commercial units than “laboratory queens”.

Pulsed Abnormal Glow Discharge Reactor

A typical flashlight's light bulb is a glass vacuum tube where the flashlight's batteries force current through the bulb's filament, resulting in a power loss equal to the square of the current times the positive resistance of the filament. The power is then radiated out of the light bulb as light and heat.

Physicists have known for many years that the pulsed abnormal glow of a discharge tube has a negative resistance characteristic. What physicists have not appreciated, until the development of the PAGD reactor, was the real possibility or the knowledge of precisely how to go about extracting 'free' energy by exciting self-sustaining oscillations in the plasma discharge.

The pulsed abnormal glow discharge (PAGD) reactor (U.S. Patents 5,416,391, 5,449,989, and 5,502,354) is an over-sized glass vacuum tube which is constructed and electrically driven within a narrow range of DC voltage so that it operates with negative resistance. Because of the reactor's negative resistance, other components with positive resistance such as light bulbs, batteries, and motors can be inserted in the circuit without drawing energy from the DC power source, up to the reactor's maximum amount of negative resistance.

The PAGD reactor's function is based upon heretofore unknown spontaneous emission properties of certain metals in vacuum and involves an anomalous cathode reaction force. The reactor may be conceived of as a portable vacuum battery made active only when needed.

The technology employs cold-cathode vacuum discharge plasma reactors to set up self-exciting oscillations, in the form of pulsed abnormal glow discharges triggered by auto-electronic emissions, in order to produce power. The circuit is driven from a direct current source of impedance sufficient to prevent establishment of a sustained vacuum arc discharge. In combination with a special circuit, electrical power, in excess of the input power needed for operation, can be extracted. The system, therefore, may also be referred to as an over-unity system where net energy output greatly exceeds net energy input.

The experimental data show numerous tests involving the discharge of a source bank of 12-volt cells as the powered apparatus recharges an output bank of cells and/or runs an electric motor. In one typical test run, within 20 minutes, 0.988 kilowatt-hour of energy is generated for an input of 0.258 kilowatt-hours. Power conversion gain performance efficiencies are clearly shown in the figures by data plots on a scale that runs to 1000%. One power conversion gain efficiency cited was 483%.

It seems that the PAGD reactor's inventors have conquered the problem of electrode overheating after long duration running of many devices built using different electrode configurations, shapes and materials. The PAGD reactor's development is now at the point where predictably 40 megawatt-hours of energy can be delivered from something of light-weight construction that one can hold in one hand.

Imagine holding something that can deliver 2 kilowatts of electrical power output and keep going for 20,000 hours. Then ask yourself when we can expect to see self-powered electrical vehicles on our roads using somewhat larger versions of those tubes.

Unlike the chemically-assisted nuclear reaction process, which outputs low-grade heat, the PAGD reactor directly generates electricity at power voltage levels, without any utilization of cold or thermonuclear fusion principles. Another important feature of the apparatus is that it employs no radioactive compounds and generates no nuclear radiation or radioisotopes. The energy system is entirely pollution-free, self-contained and composed of readily recyclable materials. Storage of the power produced may be carried out by traditional means, be these mechanical or electrical.

At least three patents have so far been issued. One of the patents involves an associated motor drive which provides for direct electromechanical transformation of the energy accumulated within the reactor. Additional patents covering various aspects and applications of the PAGD reactor are being sought.

Energy conversion system applications for electric vehicles, stand-alone power supplies and autonomous housing are currently under development. The inventors hope that by making vehicles self-sufficient in terms of energy, the PAGD reactor will offer the possibility of bypassing massive infrastructure expansions in order to make the electric vehicle a feasible reality while solving the problem of range which currently detracts from its appeal. Other potential applications include pulsed lasers, inverters, transformer and motor circuits. The inventors are presently engaged in negotiating licensing agreements with a view to development of the applications.

Etheric Weather Engineering

Etheric weather engineering is certainly one of the more spectacular products of the international “underground” science network. Unbelievable as it may seem, what looks like an ordinary tin can or handleless frying pan slowly being turned by an electric motor, in less than a half-hour, can cause heavy rain within 10 miles under conditions of high barometric pressure. (I have a video which shows about 20 demonstrations of etheric rain making.) I personally have seen etheric weather engineering effects at least twice in Las Vegas and twice in the Midwest.

So what is the secret of this crazy thing called “etheric weather engineering”? To begin understanding this most remarkable phenomena, we first take a look at just what is the “ether”:

Sound comprises of oscillating waves traveling through water, air, and solid matter. Light propagates through space also as a wavelike phenomenon having frequency and wavelength. Over a century ago, some physicists postulated that light is a form of electromagnetism which travels as an oscillating wave through a medium they termed “ether”. The famous Morley-Michelson experiment around that time determined that the speed of light is constant. So therefore, it was thought, there can not be an ether.

Subsequently, physics was led on a wild goose chase. For example, the mathematics of Einstein’s famous theories of relativity are mostly based on the assumption that the speed of light is constant. Astronomers commonly believe that the universe started with a big bang and is still expanding because the speed of light is thought to be constant.

It has been claimed that the physics of electromagnetism and gravity as presently taught in academia has over 20 serious flaws. Actual measurements with modern instruments have shown that the speed of light varies with both direction and time. (Morley and Michelson erred in measuring the speed of light with both interferometers in the horizontal plane. They should have instead placed one interferometer in the horizontal plane, i.e., orthogonal to gravity, and the other interferometer in the vertical plane, i.e., parallel to gravity.) Actual measurements of the speed of light as it varies by as much as 5 miles per second over time show that the ether is not static but, as the earth travels through space, seems to surge and ebb with both time and orientation with respect to the stars.

Contemporary physics does not answer some of the fundamental questions of magnetism and gravity. For example, just how do magnets attract and repel? What is gravity? How can magnets under specialized conditions produce anti-gravity? What is inertia?

The consensus of some physicists is that two basic changes need to be made to the theory of physics. The speed of light is no longer to be assumed constant. The other change is that admitting the existence of the ether helps to explain many physical phenomena not otherwise satisfactorily explainable by conventional mainstream physics. For example, some physicists are now claiming that the earth's relatively weak gravitational "pull" is actually the ether pushing objects such as the moon, satellites, and people into the shadow formed by the earth on the ether.

Etheric energy, also sometimes called "zero point electromagnetic radiation" and "vacuum field energy", is known as an energy that fills the fabric of all space. Technically, the etheric energy results from an electric flux which flows orthogonally to our perceived dimension or reality.

The energy density of the ether is essentially incomprehensible. The mass equivalence of etheric energy has been calculated by physicists to be on the order of 10^{93} (may not be correct) grams per cubic centimeter using Einstein's famous equation $E = mc^2$. To put etheric energy density in perspective, Nobel Laureate Richard Feynman and one of Einstein's protégés, John Wheeler, have calculated that there is more than enough energy in the volume of a coffee cup to evaporate all the world's oceans! We fail to easily recognize this immense energy source as it is analogous to trying to weigh a beaker of water underneath the ocean's surface.

Dan A. Davidson recently published a book "Shape Power: A Treatise on How Form Converts Universal Aether into Electromagnetic and Gravitic Forces and Related Discoveries in Gravitational Physics" reporting on his many years of measuring and studying the effects of the geometry of objects on the ether. In his book he explains how geometric forms, for example the famous "pyramid power", convert etheric energy into electromagnetic and gravitic forces.

Etheric weather engineering researchers not only claim but have demonstrated many times that precisely machined metal objects similar in shape to cones, tin cans, handle-less frying pans, etc., when slowly turned by an electric motor (but not simply rotated on the axis of their hollow interiors), bore holes in the ether and cause weather upsets and changes. Only by linking the enormously high energy density of the ether with etheric hole boring can the disproportionately immense leverage of small objects upon the weather be understood.

The foregoing is referred to as "active" etheric weather engineering. There is also a "passive" version which generally comprises of a box about two feet high, wide, and deep. The tops, bottoms, and sides are about an inch or so thick and comprise of a thick layer of electrical insulation sandwiched between two thin layers of an electrically conductive material such as aluminum foil. Pieces of a wrecked RV camper's shell sometimes have been used.

Along the four inside edges around the bottom of the box are four magnets. Each magnet is placed in the center of each inside edge. To make rain, the polarities of the magnets are set one way, and to cause fair weather, the magnets are reversed. (I have actually seen this demonstrated in the Midwest.) On the center of the bottom of the box is set a truncated concrete cone about a foot high and a little over a half-foot in diameter. The concrete contains some special materials including mono-atomic gold and is sometimes wetted.

I stuck my head inside the box and could detect a faint mustiness. The experimenter thinks there is something like 20 megawatts of etheric power vertically streaming through the box.

The weather control box is termed “passive” because it takes about a half-day for the weather to react in a large circle of several miles in radius as compared to the half-hour for several miles in radius of weather to react to the rotating metal objects. In the awesome demonstration of the weather control box I saw in the Midwest, an otherwise cloudless day went completely cloudy from horizon to horizon in about an hour, after a buildup of several hours in the morning. I could even see lines or bands in the clouds that were possibly caused by the horizontal aluminum sidings of the garage inside of which the weather control box was located. Then the magnets were reversed, and the clouds had dissipated by the end of the afternoon. I was overwhelmed by seeing, for the first time, etheric weather engineering. It was simply magnificent.

It has been suggested that the precision of etheric weather engineering could possibly be increased by using both passive and active forms of etheric weather control in a mode of operation similar to alternately pressing the gas and brake pedals of a vehicle.

Some of America’s Indian tribes were able to break up droughts by dancing counter-clockwise around a circle, or to stop rain by dancing clockwise around a circle. To illustrate, the summer of 1931 Nevada was suffering through a drought. An elderly Shoshone Indian, Wagon Jack, suggested to the tribal members living in the vicinity of Austin, Nevada that they devote some time to a rain dance. With considerable skepticism, Indians from all over central Nevada showed up beginning August 14 for continuous rain dancing plus of course feasting and political meetings. On August 19, the skies clouded over and rain began coming down in torrents. After four days of heavy rainfall, flooding caused extensive damage. (Nevada Historical Society)

I remember reading another story when during a severe two-year California drought during the mid-1970’s, an environmental group in San Francisco just for fun decided to hold a rain dance in nearby Marin County. They had to cut it short because it started raining! Of course, I didn’t understand then what was really happening and why.

Etheric weather engineering research Trevor James Constable has produced a video “Etheric Weather Engineering” on his weather engineering experiments. Thomas J. Brown has authored a book on etheric weather engineering titled “Loom of the Future: The Weather Engineering Work of Trevor James Constable”.

It was reported in Brown’s book that in September 1994, Hurricane Iniki was bearing down on Honolulu. Constable’s ship happened to be located between the hurricane and Honolulu so he was able to divert Iniki. Unfortunately, the hurricane ended up damaging the island of Kauai instead.

Installing local etheric weather engineering capabilities, probably under contract to an etheric weather engineering researcher, should be a relatively trivial expense. One weather control machine or box should be able to cover the entire resort area. By being able to cause rain or sun on demand, the resort project could achieve a competitive advantage.

I do not know whether local weather control, set to sun, would be sufficient to break up a hurricane should one approach the resort complex. It is possible that weather control machines would have to be installed on ships or planes and located in the path of the hurricane such as happened with Iniki. Being able to break up or at least divert hurricanes should noticeably reduce insurance costs.

Testatika Free Energy Machine

The Testatika free energy machine was developed over a 20-year research period in Switzerland. It resembles a Wimshurst electrostatic generator commonly seen in high school physics labs. Other documents may refer to it as the "Swiss M-L converter" or "Thesta-Distatica." The inventor of this superb machine, Paul Baumann, claims its running principle was found by studying the effects of lightning.

Testatika not only runs on its own energy but produces also a huge amount of excess power. A video shows a demonstrator unit producing at least 3 kilowatts of power. Yet the machine is only about 70 cm wide, 40 cm deep, and about 60 cm tall. It delivers DC voltage ranging from 270 to 320 volts, only depending on the dryness of the air. At this voltage it can supply at least 10 amperes of DC current.

Testatika is not a perpetuum mobile, but an energy machine that collects its "free" energy from the charged and ionized air particles. Some technological tricks are implemented to overcome the normal drag-resistance of a conventional Wimshurst machine, which is still the secret of the Swiss group. However, progress is being made by several researchers in the underground science network in deducing and explaining the basic mechanisms of this remarkable machine.

The initial high voltage, at high frequency, is produced by twin counter-revolving electrostatic disks made from magnetic stainless steel. The magnetic disk segments provide an electromagnetic speed control for the disks, while functioning as electrostatic elements to provide the very high voltage.

The solid-state amplification subsystem consists of polarized sections of barium-iron permanent magnets with multiple coil arrays, as first introduced by Hans Coler in Germany during the 1940's. This subsystem increases the amperage level about 20 times from the 150 watts from the twin electrostatic disks up to about 3000 watts at the output terminals.

An independent feedback subsystem provides the electromagnetic force to power a small DC motor to revolve the twin electrostatic disks continuously. This arrangement consists of two horseshoe magnets with coil sets wound fully around each magnet leg. This feedback method provides that the Testatika free-energy machine is a fully standalone system, with no external power input. Once the two disks are turned by hand, they continue to revolve on their own, producing free energy.

The Testatika machines (some smaller units also exist which only deliver about 200-300 watts) are not yet mass-production type models. They are still laboratory prototype units, although they are built with a very good craftsmanship. No maintenance is required with these units.

GeoExchange Heat Pump

A refrigerator is a one-way heat pump that cools the inside of the box by removing heat, which is then pumped someplace else. Cold air is not pumped into refrigerators.

Conventional air conditioners pump hot air from the inside of a home into the outside air. Because the outside air is already so hot in the summer, the difficulty of pumping hot air into air that is already hot results in low efficiency and high energy costs.

GeoExchange Heat Pumps are electrically-powered devices that use the natural heat storage ability of the earth or the earth's ground water to heat and cool a structure. They are being promoted by the Geothermal Heat Pump Consortium which claims that they can reduce greenhouse gas emissions by 40% or more over traditional air conditioners.

At the Bella Vivente subdivision of Lake Las Vegas, Henderson, Nevada, their GeoExchange system pumps heat into and out of homes with one loop of pipe which is connected to the lake. Residents save an average of \$150 per month in heating and air conditioning bills. Other advantages include eliminating noisy and unattractive outdoor condensers and cooling towers.

The following technologies may not be commercially available at this time. However, they may have potential applications for the resort project.

Sewage Treatment

A new method of treating sewage has been patented by a retired federal government employee.

High-Temperature Incinerator

This simple process reportedly incinerates garbage, sawdust, and wood chips at such an unbelievably high temperature that even thermocouples at 3200 degrees burn up. So little odor and smoke is produced that a prototype was tested indoors. Very little waste is left behind which needs to be trucked away. The high-grade heat from this type of incinerator can be used for generating electricity and producing process heat.

Food

About 20 years ago, I read an unforgettable article on Hong Kong's comprehensive and efficient food system. I tried in vain a couple of years ago to find the article or similar information.

As I remember it, the restaurants and institutions in Hong Kong carefully scrape waste food off plates and bowls into bins. The bins are trucked to pig farms. The waste from the pigs is dumped into fish ponds. I think there was another step or two involved in all this. It was impressive how so much additional food could be raised in Hong Kong rather than allowed to go to waste.

I propose that a similar scheme be implemented in the resort complex. In addition, there are refinements that could possibly be made as a result of some research I conducted some time ago on an “aquaponic food factory”. Below is the original write-up of the aquaponic food factory:

Merger of tilapia culture with soil-less culture for plants. 220-foot long, 16-foot wide polyethylene sheet-enclosed building with round fish tank in one end. Plants are grown in 2-foot-square plastic foam pads floating in long shallow water tank. The plants start as seedlings at one end of the tank, moved along as they grow, and harvested 3-4 times per week at the other end when mature.

What was difficult to perfect was balancing the chemistry of both tanks as nutrients and water cycle between the tanks. Unskilled labor maintain and harvest several times per week consistently high quality, clean, undamaged, organically-grown produce and tilapia.

No weeding, hoeing, tilling, spraying, hail insurance, etc., are necessary. Water consumption is 50 times less than required by dirt farms. Productivity per acre is about 10 times per acre of dirt farming. A head of lettuce, for example, costs about 5 to 9 cents to produce and brings a higher price than dirt-raised lettuce.

(End of write-up.)

Some of the claims of the above aquaponic food factory write-up may have to be adjusted, particularly in regards to production cost and insect control.

For a while, a group of us were considering installing a similar system in central Nevada except that the project was to be expanded in three respects: One change was to take advantage of the plentiful pure cold water at the site and begin with raising trout and salmon. The overflow from the trout and salmon tanks was then to be piped to tanks of tilapia and shrimp which are not as fussy about water quality and require warmer temperatures.

The second change was to increase productivity and lower costs by taking advantage of the cheap energy to be provided by plasma-injected transmutation thermal reactors and other new sources of energy. Also, a company we are associated with would supply mineral fertilizer from the world's richest mineral deposit of trace elements.

The third change was, in conjunction with the aquaponic food factory, to build a prototype 21st century city for the workers, taking advantage of our access to a long list of advanced technologies. An eminently qualified architect had been selected as the architectural consultant for this unique real estate development. The architect in turn was understood to have access to an extensive network of technologists and financiers. New ideas in construction, community layout, sewage treatment, transportation, communication, alternative medicine, entertainment, recreation, education, landscaping, and home gardening were to be explored.

The site was considered to be ideally suited for the world's first large-scale aquaponic food-production facility with ultimately thousands of acres of greenhouses and fish tanks capable of supplying several western states, western Canada, and Japan with fish and fresh produce.

Some of these ideas and plans could be adopted to help supply the resort complex with locally raised fresh produce and fish. There are islands in the east Caribbean which already have greenhouses supplying fresh produce to passing cruise ships as well as local markets.

Installing photo-luminescent therapy machines in the greenhouses offers two potential benefits of improved plant growth and insect control. There has been some indication of improved plant growth in the presence of the machines. Insects and spiders are irritated by the frequencies and so therefore would be repelled some unknown effective radius. Paybacks are elimination of insect damage, eliminating the cost of insecticide spraying, and easier certification as organically grown produce which in turn usually brings higher prices. One potential problem is the repelling of pollinating bees.

Microporous Solid Gel

Ultrasonic energy blends and hardens gel of polyester resin and water into very hard and strong sheets. Water content varies from 5% to 95%. Markets include on-site fabricated wall panels, plastic pallets, boat flotation inserts, insulation, and packaging.

Computerized Fiber Optic School Network

One dozen to four dozen junior and senior high schools in each large metropolitan area were to be linked with fiber-optic cables into a single network with an average cost of \$100,000,000. The recent advent of the Internet possibly offers drastic cost reductions.

The network's three-layer computer system would comprise of a network coordinating and scheduling computer as the top layer, an administrative computer in each school as the middle layer, and personal computers as the bottom layer. The network's customized software would include network management and coordinating functions for the system manager, two layers of software for the teachers to support 100 different functions, and 25 different functions for the students, only one of which is computer-assisted instruction. Each personal computer would have a monitor capable of also displaying telecast or recorded classes.

The typically huge scale of a school network would economically justify the simultaneous teaching in parallel of all week-long segments of each course year round with no seasonal constraints. Segmented courses would still include the standard features of conventional courses such as classes, graded examinations, and academic load standards. Short quizzes on each segment with pass/fail grading would provide quality control. Other nonstandard features of segmented courses include modified versions of the project management tools PERT and CPM, unique statistical techniques for selecting series of two or three local/televised classes for weekly scheduling, nearly unlimited self-pacing, student interest groups, and optimum utilization of the superlearning technique.

The computerized fiber optic school network is my own design. The proposal contains approximately 180 pages and describes several small-scale research projects which should be funded in varying amounts to gain additional information on its workability. Marketing such a radical and complicated program to bureaucratic metropolitan school districts presents an unusually difficult marketing challenge.

The country has a large city near the resort complex which could be a good place to build a prototype network. Its schools may be much more flexible and open-minded than American schools. A multipurpose optic fiber cable could be laid between this large city and the resort complex. Then a satellite campus in the resort complex could be a part of the school network and provide high-technology education to the children of the people working and living at the resort complex.

An optional feature of the school network would be a “virtual reality occupation simulator”. There ought to be a huge market, but the technical requirements for such a machine appear almost impossible to meet. The same machine would have to simulate for example a dentist pulling a tooth, laying an oil pipeline across Siberia, welding, carpentry, drafting, the mechanics of a stockbroker buying and selling stock, golf course maintenance, valet parking, etc.

After a person is wired up and fitted with position sensors, pressure actuators, etc., the computer would then have to generate an initial mathematical model of the person’s geometry and coordinates. As the person moves and reacts to pressure, sounds, and visual images, the computer would have to instantaneously respond accordingly with signals to the pressure actuators, earphones, goggles, etc.

So a student “drilling” a virtual reality tooth in a virtual reality dentist’s office would feel and hear the vibration as he or she moves the drill around the virtual reality patient’s tooth. There would have to be safety limits built into the software so that the student doesn’t receive unvirtual reality injuries from, for example, getting bit in the fingers by a virtual reality patient who suffers an unexpected virtual reality epileptic seizure!

The required computer would have to be cheap and yet be in the supercomputer class with an enormous instant access data storage device. No such machine now exists. However, ACC Labs expects to commercialize within a few years several computer technologies which together should be able to comfortably meet the extreme requirements of the virtual reality occupation simulator.

Twelve of its 90-gigabit transcapacitor (T-CAP) storage devices will be able to store over one trillion characters (bytes) in a space the size of a flashlight battery. One variation would be a “neural network array” based on 24 billion software configurable nodes.

ACC Labs’ liquid addressable memory device (LQ-RAM) would have a capacity of about 10,000 to 100,000 times the density of today’s S-DRAM DIMM memory, with longer refresh rates, lower power consumption, and a much higher speed - on an order of 3-800 gigahertz cycle times and even faster. Using both T-CAPs and LQ-RAMs, the entire contents of the Internet’s World Wide Web can be stored in a desk-sized storage device, and then retransmitted in a few moments.

Torsion Field-Based Communications

Practically unknown to Western science, several groups of Russian scientists have been developing torsion field physics and apparatus in secret for over three decades. A torsion field is a scalar product of two electromagnetic fields under special conditions. For example, a torsion field can be generated at the interface between two magnetic fields sweeping past each other. Torsion fields come in at least three different types – E fields, S fields, and G fields.

Russian astronomers have determined that torsion fields are transmitted at a speed of one billion times the speed of light. Physicists at Los Alamos National Laboratory have transmitted Mozart's 40th Symphony at 4.7 times the speed of light using torsion field generators and torsion field sensors. The European physics laboratory CERN has determined that torsion field information can be transmitted through 20 miles of mountain without attenuation.

Several first-ever torsion field patent applications have been submitted. A unique design has been developed for a counter-rotating torsion field generator based on a newly patented micro-solenoid technology, counter-rotating mono-polar magnetic plates, mono-chromatic standing wave lasers, and some scalar parallel processor technologies from the Swiss Institute of Technology in Zurich. A commercial version is scheduled for demonstration by late 2000 which will be able to universally transmit information through the entire earth at many times the speed of light with a bandwidth wide enough to allow transmission of three-dimensional holographic video on 16.7 million separate channels.

Gravimetric Sensors

The grand design for a working model of a highly directional and very inexpensive gravimetric sensor device has been developed. Its purpose will be to provide people with a way to detect large objects in space and plot their position in real time. This will make it possible to develop a baseline from which we can then extrapolate the rate at which this information is conveyed via transverse gravitational waves - expected to be greater than 1,000,000,000 times the speed of light. This will provide a cogent baseline to support the concept of superluminal velocities in data transmission via torsion field devices. This project could use some capital - probably in the \$75-100K range and has the potential to set a whole new standard for astronomical observation techniques.

Small-Scaled Energy Production

Large-scaled centralized electrical generation facilities typically require costly fuel, pollute, use up large areas of land for generators and power lines, are unsafe in the case of nuclear, have limited operating lifetimes of a few decades, and inherently subject large regions to blackouts. The country where the resort complex is to be located currently is expanding its electricity generating capacity by building large-scaled fossil-fueled power plants.

Small-scaled decentralized electrical generating units ideally do not require any costly fuel, do not pollute, only require a square meter or two of floor space, are standalone and do not interlock with a power grid, and are dependable.

What are referred to as “renewable” energy sources are receiving much attention and R&D support. They include producing and using hydrogen as a fuel, fuel cells, solar, and wind. Some types are already in use such as windmills, solar water heaters, and solar box ovens for cooking. (I myself own and use a solar box oven with excellent results, particularly with baking delicious potatoes.) While the intent is laudable and much clever engineering has been accomplished, solar and wind, for example, are inherently not completely satisfactory sources of energy.

The international science network seems to focus mostly on developing unconventional new sources of energy. The basis of many of their devices is extracting energy in some fashion from the ether (see Etheric Weather Engineering above).

The hydrosonic pump (see above) is a rare example of an unconventional new source of energy which is actually being commercially manufactured and sold. The pulsed abnormal glow discharge reactor is one of many examples of unconventional new sources of energy that, to my knowledge, are not currently being commercialized.

The country’s people may be interested in starting up a massive new industry specializing in researching and commercializing new sources of energy, particularly etheric energy. They could follow a path similar to Taiwan becoming a strong computer manufacturer, for example, even though Taiwan is merely an out-of-the-way island.

Since such an organization is a new concept with me, what follows are some thoughts I have come up with:

Our first task should be to try to define somewhat just what is it the new organization is supposed to research and commercialize. The mission of Ether and Charge Cluster Engineering, Inc., (which seems as good a name as any other) would be to take advantage of this small country’s freedom from scientific dogma and pioneering entrepreneurial spirit in researching and commercializing applications of etheric energy, the existence of which is pooh-pooed by practically all physicists.

The potential applications of etheric energy are diverse. Major categories I can think of are:

- Over-unity gain energy conversion by rotating magnets and electronic circuits
- Plasma-injected transmutation for radioactivity amelioration, thermal energy production, and manufacture of scarce elements out of more plentiful elements
- High-density charge clusters
- Radiovoltaic, petrovoltaic, and super-capacitor batteries
- Self-powered electric vehicles
- Niches in agricultural technology
- Medical treatment devices
- Self-powered heating, air conditioning, and ventilation equipment
- Stand-alone power supplies for appliances, office equipment, instruments, etc.
- Anti-gravity

Weather control
Shape power
Space flight
Archaeology
Machine tools
Electrical power generation

Ether and Charge Cluster Engineering, Inc., should establish a close relationship with the local university's engineering departments for two reasons: One would be to build up, organize, and document the theoretical underpinnings of ether engineering. The other would be to train and inspire young engineers in the exciting new field of ether engineering.

There was a similar situation during the 1950's and 1960's where Stanford University's electrical engineering faculty helped start the computer and semiconductor companies of the now fabulously successful Silicon Valley. I see a similarly wealthy "Ether Valley" starting up in the country's capital city. It could be a sound business decision for several reasons:

- The country could get rid of its coal-fired power plants.
- The country could ensure its long-term financial and energy survival by commercializing new sources of energy and other applications of etheric energy while its primary electrical energy generation and distribution business gradually disappears.
- Ether and Charge Cluster Engineering, Inc., could greatly enhance the livability of employees, customers, friends, relatives, and shareholders who live in the country by eliminating smog, reducing living costs, improving health standards, controlling the weather, and removing unsightly power lines and transformers.

PacifiCorp Holdings, Inc., an Oregon public utility holding company and the third largest power utility west of the Mississippi River, has already set a precedent by investing \$1,000,000 in Blacklight Power, Inc., of Malvern, Pennsylvania. Blacklight Power is developing an exotic new source of clean energy from ordinary water. Either an electrolytic cell or gaseous potassium ions in a vacuum compress hydrogen atoms into lower-energy-state hydrogen atoms called "hydrinos". When the hydrinos are formed, energy is released which in magnitude is between chemical and nuclear energy. Blacklight has ambitious plans for retrofitting fossil-fueled and nuclear power plants.

Blacklight is developing a 100-kilowatt generator which can power a car 100,000 miles on a tank of water. Blacklight Power, Inc., also claims on its Web site that it is developing a 10-kilogram battery which can supply 150 horsepower for 1,000 miles. Parked in a garage, it would seem that the car's battery charger could feed electricity back into the electric power grid and help pay for the car. However, generators in homes and small businesses pose a safety problem for power company workers who normally assume the power is off from the central generating stations when there is a blackout.

The price of Blacklight Power's stock in private offerings has increased from \$.75/share in 1991 to \$1,500/share in 1996 (not publicly listed). A recent stock offering sold \$5,000,000 in one week and may close at \$10,000,000. Because energy is one of the world's largest industries, Blacklight Power offers an example of how lucrative a validated new source of energy can be.

As a public service, I would be happy to work part-time as an advisor to Ether and Charge Cluster Engineering, Inc. Film Funding, Inc., for whom I consult, is experienced at incorporating new Nevada corporations and has worked with many startup companies.

I am acquainted with many of the key scientists and inventors who have done so much to create physical etheric devices as well as develop ether physics. I think I can easily line up an advisory board of highly qualified technical consultants.

There seems to be a high likelihood of productive ether engineering research that could be accomplished for two or three more decades. The initial emphasis of Ether and Charge Cluster Engineering, Inc., should be to commercialize an existing inventory of devices and technologies that are at least close to being ready to market and to which Ether and Charge Cluster Engineering, Inc., could acquire licenses and rights. It should be reminded that commercialization of any inventions is contingent upon acquisition to patents, licenses, rights, territories, application fields, etc.

I am certain that a modest amount of advertising in publications which cover the ether and charge cluster engineering fields such as New Energy News, Electrifying Times, Journal of New Energy, Exotic Research, Planetary Association of Clean Energy, Space Energy Journal, Nexus, and Infinite Energy - Cold Fusion and New Energy Technology would attract additional inventors.

However, it is crucial that Ether and Charge Cluster Engineering, Inc., first establishes a reputation for being fair and responsible when negotiating with inventors for the rights to their inventions. It is also crucial that Ether and Charge Cluster Engineering, Inc., recruits competent staff not only for engineering and management, but also for evaluating the reality and economic worth of ether-related inventions.

The human species has laboriously pulled an impressively diverse mix of new energy technologies out of the dark hole of its ignorance. (I have counted about 50 new sources of energy in this report.) Sometime in the future, Ether and Charge Cluster Engineering, Inc., could conceivably find a particular energy technology it has commercialized in competition with some other energy technology. By simultaneously commercializing a variety of ether-related energy technologies, I am confident that profitable niches in the immense energy business as well as applications of etheric energy to industries unrelated to energy production can be found for many years to come.

What follows is a sampling of energy inventions - at least nearly all of which could be candidates as small-scaled energy production units and, in some cases, even as off-grid electricity generators. Please keep in mind that some may require additional development and/or verification.

High-Density Charge Cluster Technology. Nearly solid-state electrical energy converter (U.S. Patent 5,018,180) with a stable over-unity power conversion gain of approximately 5. The gain can be cranked up to a maximum of approximately 30 but then loses stability. A fax sent August 1996 reported that it now “appears capable of providing 1 kilowatt of thermal energy plus 1 kilowatt of electrical output per cubic inch with a power supply (small) and heat exchanger”. The high-density charge cluster device also offers ease of manufacture as well as compactness. It is thought that this new technology is so fundamental that ultimately 1,000 doctorate theses could be researched and written by academia. For example, one university is researching flat-panel displays based on high-density charge cluster technology. High-density charge cluster technology

appears to be a credible candidate for an advanced self-powered electric vehicle's on-board battery charger.

Low-Energy Nuclear Transmutation - A Primer for Non-Physicists. The physics of high-density charge cluster technology can be explained somewhat by the following which was written primarily for non-scientists. Low-energy nuclear transmutation is thought by some to be the basis for these technologies mentioned elsewhere in this compilation of advanced technologies: pulsed abnormal glow discharge reactor, cold fusion reactor with thermal-to-electric conversion, fiber-based cold fusion power cell, hybrid cold-fusion hydrogen reactor, and gas-phase catalytic fusion.

Atoms comprise of negatively charged electrons whirling around a relatively small nucleus of neutrons and positively charged protons. Protons have a mass 1836 times the mass of electrons. A neutron is a combination of an electron and a proton with zero net electrostatic charge. An atom's number of protons and its equal number of electrons determine its type of element. Only when a positive ion (such as a proton or nucleus of a helium atom) penetrates an atom's nucleus does the atomic nucleus become another element (or another isotope of the same element) or becomes unstable and splits (fissions) into two or more elements.

For decades, physicists have assumed that changing (transmuting) elements always requires high energies. Elaborately expensive machinery was required to accelerate a positively charged particle of less than atomic size to a high enough energy to overcome the electrostatic repulsion of an atom's nucleus and penetrate its interior.

The inaccurately named "cold fusion" is only one of several types of physical phenomena which indicate the existence of a mechanism by which elements could be changed to other elements without seemingly requiring very high energies. However, the secret of cold fusion's excess heat had remained a mystery until September 13, 1996 when Kenneth Shoulders explained how the fracturing of palladium loaded with hydrogen (deuterons) could produce high-density charge clusters and cause nuclear reactions. Based on this evidence and on the pioneering work of Rod Neal and Stan Gleeson, a trio of physicists, Hal Fox, Robert W. Bass, and Shang-Xian Jin, finally deduced a more complete theory of the nature of the mechanism which extends beyond the discovery of cold fusion. The magnitude of their fundamental scientific discovery can best be appreciated by considering that Hal Fox's Fusion Information Center, Inc., has collected over 3,000 papers on cold fusion since its discovery in 1989 without anyone being able to offer a complete understanding of just how cold fusion works.

What follows is a simplified explanation of their remarkable concept using an analogy of electrons as ping pong balls and protons as bowling balls. Visualize a room with one wall as the positive plate connected to the positive terminal of a battery, and the opposite wall as the negative plate connected to the battery's negative terminal. Each ping pong ball is negatively charged and when released at the negative wall, electrostatic repulsion/attraction will cause the ping pong ball to fly across the room to the positive wall. Each bowling ball is positively charged and when released at the positive wall, it will roll slowly in the opposite direction across the room to the negative wall.

Both the ping pong ball and the bowling ball have an equal but opposite electrostatic charge. So therefore they both draw the same amount of electrical energy from the battery as they fly or roll from one wall to the opposite wall. But because the ping pong ball is so much lighter than the bowling ball, the ping pong ball will strike the opposite wall at a much greater speed than the bowling ball.

Now assume that 1,000,000 ping pong balls are released as a cluster at the negative wall. (At a high enough density, electrons will forget their mutual electrostatic repulsion and cluster in the same manner as ball lightning. Mother Nature sometimes pulls weird tricks.) Embedded in the ping pong ball cluster are 10 bowling balls. Because there are so many more negatively charged ping pong balls, the positively charged bowling balls are going to stick with the ping pong balls and ignore the attraction of the negative wall and the repulsion of the positive wall. So therefore the bowling balls hitch a free ride along with the ping pong balls. When the bowling balls hit the positive wall along with the ping pong balls at the same speed as the ping pong balls, the bowling balls will hit the positive wall with enormously greater energies than if they had hit the negative wall, rolling slowly alone, in the opposite direction.

In the same manner, protons (and other types of positive ions) in “low-energy” nuclear reactions are hurled into the nucleus of atoms by their “piggy-back” ride on high-density electron charge clusters with sufficient energy to split or transmute atoms. This mechanism apparently is the secret of cold fusion’s excess heat, eliminating radioactivity, transmutation of common elements into scarce elements, and powerful new atom smashers small enough for college physics laboratories. If the new theory holds up to scrutiny by other physicists, it might win a Nobel prize in physics.

Cold Fusion Reactor with Thermal-to-Electric Conversion. These are small reactors similar to electrolytic cells which produce more thermal energy than their electrical energy input. Power gains have reportedly been measured as high as several hundred. When atoms are being transmuted under specialized low-energy conditions, thermal energy is released. The heat can be directly converted to electricity. The electricity could then be transmitted to another geographically separate site and used to power two or more reactors. Reactors could in theory be cascaded indefinitely. Two drawbacks of cold fusion are the requirement for water and the need to occasionally replace electrodes. Some cold fusion researchers have changed the terminology to “low-energy nuclear transmutation”.

Hybrid Cold-Fusion Hydrogen Reactor. This reactor is intended to be an economical super-efficient heater for homes and as a hot water heater. The device is so new that its potential ultimate electrical input-to-thermal output conversion gain is yet to be experimentally determined. Applications could include heating homes and other buildings, greenhouses, and fish tanks. The electrodes are made of nickel. Because the country has nickel deposits, it could manufacture its own hybrid cold fusion hydrogen reactors.

Gas-Phase Catalytic Fusion. Activated carbon catalysts are loaded with various precious metals (by weight, in the range of 0.1% to 0.5%). Palladium works best so far. When these catalysts are heated, considerable excess heat is produced reliably when such catalysts are exposed to several atmospheres of heavy hydrogen gas (deuterium gas). Pairs of deuterium atoms are fused to produce waste helium-4 atoms plus abundant clean heat. No lethal radiation is released. One cubic kilometer of ocean water contains enough deuterium that when catalytically fused, the energy released equals the chemical combustion energy in all of the earth’s known oil reserves. With suitable insulation, the process, once started, is self-heating. Temperatures can rise well above the boiling temperature of water. Engineered with efficient heat exchangers, thermal/electrical energy generators can be built in sizes for applications ranging from mobile homes to large centralized generating stations. No electrolysis is involved nor are finicky electrodes required as with some other types of low-energy nuclear transmutation devices. However, the device’s requirement for rare precious metals such as palladium could hinder widespread use.

Fiber-Based Cold Fusion Power Cell. This is a cold fusion reactor which is highly competitive with the Patterson Power Cell™. Patents have been applied for. Demonstration products could be manufactured and prototypes readied for distribution within six months after funding. International Nickel Company is considered a strong strategic partner. (The resort’s country has nickel deposits.)

Light-Polarizing Photovoltaic Film. The light-polarizing photovoltaic film known as LUMELOID™ is a stretch-oriented polymer film about 0.3 microns thick which mimics photosynthesis. Light energy is absorbed in a molecular antenna which converts it to electron energy. The electron energy is then rectified by a molecular tunnel diode comprising an electron donor, an insulating space and an electron acceptor. Voltage and current is generated in the plane of the film parallel to the stretch axis.

Conventional silicon photocells are 25% efficient in theory, but in practice attain only 4-10%. The silicon concentrator cell theoretically has a 32% efficiency, but in practice has reached only 15%, and is too expensive.

LUMELOID™ has a theoretical efficiency of 72%. Initially its efficiency is expected to be comparable to existing photocells. However, because of the film’s high theoretical efficiency, with further R & D, LUMELOID™ is expected to soon surpass conventional photocell efficiency. More importantly, the low cost per watt of LUMELOID™ represents a tremendous cost decrease over presently available sources of solar energy and would facilitate its early acceptance in the energy market.

The projected cost of the basic LUMELOID™ thin film is \$1.00 per square meter, and the assembly which comprises a LUMELOID™ film on a substrate with microelectronics circuitry, is about \$5.00 per square meter. Its capital investment cost is about 30¢ per watt. This is a fraction of all conventional electric energy producing technologies. The capital cost of fossil fuel generation from large power plants is over \$1.50 per watt, nuclear energy is more than \$6.00 per watt, and present semiconductor photovoltaic devices are more than \$4.00 per watt.

LUMELOID™ will be available in rolls at low cost, affording easy transportation, and any amount of power during sunlight hours by just rolling it out flat on any surface. Eventually with the development of QUENSOR™, which is like a very thin battery (see below), a combined LUMELOID™-QUENSOR™ sheet may be spread out on a roof or on the ground, and will provide electric power day and night, available on demand.

"Diad" is an acronym for donor-insulator-acceptor-device which acts as a diode. Molecular diads have been chemically synthesized. LUMELOID™ incorporates diads in a stretch-oriented electrically conductive polarized film. The linear polarizing molecule in the film acts as antennae to absorb a resolved component of the energy of the light photons in the plane of the film. Diads are essential in LUMELOID™ to convert the energized electrons to unidirectional (DC) electric power.

When two polarized films are positioned with their stretch axes perpendicular, light is almost completely absorbed. Using two crossed films with electrodes connected in series or parallel, ordered diads in LUMELOID™ enable the conversion of light to electric power at 72% theoretical efficiency. This principle was demonstrated at the Jet Propulsion Laboratory by converting microwave to DC electric power using rectifying antennae at 82% efficiency.

Femto Diode Photovoltaic Glass Sheet. The LEPCON™ femto diode concept is similar in principle to LUMELOID™, which provides a technology mimicking photosynthesis, absorbing light energy with a molecular antennae structure, and rectifying the electron energy by the known phenomena called electron tunneling. In contrast to LUMELOID™, however, LEPCON™ comprises the durable materials of sub-micron metal on a glass substrate sheet. (A "femto" is one quadrillionth (10^{-15}).)

A device for fabricating LEPCON™ photovoltaic sheets in commercial production is called "Supersebter", an acronym for Super Submicron Electron Beamwriter. The Supersebter utilizes 100,000 rows and 100,000 columns to position 10 billion electron emitters on a square meter sheet by a lithographic process. This process produces 10 billion electron beams simultaneously to write the nanostructure patterns of femto diodes on the sheet. A square-meter LEPCON™ photovoltaic sheet could be produced in twenty seconds at a cost of about 50¢ per watt and a lifetime expectancy of over 50 years.

LEPCON™ panels could be utilized by utility companies in solar farms. It has been calculated that LEPCON™ panels covering a 150-kilometer x 150-kilometer area in a desert region could produce over 250,000 MW of electric power, enough for most of the United States.

This successful commercial fabrication of the LEPCON™ femto diode structure should lead to many other advanced nanostructure devices. For example, computer circuitry could be miniaturized 100-fold, efficient laser lighting devices could be produced, and vast improvements could be made on high-definition 2D to 3D TV flat-panel displays. (The 1993 Alvin Marks patent on a monomolecular resist significantly increases the resolution of the nanostructures.)

Quantum High Energy Density Storage or Retrieval Device. Essentially a very thin battery, the solid-state Quantum High Energy Density Storage or Retrieval Device (QUENSOR™) has an energy density of about 1-15 kilowatt-hours/kilogram, which is comparable to gasoline, or more. A fundamentally new principle and a new method of manufacture is employed.

Electric energy is stored or retrieved from quantum dipole electric fields throughout the volume of the QUENSOR™ film. Electric energy is stored in the QUENSOR™ film by charging the dipole electric fields from an electric energy source. Electric energy is retrieved from a QUENSOR™ film by discharging the dipole electric fields and supplying the energy to a load. Electric breakdown in the film is avoided because positive and negative electric charges in the film are balanced everywhere. Busbars attached to metal layers are connected to terminals for charging or discharging the QUENSOR™ film.

A composite photovoltaic LUMELOID™ and QUENSOR™ panel may be used for the storage or retrieval of solar-electric energy day or night on demand.

Eight patents protecting the LUMELOID™, LEPCON™, and QUENSOR™ technologies have been issued, and additional patent applications have been filed.

Buried Contact Multijunction Thin Film Solar Cell. In the past, to produce high-performance solar cells, expensive high-quality solar cell material were required. This new solar cell approach produces high efficiency cells but with the use of much lower quality material than previously possible; material 100-1,000 times lower in quality than the worst presently used in commercial silicon cells. Using this approach, the major material costs in making the modules becomes the cost of the glass used in the modules.

The approach involves the deposition of a very thin layer of silicon upon the glass cover. During deposition, fluctuations are introduced in the properties of these layers to produce a multilayer structure. Three separate ideas are combined:

The first new idea is to use a multilayer structure, which provides the tolerance to the use of low quality material; material 100-1,000 times poorer than the worst used in present commercial cells. The second is using a laser grooved approach which allows correct contacting to each of the layers in the cell. The third is the automatic series interconnection of the cells which results from the laser grooving approach and greatly simplifies module fabrication, contributing to low processing costs.

High efficiency can still be obtained by this approach but with material costs not appreciably higher than the glass used in the modules. In the normal approach, material costs alone are over \$2 per watt of electrical output. In the new approach, material costs are only about 10 cents per watt, about 20 times smaller. Total solar power costs are expected to be cheaper than fossil or nuclear power.

Solar Hydrogen Producer. This simple device efficiently uses all solar wavelengths to make hydrogen in abundance. The hydrogen could replace natural gas in pipelines, and be a base for the so-called “hydrogen economy”.

Hydrogen Tank. A hydrogen tank was developed by the same inventor (now dead) of the above solar hydrogen producer that is so safe it can be punctured with rifle bullets.

Super-Steam Technology. This machine combines compressed air, untreated or even polluted water, and almost any combustible fuel to produce steam at any pressure or temperature. The response is instant compared with a conventional boiler taking hours to reach operating pressure and temperature. The efficiency is over 90%, which compares favorably with a conventional boiler's efficiency of 40%. Maintenance costs, fuel consumption, and air pollution all go way down. 3500 applications have been found for super-steam technology. Electricity can be generated for 1 cent per kilowatt-hour. Super-steam technology can be scaled from the size of a one-pound coffee can to a house.

Super-steam technology could be combined with the aforementioned solar hydrogen producer and hydrogen tank for on-site renewable energy uses.

Double-Exposure Flat-Plate Solar Collector. Apparently combines photo-voltaic and solar thermal collecting.

Environmental Heat Engine. Has some similarity to refrigerator or heat pump. Working fluid of ammonia or carbon dioxide is expanded by propane heater, cold fusion thermal reactor, or environmental heat to move pistons. Applications include vehicle engines, small-scale on-site electrical generators, and large-scale water lifters for dams and canals. (Could double electrical output of Hoover Dam.) This is a variation of Dennis Lee's low-temperature phase-change engine which the inventor (now dead) claimed is superior to Lee's engine.

Brown Nuclear Battery. Small “nuclear” battery uses tritium to power small circuits and electrical devices for several years. Tritium is a radioactive isotope of hydrogen with a half-life of 12 years. These nuclear batteries use beta emitters which are similar to devices used in smoke detectors and to illuminate wrist watches. The key approach is the methods used by the inventor to “funnel” the emitted beta particles (electrons) into the affiliated circuits so that a useable voltage is produced.

The Brown nuclear battery has many uses, especially for computer-chip applications. A very small “nuclear” battery can be used to power a computer chip or computer chip set for several years. The battery could be about the same size as the packaged chip and be mounted directly on or adjacent to the chip. Many other applications are available. The nuclear radiation consists of beta particles which are electrons and can do no harm unless the battery material is ground up and swallowed.

Perpetual Battery. The hyper-cap E-converter is a thick quarter-sized battery which would put out .001 watt “forever” for such applications as critical components inside fail-safe computers, cellular telephones, etc. The energy comes from tapping ether fluctuations.

Clem Over-Unity Vegetable-Oil Engine. Richard Clem was a heavy equipment operator who had noticed that a hot asphalt sprayer would continue to run for up to an hour even after the power was turned off! So he built a modified version as a 200-pound engine which ran on vegetable oil at 300 degrees and was started by a 12-volt battery. The heat is internally generated by the engine. During a nine-day test conducted by Bendix Corporation engineers, the engine in its self-running mode consistently generated 350 horsepower into a dynamometer. The engine is constructed from off-the-shelf components except for a hollow shaft and a custom cone with enclosed spiral channels.

If the automobile industry adopts the Clem over-unity engine, motorists could change its eight gallons of vegetable oil only every 150,000 miles and never buy any gasoline. To illustrate the engine’s durability, the only working model of the Clem engine has been continually running on his son’s farm for several years.

Combining the Clem over-unity engine with the hydrosonic pump at the resort area could provide distilled ocean water as well as hot water for space heating, kitchens, and bathrooms at *no* energy cost.

The Clem over-unity vegetable-oil engine is not patented. It may be fairly straightforward to set up a small machine shop in the resort’s country for manufacturing hollow shafts and cones. Off-the-shelf components could be shipped in for subsequent commercial assembly and sale of Clem over-unity engines. Hydrosonic pumps could be either shipped in or locally manufactured under license and then combined with Clem engines into desalination units. The market for efficient self-powered desalination units ought to be enormous. Unfortunately, I have no idea as to the maximum practical size that self-powered desalination units could be built.

Water Engine. Hydrogen is formed by creating an underwater electrical discharge between two aluminum electrodes. Aluminum wire is fed against a rotating aluminum drum. A hydrogen-fueled 900-kilogram car runs 600 kilometers on 20 liters of water and one kilogram of aluminum.

The required high voltage can be obtained from the battery, a generator off the drive shaft, or two coils in parallel and fed from a conventional distributor.

The hydrogen gas fills a small buffer tank which in turn supplies hydrogen to the engine on demand. When the tank’s pressure exceeds a predetermined level, the electrodes are separated so that hydrogen generation is interrupted. As the pressure drops to a certain level, the aluminum wire is again fed against the aluminum drum.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. The existence of zero-point electromagnetic radiation was discovered in 1958 by Dutch physicist M. J. Sparnaay. Zero-point electromagnetic radiation is the same as the electromagnetic waves radiated from radio and television antennas except that the frequencies are random, incoherent, are present everywhere in the universe, and vary from zero cycles per second to infinity. Other names include “zero-point energy field”, “vacuum field energy”, “etheric energy field”, and “ether”.

Mr. Sparnaay had continued the experiments carried out by Hendrik B. G. Casimir in 1948 which showed the existence of a force between two uncharged parallel plates which arose from electromagnetic radiation surrounding the plates in a vacuum. This force has since been named the "Casimir effect" to honor the discoverer. (See "Casimir Effect Self-Charging Energy Cell" below.)

Mr. Sparnaay discovered that the forces acting on the plates arose from not only thermal radiation but also from another type of radiation now known as classical electromagnetic zero-point radiation. Mr. Sparnaay determined that not only did the zero point electromagnetic radiation exist in a vacuum, but also that it persisted even at a temperature of absolute zero. Because it exists in a vacuum, zero-point electromagnetic radiation is homogeneous and isotropic as well as ubiquitous.

In addition, since zero-point electromagnetic radiation does not vary, the intensity of the radiation at any frequency is proportional to the cube of that frequency. Consequently the intensity of the radiation increases without limit as the frequency increases. The result is an infinite energy density for the radiation spectrum. (See "Ethereic Weather Engineering" above for additional discussion.)

The special characteristics of the zero-point electromagnetic radiation of having a virtually infinite energy density and that it is omnipresent even in outer space make it very desirable as an energy source. However, the high energy densities only exist at very high frequencies. These large energies can be collected with small antenna-like structures (frequency is inversely proportional to size). But the frequencies are so high that they are unusable for practical energy uses.

With two antennas of very slightly different sizes, the converter collects zero-point electromagnetic radiation of two very slightly different frequencies. The converter then superimposes the two frequencies which results in a far lower beat frequency. The energy contained in the beat frequency is then transformed to practical electrical power which can be made available in any location on earth or in space. Applications include transportation, heating, cooling as well as many others.

Water-Fueled Internal Combustion Engine with Garrett Electrolytic Carburetor. Henry "Dad" Garrett and his son, Charles H. Garrett, in 1935 patented and exhibited an automobile that ran on water substituted for gasoline. Actually, the fuel was hydrogen after the water was broken down by electrolysis. The only items needed to convert a gasoline-powered auto to a water burner was an electrolytic carburetor and installation of a generator of double normal capacity for the breaking down of the water. Instant starts in any weather, no fire hazards, cooler operation and plenty of power and speed were claimed.

Rather than store the inflammable hydrogen, the same process makes the gas without a storage chamber in which the flames from the motor's cylinders might react. Water is broken down into its component gases by passage of an electric current through it from electrodes immersed in the water. Hydrogen collects at the negative pole, and oxygen collects at positive. The hydrogen is then mixed with air and introduced directly into the cylinders. For an ordinary automobile, an electrolysis chamber of about a quart in capacity is big enough.

In summary, this simple process can provide:

- Heat - through the burning of hydrogen/oxygen.
- Power for local energy generation - the explosive energy to drive a piston to drive a shaft to power a generator. The generator then charges a battery network which feeds an inverter (converts DC to AC) to run your house.
- Motive power for transport power - explosive energy drives the piston to drive your vehicle.
- Light - condoluminescence - hydrogen/oxygen exposed to phosphor-coated surfaces for light generation.
- Sound amplification - flame speakers where flame is electrostatically deflected at audio rates to produce sound. The hydrogen/oxygen mix is generated *locally* rather than using bottled gases such as propane, butane, etc.

Papp Engine. Joseph Papp was granted US Patent #3,670,494 for his “Noble Gas Plasma Engine”. A mixture of recycled inert gases (helium, neon, argon, krypton, and xenon) is exposed to a high-voltage discharge in a sealed cylinder with a piston. The spark causes the gases to expand violently though no combustion occurs. Mechanical energy is delivered by the piston's displacement. The gases immediately collapse to their original density, and the cycle is repeated. After several thousand hours the gases lose their elasticity and are replaced. The operating cost is 15 cents an hour.

The first prototype was a simple 90-horsepower Volvo engine with upper end modifications. Attaching the Volvo pistons to pistons fitting the sealed cylinders, the engine worked perfectly with an output of three hundred horsepower. The inventor claimed it would cost about twenty five dollars to charge each cylinder every sixty thousand miles.

There were indications that such an engine could provide its own electrical power and being a closed system, require no fuel. It is not by definition an electromagnetic engine, however. It is believed that at the heart of the Papp engine is the development of high-density electrical charge clusters which provide the energy to expand the gases.

Other patents are 5319336, 4151431, 3670494, 4046167 - Mechanical Accumulator, 3680431 - Method and Means for Generating Explosive Forces, and 4,428,193 - Inert Gas Fuel, Fuel Preparation Apparatus and System for Extracting Useful Work from the Fuel.

A demonstration of the Papp engine to representatives of the Stanford Research Institute resulted in killing one person and injuring another. Papp himself is believed to have died from apparent neutron radiation from his engine.

Jim Kettner of the Space Energy Association recently stated in a letter to me that this is the best self-running device he knows of which can produce substantial amounts of power. A variation of the Papp engine is currently being built by Jim Sabori and, if sufficiently funded, was to have been ready by the end of 1998.

In a recent letter from Hal Fox of Trenergy, Inc., Fox states that he believes that the Papp engine works but hopes that much simpler ways of making energy can be developed. There are several groups working on versions of the Papp engine. It seems to keep recycling through the new-energy community.

Muller Motor/Generator. Electrical generators in common use require external torque from gas, hydroelectric, and steam turbines, for example, to overcome back electromotive force. Bill Muller's magnetic motor/generator eliminates back electromotive force. The coils are removed from the rotor and instead wrapped around powerful magnets equally spaced around the stator. Magnets are also equally spaced around the rotating disk. However, the number of rotor magnets is one more than the number of stator magnets.

A typical commercial motor involves pushing and pulling magnetically where in the Muller motor/generator only the magnetic pulling effect occurs. A perfectly balanced arrangement of the magnets results in a disk-like rotor that can be turned with no effort at all. The completely reversible result is if current is applied to the stator coils, the rotor turns. If the rotor is turned, the stator coils can generate current to be supplied to a load.

The stator coils are wrapped around cores made of inexpensive Muller-patented amorphous material which eliminates heat-producing hysteresis and eddy current losses. Because of instantaneous saturation and permeability, much less wire is needed for the stator coils which greatly reduces both ohmic resistance losses and inductance losses. No brushes are needed like in conventional direct current generators and motors which wear out. Bearing friction losses are greatly reduced by both weight reduction and using Muller's cone-shaped magnetic bearings (patent applied for).

Electrical Generator. Two pairs of electromagnets warp permanent bar magnet's magnetic fields across field coils to achieve over-unity electrical energy conversion gain, the magnitude of which is unknown. Requires additional resonant circuit components. Appears to be a potentially robust generator of electricity.

Self-Contained Power Supply. Uses tightly wound coil spring, flywheel, and magnets to achieve over-unity energy conversion gain. Potential market is as a battery pack replacement.

Motor/Generator. Incorporates permanent magnets which provide the drive torque by pulling rotor and stator poles together with an electromagnetic *opposed* excitation input pulsation used to weaken that magnetic pull to allow the poles to separate. Power output claimed to be 3 times power input.

WIN Zero Point Electrical Energy Converter. Extracts AC current with an output power over input power gain as high as 268.6%. It generates electricity by collecting electrons between E-dam cermet in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. The mechanism is believed to be the Casimir effect. Solid-state with no moving parts and no size restrictions, individual units can be built to power a 15-kilowatt home or a 20-megawatt arc furnace without outside energy input.

Conversion of Aluminum Internal Combustion Engines to Magnetic Motor. Heads replaced with magnet arrangement so that the vehicle doesn't need fuel nor battery recharging. Two-inch square Chinese super-magnets are embedded in the piston heads. Same-size magnets are embedded on outside of disks mounted on shaft, one magnet to each cylinder. A toothed gearwheel mounted on the front end of the shaft is linked by a chain drive to a gearwheel on the crankshaft. An electric motor is mounted on the block to turn the crankshaft. As crankshaft rotates, when each piston is up closest to top of the cylinder, its matching magnet is also at its angular point closest to the head. The two opposing south poles repel each other with 1,000 lb. of force. (This compares with the approximately 250 lb. of force on the piston head in a gasoline engine.)

The engine would still need oil changes every 50,000 to 80,000 miles. Because it runs cool, the block could be made of hard plastic which ought to be of cheaper material and easier to mold and machine than aluminum. A constant-speed motor, it would require a continuously variable transmission in order to power a vehicle. If the electric motor is replaced with a Muller magnetic motor (see above), the combined energy conversion gain is projected to be about 300.

Searl Effect Generator. The Searl effect generator (SEG) can be used to charge the batteries in a self-powered electric vehicle. A solid-state device, the heart of an SEG is a series of three concentric magnetic rings with magnetic rollers going around the rings. Both the rollers and rings are comprised of four layers of titanium, iron, nylon, and neodymium.

The magnetic fields impressed on the rollers have both AC and DC components. The AC component is for floating the rollers so they don't touch the rings. The DC component is to prevent them from flying off. The innermost set contains a minimum of 12 rollers for the same reason that a linear motor will not operate with less than 12 phases.

The inner set of rollers travel around at 250 miles per hour, the middle set travels at approximately 600 miles per hour, and the outer set at approximately 1500 miles per hour. Hundreds of millions of volts are generated the energy of which is picked up by brushes positioned all around the outside set of rollers.

An SEG also creates an anti-gravity field. An uncontrolled SEG will rise about 50 feet as the rollers increase speed, emit a light blue halo which indicates energy is being extracted from the ether, and then shoot up into the sky gaining speed, never to be seen again. At least one roof has been holed by an SEG. The friction-less rollers can be prevented from reaching the critical velocity that produces lift by use of a "governor", either mechanical or electronic.

An SEG can be easily controlled by immersing it in an electromagnetic wave field the frequency of which is a harmonic of the SEG's primary frequency. While in resonance, the magnetic poles of the rollers reach a unification state, and they stop moving.

The inventor has built and flown a small "inverse gravity" vehicle. A flying saucer-like SEG-powered aircraft about the size of a bus is currently being built in England by a private group.

The inventor for some years independently powered his house off the power grid with a home-sized electrical generator version of the SEG. A householder could set up a 45 x 45-cm unit and generate an output of 11 kilowatts of free electrical power.

Oddly, a house powered by an SEG has been observed to have greater healing powers than conventionally electric powered houses. The healing effect is claimed to be due to the electrons zapping the occupants, taking away pain and returning blood more quickly to damaged tissue.

The SEG would also help combat asthma, bronchitis, hay fever and lung complaints due to the increased supply of oxygen in the body. Conventional methods of electric power do not pump out electrons which results in tired eyes and a tired brain.

The SEG's negative charge also means that dust stays in the carpet instead of floating in the air. This is similar in action to negative ion generators sometimes sold as air fresheners.

A German power company is reportedly considering replacing a nuclear power station with eight fuel-less SEGs costing a total of about \$4.5 million and generating a total of 240 megawatts with no pollution.

Gravito Magnetic Device. The gravito magnetic device (GMD), also known as the David Hamel machine, is a cheap version of the Searl effect generator (SEG) (see above) that can be built with off-the-shelf components. The GMD has magnets attached to radial spokes or arms that are jointed. These magnets are floated in a magnetic housing and when properly biased, continue to spin, gaining momentum and speed with each rotation and achieving the same tremendous electrostatic buildup on the outside rim as the SEG.

The parts inside the GMD are configured in such a way as to promote an enclosed constant variation of opposing magnetic fields. In the resting state, the moving cones are balanced and stabilized in a magnetic field repulsion, like a magnetic bearing. The startup of the GMD is initiated by lowering a magnet at the center top of the shell, inside the shell, towards the momentarily magnetically balanced moving cones.

As the center magnet, which opposes the one attached at the center of the upper moving cone, is lowered inside the GMD, it forces the upper cone to move sideways, shifting the magnetic balance between the cones inside the GMD. The cones stay offset to each other for a short while and then plasma-like energy starts to build up around the GMD. This energy built up creates a shift of colors from red-orange to light blue and then white. Following this effect the GMD starts to lose weight and quickly generates an upper lift in a greater ratio than its total weight.

It should be emphasized that the power generated, surrounding the GMD, is extremely powerful and radiates, causing interruptions of electron flow in normal electrical systems, i.e. lights, cars, transformers, and interferes with electromagnetic transmissions. So it is without saying that this machine has to be operated with serious caution when completed and activated. However, if a control system is in place, it is easy to stop its effect. One of the main purposes of GMD research is to understand the effects of enclosed opposing magnetic fields that have varying vector angles.

The GMD is potentially a versatile, useful technology which also generates antigravity. The GMD has a powerful upward thrust causing it to rise in the air in a manner similar to a Searl effect generator (see above). (The first assembled model after two hours of increasing spin velocity unexpectedly crashed through the roof and escaped.) When the inner workings of what causes the secondary electrogravitational fields are understood, it is probable that various devices can be created providing plentiful energy of different types.

It should be noted that all building materials for the GMD are readily available almost anywhere in the world, and the cost is relatively cheap. A lot of hand work is required but nothing that is unreasonably unattainable. No special machining or parts are required. Only patience and devotion is needed.

Casimir Effect Self-Charging Energy Cell. In the above article on etheric weather engineering, the force of gravity is described as the ether weakly pushing two objects such as a book and the earth into each other's shadow. Gravity can also be thought of as the long-range version of the Casimir effect. The Casimir effect predicts that two metal plates close together will attract each other.

Consider the plates set at a certain distance apart. In the space between the plates, only those ether (vacuum) field fluctuations for which a whole number of half-waves just spans the distance can exist, just like waves formed by shaking a rope tied at both ends. Outside the plates, the fluctuations can have many more values because there is space. The number of modes outside the plates, all of which carry energy and momentum, is greater than those inside. This imbalance PUSHES THE PLATES TOGETHER.

The proprietary Casimir effect self-charging energy cell contains many extremely thin layers of carbon, magnesium, chromium oxide, and a couple of other elements and compounds. The result is analogous to a boat that has some rather large leaks. More water pours into the boat as fast as water is bailed out. Likewise, as electromagnetic energy is drawn out of the Casimir effect self-charging energy cell when inserted in an electrical circuit, energy is drawn in from the surrounding ether. Physically and functionally, the Casimir effect energy cell is like a solid-state battery that recharges itself with some valuable features such as simplicity and compactness.

Switched Reluctance Motor. The switched reluctance motor is a motor design that has been around for many decades but has never been commercialized. The inventor of the Casimir effect self-charging energy cell is also developing an efficient commercial version of the switched reluctance motor specifically designed with modern switching components. The intended end use is for powering electric vehicles. The switched reluctance motor has the key advantages of ease of manufacture, simplicity, and allowing complete vehicle motion control. No claims are being made that it is capable of over-unity power conversion.

Most self-powered electric vehicle power train concepts involve combining an over-unity motor (to extend the range between battery charges) with an on-board battery charger and a pack of batteries or super-capacitors. The Casimir effect self-charging energy cell offers some important advantages such as much simpler mounting of one to several battery-like cells in the vehicle's engine compartment and greatly increased maintainability and dependability. With the cells' self-charging capability, the efficiency of the vehicle's electric motor thus becomes less of an issue. Electric motor features such as controllability, manufacturing cost, simplicity, and reliability can thus be given much greater consideration.

This particular self-powered electric vehicle power train combination may be the best one. If plugged into the electric grid while parked in the owner's garage, the revenue from running the electric meter backwards could eventually pay for the vehicle's purchase cost.

Joe's Energy Cell. The Joe's energy cell basically comprises of two metal containers, one inside the other. Both containers are filled with specially charged and cleaned water with the inner container perforated to allow water to freely move between the inside and outside of the inner container. The outside container is electrically connected to the anode of a battery, and the inner container connected to the battery's cathode. The outside container is closed except for an orifice to which a thin pipe is attached. The other end of the pipe is attached to the outside housing of the carburetor of a gasoline engine. Gas/energy is transferred to the carburetor through the pipe. The entire cell including the pipe must be electrically insulated from the engine.

Various designs and shapes of both containers have been experimentally built. The original and simplest comprised of both containers as long pipes with the inner pipe, which was perforated, inside the outer pipe.

At least fourteen vehicles in Australia have been fitted with different versions of Joe's energy cells to be driven without fuel nor battery charging. The engine, radiator and exhaust pipe stays cold enough to freeze water – warranting replacing water in the block with transmission fluid. The timing does have to be advanced between 25 and 80 degrees, depending on the type of engine, to allow the engine to run smoothly. The engine's power doubles over that when petrol-fueled.

The Joe energy cell is not explainable using conventional mainstream physics. It is not even known if the process inside the cylinders is implosion, explosion, or both. No gasoline is mixed with air inside the carburetor. It appears that zero-point energy is somehow drawn from the ether and converts the air entering the cylinders into some kind of fuel. The inventor claims the process increases the frequency and energy of the air.

For converting existing gasoline-powered vehicles into self-powered vehicles which don't require fuel nor battery charging from a local electric utility, adding the Joe's energy cell seems to offer by far the easiest modification. Nearly the entire engine is left alone. A separate heater would have to be provided since the engine runs cold. The vehicle will not rust, and paint will not oxidize.

Guy McCarthy guy@twelvestar.com has provided the following insightful analysis of the Joe energy cell from a biodynamics perspective:

[0.1] The "Joe Cell" (described in NEXUS magazine, Aug-Sep '98, pp. 43-46) is an electrical device attached to the carburetor of an ordinary automobile engine which allegedly enables it to run for extended periods with the fuel line disconnected.

[0.2] Biodynamics is a science of natural forces and agriculture inspired by the Austrian philosopher Rudolf Steiner. It pre-dates "Organics" as the original alternative to chemical/industrial agriculture. Biodynamics has achieved limited recognition in the United States and Canada, but is widely practiced in Europe, New Zealand, and Australia.

Main Text:

[1.0] The Joe cell uses water as a storage medium, which, when charged above a certain threshold, collects additional energy as needed by the engine. The initial charge is not depleted as the engine runs, but will dissipate under certain conditions. This matches a key attribute of the biodynamic ether, which attracts more ether to itself once the local concentration reaches a certain threshold. Without adequate boundaries (or storage conditions) the etheric charge build-up will dissipate.

[2.0] The motive reaction in the engine seems to be *implosion*, since the ignition timing must be advanced so far into the compression stroke. (Note that 80 degrees is nearly 2/3 of a typical compression cycle, which totals about 135 degrees in a 4-stroke engine.) Implosion may be considered equivalent to "a sudden condensation of the ether" which is also thought to be the motive reaction that creates lightning and thunder in the atmosphere. According to biodynamic researchers, condensation is a state change from a more rarefied ether into a less rarefied one, releasing energy in the process.

[2.1] Biodynamics deals with four states of ether which are equivalent to the four elements intuited by ancient philosophers:

Warmth Ether corresponds to the Fire element
Light Ether corresponds to the Air element
Tone Ether (or "Chemical Ether") corresponds to the Water element
Life Ether corresponds to the Earth element

[2.2] In the physical world, substance tends to flow from a high potential to a low potential. This is what the concept of "entropy" and the Second Law of Thermodynamics are based on. But in the etheric world of living energies, the inverse is true. Ether is naturally attracted to itself and flows from low potential to high potential. This is why living organisms continue to draw nutrients and life forces into themselves while the rest of the world is supposedly running down. Ether penetrates substance, and substance influences ether. This dynamic interplay is essential to life on the physical plane.

[2.3] Under favorable conditions, the following etheric condensations will occur:

Warmth Ether --> Light Ether, releasing energy as lightning
Light Ether --> Tone Ether, releasing energy as thunder
Tone Ether --> Life Ether, releasing energy as biological manifestation

[2.4] Recall that lightning and thunder sometimes occur independently of each other (as in "heat lightning" and "rolling thunder"), while at other times they are closely linked. Clearly any reasonable explanation for these phenomena must allow for both cases. The common notion that lightning and thunder are caused by static discharge between air masses is clearly untenable. A buildup of static charge in such magnitudes could only occur under extremely dry conditions; the typical thunderstorm is certainly not dry.

[2.5] The biodynamic researcher points to a well-defined cumulus cloud in mid-summer as the ideal collector of etheric energy. Hour by hour it grows, drawing abundant warmth ether from the atmosphere into itself as well as particles of dust and moisture. The cloud builds itself taller and taller - its boundaries sharply distinct from the rest of the sky. Eventually the cloud becomes saturated - turning darker and forming a mighty thunderhead. At this point, anyone who is familiar with weather patterns in open country is headed for shelter. They know that a violent thunderstorm could be unleashed at any moment.

[2.6] Just a few months ago the author observed such a phenomena in central Maryland. The top of the cloud was puffy and brilliant white, illuminated by the late afternoon sun. In contrast, the bottom was flat and dark, laden with moisture. Great bolts of lightning began to crackle about its upper regions. The air felt clear and energized while all around trees were bending and twisting in sudden gusts of wind. When the storm finally broke it was both fearsome and beautiful, a mighty discharge of lightning, thunder, and rain.

[2.7] We can surmise that the Joe cell becomes highly charged with etheric energy, and that this charge is transferred through the carburetor to the air entering each cylinder. As the compression stroke begins the volume of air is compressed, causing a further concentration of etheric charge. Soon the air becomes saturated with ether. At this point conditions in the cylinder are similar to those within the thunderhead. The ignition spark, far advanced into the compression stroke, serves to catalyze a condensation reaction of the compressed ether. This sudden change of state causes the air mixture to contract sharply, generating power through the remainder of the compression stroke. Therefore the air mixture in each cylinder undergoes a structural change, not a chemical one, and the flywheel is driven by *suction* rather than combustion. With the exception of small amounts of vapor from engine oil and perhaps trace elements from the engine and muffler, the exhaust should be of substantially the same quality as the air intake.

[2.8] Since warmth ether is the most rarefied ether, condensation will have the effect of reducing or consuming warmth. Therefore implosion is a cool process, which tends to absorb heat rather than release it. This matches observations of the Joe cell in which the engine runs cold. Unlike combustion, implosion is a "living" process, and as such produces no waste heat or by-products.

[3.0] All three styles of Joe cell are based on concentric, insulated cylinders. This is similar to the classic "orgone accumulator" discovered by Wilhelm Reich. Reich found that metals tended to conduct ether while organic materials tended to absorb it. By layering the two types of materials together, Reich caused a directional flow of ether to occur. The orgone accumulator was a six-sided box constructed with alternating layers of metal and non-metallic materials.

[3.1] The inclusion of a 1.5-volt battery to maintain the charged condition (and a 12-volt battery to create it) is an interesting variation on the orgone accumulator design. There is precedent for this idea in electrogravity documentation that has become available in recent years. (See the USAF report "Electrogravitic Systems" that was released in 1995 as well as patents by T. Townsend Brown.) The basic idea is that a charged condenser exhibits a tendency to move towards its positive terminal. This is thought to result from a net movement of ether in the opposite direction (from positive to negative). Therefore a static electric charge stimulates a directional flow of ether.

[3.2] The Joe cell design implies a net movement of ether from positive to negatively charged terminals (i.e. towards the center of the cell and towards the engine).

[4.0] The transfer of energy to the carburetor is accomplished by several different conductors including plastic, copper, aluminum and rubber tubing. The common material in all of these configurations is the *air* inside the tubing. This is consistent with the biodynamic view that oxygen is an excellent carrier of etheric forces. (Fertile soils are said to contain 50% air for just this reason.) The metallic carburetor housing would conduct the etheric energy to its interior surfaces, where incoming air would absorb it and carry it into the cylinders.

[5.0] In conclusion, the Joe cell offers a compelling view of how ordinary combustion engines might be modified to run on natural etheric energy. This could be an important direction for future research. Validation of the concept could be approached in three phases:

[5.1] Collecting a high concentration of etheric charge. For some ideas on how to accomplish this, see "Geometric Energy Fields" at <http://www.twelvestar.com/sourceworks/> which includes specific instructions for building resonant etheric devices.

[5.2] Stimulating a sudden condensation of ether by means of electric spark and measuring the implosion effect in a pressurized container.

[5.3] Achieving reproducible evidence of successive implosion events within a small engine mounted for laboratory testing.

Advanced Self-Powered Electric Vehicle Concept

Electric vehicles are clean, quiet, powerful, require much less maintenance than gasoline or diesel-fueled vehicles, and inherently much simpler and easier to manufacture. Their drawbacks have been a short range, long battery recharging time, and a heavy, bulky battery pack. Clearly, self-powered electric vehicles, if they could somehow be designed and manufactured at a reasonable cost, would be a commercial success. Forbes January 25, 1999 compares golf carts (400,000 already sold) with personal computers.

<http://www.forbes.com/forbes/99/0125/6302088a.htm>

Self-powered electric vehicles at minimum must satisfy four requirements: The battery ideally should not have the disadvantages of conventional lead-acid batteries such as temperature sensitivity, low charge-to-weight ratio, toxic materials, and finicky slow recharging. The electric motor should be durable and highly efficient. Heating and air conditioning must be provided. The really key difference from conventional electric vehicles is having an on-board battery charger.

Electric bicycles with only one battery are inherently more practical than conventional electric cars or trucks carrying a half-ton or so of batteries stuffed into every available nook and cranny of the vehicle. When just one battery out of one or two dozen batteries fails, the dead battery can be time-consuming to find before replacement. Once a dead battery is replaced, it could be a short time before another battery fails again. Besides weighting much less and with the batteries taking up much less space, a self-powered electric vehicle with an on-board battery charger would require at most only a few batteries.

What follows is a discussion of candidate technologies which could be combined into a reliable, commercially successful advanced self-powered electric vehicle.

BATTERY

Alvin Snaper's **Power Technology Battery**. Las Vegas resident Alvin Snaper (600 patents and new products) through his company, Power Technology, Inc., is developing a superior new battery with none of the drawbacks of all other types of batteries such as temperature sensitivity. Increasing the surface area of the electroplates by up to 1000 times greatly increases current output and allows much quicker charge/discharge rates. Different chemistry reduces the weight of the battery by 50%, reduces cost, and is much more environmentally friendly than lead. (For more information, see www.powerpwtc.com/business_of_issuer.htm.)

Maxwell Technologies **Ultra-Capacitor**. Since there is no heat nor waste product buildup as with electrochemical batteries, ultra-capacitors can easily last many hundreds of thousands of extremely rapid and deep charge/discharge cycles. They can supply repeated bursts of power for fractions of a second to several minutes. They are especially useful for supercharging power for accelerations or climbing. With their quick recharge capability, ultra-capacitors can easily capture regenerative braking energy, extending the range of the vehicle. For increased safety, they can be stored, assembled, maintained, and transported while completely discharged. Since the energy stored is directly related to the voltage, the amount of available energy can be easily monitored. This precision eliminates the need for sophisticated state-of-charge algorithms. Other advantages include temperature insensitivity and low maintenance.

Capacitors are inherently more capable than electrochemical batteries of withstanding quick discharges of electricity to the motor when the driver demands high acceleration by stepping on the throttle. It is conceivable that ultra-capacitors could be combined with batteries to take advantage of the best performance characteristics of both types.

Maxwell Technologies' commercially available PowerCache™ ultra-capacitors pack up to 100 times the energy of conventional capacitors and can deliver ten times the power of ordinary batteries. Their ultra-capacitor is a double-layer capacitor incorporating a unique metal/carbon electrode and an advanced non-aqueous electrolytic solution. As a potential is applied across the terminals, ions migrate to the high-surface-area electrodes. The combination of available surface area and proximity to the current collector provide an ultra-high capacitance for this electrostatic process.

Ukrainian Capacitor-Like Battery. The I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, has invented an entirely new type of battery. Emtech LTD., Mississauga, Ontario is commercializing the battery and has applied for 11 patents. A set of conventional lead-acid batteries can propel a small electric car for 100 miles or so, require several hours to recharge, and weigh 1000 lb. An equivalent set of Ukrainian batteries is expected to weigh approximately 200 lb., provide a much greater range of up to possibly 200-300 miles, require 15 to 30 minutes to recharge, and maintain full voltage until 94% discharge. The Ukrainian battery operates well in the temperature range of -40 to +60 degrees centigrade. A side benefit of the Ukrainian batteries is that they are made only of proprietary materials which are environmentally friendly, plentiful, and inexpensive. (Dated 1993; claims currently are not considered credible. Emtech LTD, which had the commercialization license, recently went bankrupt. Nu Omnicomm Technologies, Inc., of Salt Lake City, which has close ties to the I. N. Frantsevich Institute for Problems of Materials Science, may be able to revive the Ukrainian battery.)

A Ukrainian battery stores the charges in crystalline layers of a sheet-like material similar in appearance to mica. Due to nonlinear quantum mechanic effects, the electrical characteristic of each crystalline layer is that of a capacitor as thin as one molecule. Since capacitance is inversely proportional to thickness of the separation between layers, the practical consequence of the Ukrainian battery is to electrically function in a manner similar to that of a giant capacitor.

Ed Baldwin's **Super-Capacitor**. Similar in electrical function to the Ukrainian battery, Ed Baldwin's solid-state multi-layered "super-capacitor" has a very high dielectric constant. It is believed ultimately capable of ten times the electrical energy storage capacity per pound of lead-acid batteries.

Yasunori Takahashi's **ultra-capacitor**. The Takahashi ultra-capacitor is rated at approximately 20 farads at 25 volts in a volume of about one cubic centimeter.

Blacklight Power's **hydrino battery**. Blacklight Power is completing a 10-kilogram battery using hydrinos which can supply 150 horsepower for 1,000 miles.

ON-BOARD ULTRA-CAPACITOR/BATTERY CHARGER

The famous inventor Dr. Nikola Tesla reportedly modified and drove a Pierce Arrow automobile in 1931. Tesla's car required neither gasoline nor external battery charging. The power source was an array of vacuum tubes apparently similar to photo-multiplier tubes. Before and since then, dozens of other inventors claimed to have developed or are developing devices for converting relatively small input power to larger output power.

It is generally inaccurate to say that their devices produce more energy than they consume which would violate the widely accepted physical law of the conservation of energy. The accurate statement to make would be that a small external energy input causes very large internal energy to be transformed into large external energy output (electrical, thermal, and/or mechanical).

An on-board charger is required to keep the ultra-capacitor/batteries fully charged while the vehicle is parked as well as when the vehicle is motion. Parked in a garage, the car's battery charger could feed electricity back into the electric power grid and help pay for the car, if it were not for potential safety problems for power company workers. Descriptions of some of the more promising on-board charger technologies follow. (If only mentioned, see additional details above.)

Blacklight Power's "**hydrinos**". It is an exotic new source of clean energy from ordinary water.

Ken Shoulders' **high-density charge clusters** device (U.S. Patent 5,018,180). A nearly solid-state device, it ultimately may put out one kilowatt of electricity and one kilowatt of thermal energy per cubic inch. Its gain can be increased so that it puts out 30 times as much power as its input electrical power. However, the device's power conversion gain is more stable with the gain at about 5 times. (Still being researched.)

Trenergy's **plasma-injected transmutation**, Dr. Case's **gas-phase catalytic fusion, fiber-based cold fusion power cell**, and the **hybrid cold-fusion hydrogen reactor** have electric-to-thermal energy conversion gains as high as well over 100 to 1. Their energy comes from high-density clusters of electrons carrying small numbers of protons at very high velocities to target nuclei using relatively low voltages.

W. A. Lambertson's **WIN zero point electrical energy converter** extracts AC current as high as 9.908 amperes using an input current of only 0.2596 amperes. It generates electricity by collecting electrons between "E-dams" in a vacuum. A charge of electrons is oscillated in a tank circuit, and energy is collected or added to that charge from the vacuum. Solid-state with no moving parts and no size restrictions, individual units may eventually be built to power a 15-kilowatt home or a 20-megawatt arc furnace with an efficiency of 1000% or ten times the external input power.

The Correas' **pulsed abnormal glow discharge reactor** is an over-sized glass vacuum tube which uses high-density charge clusters to produce useful positive AC-to-DC electrical power conversion gains such as 483%.

Converter of Zero-Point Electromagnetic Radiation Energy to Electrical Energy. Converts very high frequencies of natural fluctuations of the universal electromagnetic radiation field to usable electrical power at much lower beat frequencies.

John Searl's **Searl effect generator** has three concentric rings of magnetic rollers. Brushes positioned around the outer ring of rollers pick up electricity.

Frank Richardson's **electrical generator**. Two pairs of electromagnets warp permanent bar magnet's magnetic fields back and forth across field coils to achieve over-unity electrical energy conversion gain. Requires additional resonant circuit components.

ELECTRIC MOTOR

Of the many types of electrical rotating machines that have been developed, of particular interest are those which are claimed to incorporate permanent magnets in order to develop more mechanical output power than their electrical input power. Such claims are considered suspect by many skeptics since they apparently violate the so-called law of conservation of energy. Skepticism is often reinforced by frequent power gain measurement errors. However, it has also been suggested that the key to over-unity power conversion gain in such motors is to use super-powerful permanent magnets at a very high rotating speed. A so-called "super-efficient" electric motor, besides providing motive power, could also act as an on-board capacitor/battery charger whether the vehicle is cruising, idling, or parked.

Perm-Mag Motor. An over-unity energy converter claimed to have a gain of up to several times of shaft rotational power over electrical input power, the super-efficient “perm-mag” motor generates 1 horsepower per pound of weight. Used in a self-powered electric vehicle, a 50-pound, 50-horsepower electric motor is equivalent to a 250-horsepower gasoline-fueled engine.

The perm-mag motor’s inventor, Ronald Brandt, has successfully demonstrated a 10-pound, 10-horsepower prototype. Further research is expected to lead to a substantial increase in energy conversion gain over the reported gain of 400%. A 50-pound, 50-horsepower model (equivalent to a 250-horsepower gasoline-fueled engine) is currently being mounted in a Chrysler New Yorker for testing. Its companion controller, which is required to complete the resonant circuit for achieving over-unity gain, has been designed. It is not known yet whether a separate on-board battery charger will still be needed for a completely self-powered electric vehicle.

It should be noted that just because a motor can produce more mechanical power than its electrical input power does not necessarily mean that it is suitable for powering an electric vehicle. An electric vehicle motor ideally should have a number of other characteristics such as reversibility, complete variable power control, complete variable speed control, braking, and stepping. It is understood that the perm-mag motor meets all performance requirements for powering electric vehicles. It is not known how the perm-mag motor specifically compares with other types of over-unity motors.

Other Over-Unity Magnetic Motors. There are several other types of magnetic motors claimed to have over-unity energy conversion gain such as the ones that have been developed by Aspden, Reed, Watson, Bergman, Johnson, Labine, Tewari, and Marinov. For example, Teruo Kawai of Tokyo, Japan recently obtained U.S. Patent 5,436,518 for his “Motive Power Generating Device”. The patent’s key statement is as follows: “Electric power of 19.55 watts was applied to the electromagnets at 17 volts and 1.15 amperes. . . . an output of 62.16 watt was obtained.” Dividing the output power by the input power yields an efficiency of 318%. However, as stated above for the perm-mag motor, such motors may not necessarily have all the characteristics needed for powering electric vehicles. Power gain measurements also can be misleading.

COMPRESSED AIR-DRIVEN AIR CONDITIONER/HEATER

Alvin Snaper has patented a compressed air-driven air conditioner/heater. It relies on the principle of a vortex tube. Air whirled in a vortex tube separates with the cold air molecules collecting in one portion of the tube, and the warm air molecules collecting in another portion of the tube. The cold air is expelled from one end of the tube, and the warm air is expelled from the other end. It can be switched between providing 90% cold air and 10% warm air, or 10% cold air and 90% warm air.

The metal tube is about a foot long and a half-inch in diameter with a two-inch long compressed air intake tube perpendicularly attached about three inches from one end. The intake compressed air requirement specifications are 7 CFM at 40 PSI. The volume of air expelled is twice that of a refrigerant-type automobile air conditioner while requiring only one-fourth the horsepower. Also, no warm-up period is required as with conventional air conditioners or heaters. Its efficiency is nearly 30%.

The vehicle would have a redundant pair (for increased reliability) of air compressors for pressurizing the vehicle’s tubular frame which would also serve as a storage chamber. The heavy (no fuel economy requirement) and strong (for safety) tubular frame would help distribute compressed air to the power steering, power brakes, power seats, power windows, windshield wipers, door locks, air conditioner/heater, and a computer-controlled air ride suspension system.

CONTINUOUS CLIMATE-CONTROL SYSTEM

Since the vehicle’s on-board super-capacitor/battery charger is expected to keep the super-capacitor/batteries charged even while the vehicle is parked, the vehicle’s interior temperature could be thermostatically controlled at a comfortable room temperature 24 hours per day, seven days a week regardless of the exterior temperature.

LOW-TEMPERATURE DIAMOND COATINGS

Durability would be enhanced by coating parts such as shock absorbers with diamond using a new nondestructive low-temperature coating process which also was patented by Alvin Snaper.

ADVANCED COMPUTER-CONTROLLED SUSPENSION SYSTEMS

Computer-controlled hydraulic shock absorbers as well as the computer-controlled air ride suspension system would be supplied by Aimrite Systems International, Inc., which owns the patents. Aimrite's Computer-Optimized Adaptive Suspension Technology (COAST) system replaces a vehicle's conventional shock absorbers with specially designed hydraulic shock absorbers. The COAST system utilizes a sophisticated computer and position sensors to monitor the vehicle's level at each corner. The computer's microprocessor checks the sensors 240 times per second and optimally regulates the damping on all four shocks based on this input. The firmware used in the microprocessor is patented and represents the most important element in the COAST system. It controls nine dynamic and static parameters of motion (roll, pitch, sprung natural frequency, unsprung natural frequency, pumping down, stored energy, topping out, bottoming out, and height).

The COAST system is not only totally automatic, but it monitors and controls the vehicle's ride performance on a continuous basis providing soft and stable ride characteristics at all times as needed. The ride is comparable to active systems without the need for pumps nor high-speed servo-valves.

Each shock absorber is actually a complementary pair of shock absorbers mounted in opposing vertical compression/rebound modes. The computer sends signals to valves to release pressure as required. Aimrite considers its shock absorbers more durable and react faster than competing computer-controlled shock absorbers which apply pressure when needed. A built-in safety factor is that if the computer fails, the result is conventional damper operation, and failure of an individual damper is equivalent to failure of a conventional shock absorber.

Aimrite's air ride suspension system replaces a vehicle's front coil springs and rear leaf springs. The air suspension comprises of a high-quality control subsystem that includes the aforementioned dual redundant air compressors, air dryers and filters, position sensors, computer-controlled solenoid valves, and a dashboard-mounted control to ensure proper operation and a long and reliable life of the air suspension in all weather and driving conditions. While stopped or driving, the control subsystem allows the operator to easily maintain the correct ride height under all loading conditions. For example, the chassis can be raised for a bumpy ride and lowered for stable highway driving. The vehicle body is automatically leveled at all four corners, even when parked on an uneven surface.

Aimrite's suspension provides a full air suspension ride, with increased comfort and control. Built-in safety capabilities are provided that virtually eliminate traditional problems associated with air ride suspension systems.

Combining Aimrite's two computer-controlled suspension systems would offer a luxurious ride with sports-car control and additional features at a reasonable price.

MONOCOQUE (UNIBODY) BASALT/CARBON FIBER FOAM BODY/FRAME

Developed by the I. N. Frantsevich Institute for Problems of Materials Science, Kiev, Ukraine, basalt/carbon fiber foam is extremely strong yet lighter than fiberglass. Test vehicle made with basalt/carbon fiber foam parts was only vehicle ever tested that can cut through a cast-iron London taxicab in a collision.

MARKETING

By combining these superb new technologies into an advanced self-powered electric car that would be superior to any other car even envisioned, it is evident that it should not be very difficult to sell a reasonably priced car which would offer the following features:

- Continuous climate control even while parked.

- Computer-controlled luxurious ride with sports-car control and automatic leveling even while parked.
- Powerful but quiet and emission-free electric motor.
- Much less hassle with bothersome and costly maintenance such as oil changes, tune-ups, etc.
- No dangerous gas tank taking up space.
- Only a few maintenance-free lifetime environmentally benign super-capacitors/batteries.
- Heavy pressurized tubular frame and basalt/carbon fiber foam body for increased safety.
- And, above all, never requires refueling nor electricity recharging.

HYDRO-MAGNETIC DYNAMO

The hydro-magnetic dynamo is a recent addition to this compilation of advanced technologies. The dynamo appears to be this report's only large-scaled emission-free electrical generator which does not require external fueling. The dynamo is capable of powering larger transportation vehicles such as buses, trucks, ships, locomotives, and airplanes. Doubt remains about making dynamos compact enough to power automobiles.

The circumstantial evidence for the Russian inventor's performance claims for his hydro-magnetic dynamo is reasonably strong. While three experimental prototypes have been built with Russian and Armenian expertise and equipment, a fourth demonstration prototype needs to be built with more modern Western engineering expertise and equipment to verify dynamo performance claims and to further explore the dynamo's potential capabilities. Performance claims are as follows:

Dynamos are scaleable from 100 kilowatts to 1,000 megawatts. One 1000-megawatt dynamo is about the size of a two-car garage. For comparison, Hoover Dam's 17 generators have a total rated capacity of 2,000 megawatts.

A dynamo can reliably run continuously for 25 years or more with little or no maintenance, no external fuel source, and no pollution. If a dynamo's output is 1,000,000 watts, its total input power is approximately 10,000 watts. So the dynamo's energy efficiency is 10,000%, or 100 to 1.

The source of the dynamo's massive electrical output is a nuclear reaction which is not generally known to mainstream science. However, it is known that the dynamo produces alpha particles which are helium nuclei made from fused deuterium, an isotope of hydrogen with one proton and one neutron. The electrons missing from the helium nuclei are what seem to provide a copious "sink" of electricity, and which happen to be the secret to the dynamo's ability to generate an exceptionally large amount of electricity. It is also known that the dynamo uses high-density charge clusters. High-density charge clusters are the basis of plasma-injected transmutation of elements and also neutralization of radioactive materials.

There were three dynamo prototypes built. The first two small experimental prototypes were built in Vladivostok. The third and last prototype continuously generated electricity, except when turned off to incorporate improvements, from 1992 to January 1997 in Armenia. (It was sadly destroyed during an armed rebellion by local religious fanatics unhappy with the Armenian government.) It generated a constant current of 6,800 amperes at 220 volts DC. That multiplies out to nearly 1.5 megawatts. The Armenian prototype dynamo's toroid weighed 900 kilograms and had a diameter of approximately 2 meters.

Cooling water is circulated through copper pipes wrapped around the toroid. The heat is expelled from the cooling water with a heat exchanger.

After a dynamo is assembled in a factory, the water is literally jump-started (by discharging a large bank of capacitors) to moving around the toroid. The dynamo's controls are temporarily set to generating enough of a modest amount of electricity to sustain itself, even while being transported from the factory to its site. For the Armenian prototype dynamo, two 10-farad capacitor banks (from Russian military radar stations) were used to provide the initial water motion (acceleration and excitation of water). Using a total of 20,000 joules, 100,000 volts with 0.05 amperes of current were applied to the Armenian dynamo for 3 - 5 minutes for starting its generation of electricity.

After these Russian radar capacitors were used to jump-start the Armenian prototype dynamo, a bank of buffer batteries sustained continuous operation when water motion and ionizing occurs. This battery bank contained 8 powerful 12-volt, 150-ampere lead batteries. The Armenian dynamo's sustaining input power was 14,400 watts. The nominal maximum output power is nearly 1,500,000 watts. Once, the output current was accidentally increased to 40,000 amperes for almost a minute. Fortunately, the power was reduced to a safe level before the water started to boil. Internal coils (windings) control water velocity and therefore dynamo power.

The dynamo's production cost is estimated at \$500 per kilowatt which is competitive to nuclear power's capital costs of \$5,000 per kilowatt, windmill capital costs of \$4,000 per kilowatt, etc. A well-run nuclear power plant can generate power for 1.5 cents per kilowatt-hour, coal 1.8 cents, natural gas 3.4 cents, and oil 4.1 cents, on the average. The dynamo's operating cost would be approximately .1 cent per kilowatt-hour with no external fuel needed nor pollution.

Dynamos could replace all nuclear power plants, solar installations, wood-burning furnaces, hydro-electric dams, windmills, fossil-fueled power plants, etc. Satellites, locomotives, heavy trucks, airplanes, and ships are obvious transportation applications. It does not seem that dynamos can be made compact enough to power electric cars although it certainly would be worth trying.

A Forbes article states that PECO (formerly Philadelphia Electric Company), with an income stream to back it up, was able to sell on Wall Street \$4 billion worth of bonds paying 5.8 per cent. A dynamo manufacturer could simply sell bonds to build and operate dynamos at a low interest rate. Dynamo loan payback times may be in the ballpark of a half-year to a year, depending on the local electricity market price. As soon as a dynamo is paid for, the revenue from that time on would be almost pure profit. Once a track record is established by successfully installing a few dynamos, the dynamo company could raise money to build more dynamos by simply selling billions of dollars of bonds instead of stock. So therefore, there wouldn't be any dilution of ownership.

A recent IEEE Spectrum article stated that world demand for electricity increases approximately 500 megawatts every day. To put this in perspective, the equivalent of another Hoover Dam would have to be built every four days to keep up with world electricity increase demands. Or, a dynamo manufacturing company would have to build another 500-megawatt dynamo every single day to keep up with world electricity increase demand in addition to replacing all existing generators fueled by hydro, nuclear, and fossil fuels.

The following is a highly condensed summary of the "Description" of the dynamo's Russian patent
IPC H 02 K 44/00 "Method of deriving of electrical energy and organization of Gritskevich's MHD-generator for its realization":

The dynamo is a sealed toroid filled with distilled water with heavy water (deuterium oxide) added. Movement of water inside the closed loop and use of unique properties of water as a polar liquid cause a release of electrical energy as an outcome of a rupture of hydrogen connections. Additional electrical energy is drawn from nuclear reactions and micro-cavitational processes. The liquid gets ionized and moving around the toroid at start-up time by a running magnetic field with the help of stimulating electromagnetic windings.

A layer of segnetoelectrical material covers the internal surfaces of the toroid. 32 electrodes made from a hard-alloy material are inserted into the toroid at equal distances apart. These 32 electrodes are connected to a power supply. Additional stimulation windings are also connected to the power supply.

The partially pre-ionized (on the part of the heavy water) water gets ionized further by the high-voltage discharges by the 32 electrodes. With the help of the stimulation windings, a running magnetic field is created which moves the water in one direction inside the toroid. An electromotive force gets created by the electromagnetic induction in a separate set of windings. During the movement of the water stream free electrons get created, and an additional energy gets emitted because of the water's friction (viscosity) against the layer coated on the inside surface of the toroid, because of electrostatic breakdowns of cavitational-vacuum structures (probably same phenomena used by the hydrosonic pump – see above), and because of the ongoing nuclear reaction. 100 times as much electrical energy is generated as required for electrical energy input.

Thank you for your comment, Gary Vesperman.

The comment tracking number that has been assigned to your comment is SolarD10050.

Comment Date: February 21, 2011 00:06:04AM
Solar Energy Development PEIS
Comment ID: SolarD10050

First Name: Gary
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Attachment: Boulder City anti-wind energy version 3.doc

Comment Submitted:

I advocate developing new energy inventions instead of spoiling our beautiful empty spaces with wind turbines and solar power developments.

The small photovoltaic panels seen on top of billboards and bus stops are practical because they can use on-site car batteries for temporary electricity storage.

As explained in the May 2009 Nevada Business Journal article in <http://nevadabusiness.com/issue/0509/38/2032> (or click on www.nbj.com and select May 2009), power companies have to resort to inefficiently maintaining increased spinning reserve as their large-scale "car battery" to compensate for the sporadic production of wind and solar power.

Spring 2010 the Boulder City City Council appointed me and Joe Liebhauser to write the anti-wind energy argument for a Boulder City advisory question to be voted upon November 2010. Attached is our anti-wind energy argument that was submitted to the Boulder City City Clerk for inclusion in the November 2010 election ballot materials sent to Boulder City voters.

Also included in the November 2010 election ballot materials was our rebuttal to the pro-wind energy argument which is copied as follows:

"After a temporary boost in construction jobs, a typical wind farm only employs a few maintenance workers.

Large wind turbines fail to achieve some positive environmental goals such as energy independence, lower environmental damage, and domestic economic security. For example, a single large wind turbine's permanent magnets, needed to generate the electric current, contain significant quantities of rare earths such as neodymium.

Chinese mines supply 95% of the world's rare earths. They engage in environmentally questionable practices such as unreclaimed strip mining. Thus, wind energy would still create negative environmental impacts and increase our dependency on foreign mineral exploitation for its components.

The U.S. DOE's projection of wind energy providing 20% of our electricity within 20 years may not be realistic.

Wind energy technology is not perfected and ready for full deployment. Dedicating and disturbing Boulder City lands for wind research is not needed, as there are numerous wind energy sites already developed worldwide that are available for such research. Boulder City should avoid dedicating its lands to experimental technologies that may needlessly impact our natural resources. If and when wind energy becomes viable, then Boulder City voters can make a reasoned choice to dedicate land to wind energy production."

(End of rebuttal to pro-wind energy argument.)

Boulder City voters unfortunately passed the pro-wind energy advisory question by a margin of 3 to 1. For the text of our arguments see also <http://www.energy-resource.co.za/content/energy-resource/ejournal/news-a-articles/articles/item/938-boulder-city-nevada-anti-wind-energy.html>.

Please note that much of our anti-wind energy arguments are also effectively anti-solar energy arguments.

Numerous engineers and technicians would gain practical experience developing new energy inventions and be provided badly needed employment instead of wastefully collecting unemployment benefits.

I am confident that vigorous development of new energy inventions would eventually lead to practical replacements of wind turbines and solar power plants.

Additional development in the Eldorado Valley Transfer Area for wind farm use would negatively impact scenic views, recreation, and wildlife habitat. Unpaved roads, disturbed wind turbine sites, and power line construction create dust and may encourage vehicle incursions into the Conservation Easement.

Large wind turbines are visually intrusive, hazardous to birds, bats and small aircraft, and can cause “shadow flicker,” “blade glint,” noise, and harmonic ground vibration over many square miles. Nearby residents may suffer loss of sleep and nausea called “wind turbine syndrome”.

Poor reliability and performance experience has shown wind turbines are not economical or profitable without significant government subsidies. Wind turbine failures are common. Replacing a large turbine gearbox can cost \$500,000 and take several months. Governments may subsidize wind turbine construction but often will not then help pay for maintenance and expensive repairs. Eventually Boulder City’s lands could be scarred with abandoned wind turbines, as experienced in southern California.

To ensure reliable electric utility supplies, regulated electric utilities need dependable constant output generation. Utilities must inefficiently burn more fuel in their baseload generators to compensate for sporadic production of wind-generated electricity. Japan has disconnected wind turbines from their electric grid due to the inability to maintain a steady supply of power.

New energy sources are in development that soon may make wind energy completely obsolete. The New Energy Congress has compiled 100 new energy technologies. Some new energy sources may produce much steadier and cheaper electricity than wind turbines.

The limited revenue from any potential land sale or lease in the current distressed market would not justify the visual, acoustic, power grid, economic, and environmental effects from potentially impractical Eldorado Valley Transfer Area wind farms.

Vote no on Question 4.

Thank you for your comment, Jeffrey Pauly.

The comment tracking number that has been assigned to your comment is SolarD10051.

Comment Date: February 21, 2011 12:50:59PM
Solar Energy Development PEIS
Comment ID: SolarD10051

First Name: Jeffrey
Middle Initial: M
Last Name: Pauly
Organization:
Address: 30 Locust Drive
Address 2:
Address 3:
City: Yerington
State: NV
Zip: 89447
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hello:

I am sending another comment since reading through the draft regarding the SE sites (my ID # is SEDD10027)

I have concerns over the information gathered for the Goldpoint site. It appears that there is little concern over the impact on the residents and visitors to Goldpoint.

In the draft report it is stated that the site with "dominant the views" from Goldpoint, and depending on conditions, might result in the "appearance of light streaming down from the towers". Also lights on the towers would be very conspicuous. It is also noted that residents and visitors to the area "may experience visual impacts from the solar energy facility".

All of this is alarming to me and of concern that the draft report says nothing about any possible health related problems that may occur to those living in close proximity of the SEZ.

If it is decided to move ahead with using this area for an SEZ, then I believe a health assessment for the residents and visitors will need to first be undertaken. I will also contact both my Federal representative and State representatives about this problem. I believe it is something the BLM has overlooked and needs to do further research into.

I continue to maintain that there are numerous other areas that would not be an impact to local residents and visitors.

Should the BLM ignore these concerns, then it may be necessary to take this to the Judicial system to have the project stopped until these issues are resolved.

Jeff Pauly

Thank you for your comment, Rita Guidi.

The comment tracking number that has been assigned to your comment is SolarD10052.

Comment Date: February 21, 2011 20:41:32PM
Solar Energy Development PEIS
Comment ID: SolarD10052

First Name: Rita
Middle Initial: L
Last Name: Guidi
Organization:
Address: PO Box 2578
Address 2:
Address 3:
City: Wickenburg
State: AZ
Zip: 85358
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to increase generation of renewable energy in order to limit harmful greenhouse gas emissions. However, the Draft Programmatic EIS focuses on an unnecessarily destructive method of achieving this goal by sacrificing treasured public lands. The Draft Programmatic EIS should include a fourth alternative that encourages distributed generation (commonly referred to as "rooftop solar") or development on already-disturbed lands.

The Departments of Interior and Energy should work with the Environmental Protection Agency (EPA) to institute incentives for energy companies that build on lands identified in EPA's "RE-Powering America's Land Program," or on other lands that have been previously disturbed for agriculture or industry.

The Draft EIS does not adequately assess the environmental impacts of industrial development in either of the three proposed alternatives, nor does it assess the impacts of transmission line upgrades that will be required by the projects. In addition to the lack of a disturbed lands and distributed generation alternative, an inadequate understanding of the cumulative impacts of such widespread energy development in America's southwest will hinder the government's ability to identify which policy represents an ideal way forward for renewable energy.

The "Solar Energy Development" program should not be the "preferred alternative," since it closely resembles the status quo, whereby energy companies are applying to use sites that are inappropriate for industrial development. This program will still result in a lengthy and expensive environmental review process for energy companies, and it will severely fragment America's desert ecosystems.

The "Solar Energy Zones" identified in the Draft Programmatic EIS would concentrate development on pristine desert habitat of importance to imperiled plant and wildlife. The Riverside East, Pisgah, and Iron Mountain Zones in California will have significant cumulative impacts on the threatened Mojave fringe-toed lizard and desert tortoise. The Imperial Zone has already been determined to contain hundreds of sites of cultural significance to Native American tribes, and prime habitat for the threatened flat-tailed horned lizard.

Hundreds of square miles of industrial development in these zones will lead to cumulative ecological damage that the proposed mitigation measures will not be able to reverse.

Thank you for your comment, Brian Swope.

The comment tracking number that has been assigned to your comment is SolarD10053.

Comment Date: February 21, 2011 23:19:44PM
Solar Energy Development PEIS
Comment ID: SolarD10053

First Name: Brian
Middle Initial: M
Last Name: Swope
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar power is absolutely necessary to meet the energy needs of the 21st Century. However, its production must be done in a manner that does not sacrifice irreplaceable pristine desert habitat. I and many others love the desert for its panoramic vistas as well as for the unique life forms that are found there and nowhere else.

New solar generating plants should be concentrated on already-disturbed land and on existing rooftops, not on wild desert lands. Destroying the desert in the name of clean energy is a short-sighted contradiction to the meaning of the word "green". Once the desert has been converted to an expansive industrial zone it will be gone forever. Please do not let this happen.

Thank you.

Brian M. Swope M.D.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10054.

Comment Date: February 22, 2011 17:30:18PM

Solar Energy Development PEIS

Comment ID: SolarD10054

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

I support solar development in Arizona, but please do not develop this in important wildlife habitats and key areas.

Thank you for your comment, Eugene Romanski.

The comment tracking number that has been assigned to your comment is SolarD10055.

Comment Date: February 22, 2011 17:46:20PM
Solar Energy Development PEIS
Comment ID: SolarD10055

First Name: Eugene
Middle Initial: J
Last Name: Romanski
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Thank you for providing me the opportunity to comment on the Draft SED PEIS.

First, let me state that I spend a great deal of my time working as an archaeologist and exploring and enjoying the AZ, CA, and NV country where solar energy development is proposed. I love the environs and I'm very interested in the scale of development being proposed. I have three main concerns:

- I feel that the proposed "Solar Energy Zones" constitute excellent initial targets for development, and that opening an additional 21 million acres to potential solar development is not necessary or acceptable.
- I would like to see the Solar Energy Zones clearly identified, and vetted by public officials, conservationists, and developers.
- I want the BLM to encourage the construction of projects on these Solar Zones sites. If and when the identified Solar Zones become fully utilized, I would then urge the BLM to create additional Zones as needed with public input and environmental review.

Thank you for your comment, Rita Smalling.

The comment tracking number that has been assigned to your comment is SolarD10056.

Comment Date: February 22, 2011 19:32:30PM
Solar Energy Development PEIS
Comment ID: SolarD10056

First Name: Rita
Middle Initial: J
Last Name: Smalling
Organization:
Address: 4711 E. Brisa del Norte
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 857183601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I totally believe in solar energy, but I do not want the photovoltaic fields set up in sensitive ecological areas, of which we have many in Arizona.

Thank you for your comment, Mary Ann and Frank Graffagnino.

The comment tracking number that has been assigned to your comment is SolarD10057.

Comment Date: February 22, 2011 19:55:16PM
Solar Energy Development PEIS
Comment ID: SolarD10057

First Name: Mary Ann and Frank
Middle Initial:
Last Name: Graffagnino
Organization:
Address:
Address 2:
Address 3:
City:
State: AZ
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My husband and I had solar panels installed on our home over two years ago. The panels are neat, clean and unobtrusive. Our electric bills have been \$8.00 per month and we have even got rebates. We were thrilled to see that the new housing units on Davis Monthan Air Base have solar panels. Solar energy is the answer to many of our energy needs and should be pursued vigorously. Also, we will not fight wars over solar energy since it is universal, unlike coal or oil.

SOLAR IS A WIN WIN PROPOSITION FOR AZ, the US and the WORLD. LET'S LEAD THE WAY.

Thank you for your comment, Stacy Blackmer-Blomquist.

The comment tracking number that has been assigned to your comment is SolarD10058.

Comment Date: February 22, 2011 20:59:39PM
Solar Energy Development PEIS
Comment ID: SolarD10058

First Name: Stacy
Middle Initial:
Last Name: Blackmer-Blomquist
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Dear Sirs:

Please allow responsible building of solar energy plants on public lands. I live in a place that could gain substantially by solar plants. I approve of the building of these plants as long as they do not endanger wildlife or habitat.

Thank you for your comment, Joanne Vuillemot.

The comment tracking number that has been assigned to your comment is SolarD10059.

Comment Date: February 22, 2011 23:15:19PM
Solar Energy Development PEIS
Comment ID: SolarD10059

First Name: Joanne
Middle Initial:
Last Name: Vuillemot
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Opening an additional 21 million acres to potential solar development is not acceptable. Westerners want solar energy zones clearly identified and vetted by conservationists, developers and public officials alike. The public wants the BLM to encourage the construction of projects on these solar zones sites. If and when the identified solar zones become fully utilized, the BLM will create additional zones as needed with public input and environmental review.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10060.

Comment Date: February 23, 2011 10:56:51AM
Solar Energy Development PEIS
Comment ID: SolarD10060

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I fully support solar energy and are pleased to see that Arizona is leading the way. HOWEVER we must ensure that we are not harming the environment, wild places and wildlife survival and habitat. Thorough impact studies MUST be conducted before any solar project takes place. Otherwise we are solving a huge problem and creating another one of unforeseen consequences for our own survival.

Thank you for your comment, Barbara Rose.

The comment tracking number that has been assigned to your comment is SolarD10061.

Comment Date: February 23, 2011 15:06:21PM
Solar Energy Development PEIS
Comment ID: SolarD10061

First Name: Barbara
Middle Initial:
Last Name: Rose
Organization: Bean Tree Farm
Address: 8965 N Scenic Drive
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85743
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development is a big part of the solution to global climate change. Planned, located and built responsibly, energy projects can avoid harm to wildlife in fragile desert environments, national monuments and other places we value for their natural beauty or cultural history.

I feel that a sustainable energy future lies in distributed energy systems, located where the need exists- on rooftops of large public and private buildings in urban areas, and on the roofs of millions of residents and businesses everywhere. Distributed energy systems are less expensive to build, provide greater security to those they serve, and can be connected through the grid that now exists, instead of having to build huge new lines through still more environmentally sensitive public lands.

Federal agencies have made a sensible decision to not process any new solar applications until they develop a comprehensive development program through a programmatic environmental review. And it would be wise to remember that we have more and perhaps better energy choices available than just throwing up more, massive "utility-scale" behemoths on public land.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10062.

Comment Date: February 24, 2011 15:14:46PM
Solar Energy Development PEIS
Comment ID: SolarD10062

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

First, I would like to thank the BLM and DOE for their time in preparing the Draft PEIS for Solar Energy Development in Six Southwestern States. I believe that this document is a huge step forward in selecting appropriate sites for solar energy development. However, I feel that much more work needs to be done to allow the document to serve its intended purpose.

I am a strong supporter of decentralized solar power. Three years ago at my job as an environmental consultant I participated in the rare plant surveys for the Ivanpah Solar Electric Generating System (ISEGS). At first I was overwhelmed by the scale of the project, but as I flew over the sprawling suburban areas of Las Vegas on my way to the airport, I was disgusted by the fact that I did not see a single solar panel atop commercial or residential buildings. Shouldn't we cover every rooftop surface and other previously developed areas (i.e. parking lots) with solar panels before we even consider going to our undeveloped public lands and wiping out the natural communities? With the exception of a few scattered weed populations, the Ivanpah site is a pristine land that provides habitat for desert tortoise (who have a high rate of mortality when relocated) and rare plants. I have also participated in rare plant surveys for wind farms in the Tehachapi area, which have consisted of beautiful and diverse habitat that end up scarred and permanently altered by large scale grading. So many large areas have not been surveyed by biologists. Our survey team discovered a new species in the lily family at a site last year. To create priority "zones" without knowing what is there is dangerous. Though I believe a focused "zone" approach is a good way to evaluate siting these large projects, we can't assume that areas that lack documented occurrences of rare plants and animals are actually lacking these resources. More work needs to be done to identify appropriate sites and avoid impacts to our valuable and limited resources.

Though I know it isn't BLM's responsibility to encourage decentralized solar development in residential or commercial areas, I think that it would be very beneficial to build some type of matching program into the mitigation measures involved for large solar development on public land. There could be a ratio required of proponents having to subsidize X megawatts of solar panel installation on residential or commercial rooftops to install Y megawatts on public land.

Population growth and energy demand are not slowing. Though developing large solar installations may help with some of the energy demand, it is not a sustainable and viable solution. BLM should encourage decentralized solar development, use of already impacted lands for large solar developments (i.e. abandoned agricultural areas where desert wildlife communities have already been destroyed), and as a last resort a zoning approach for developments on BLM land that are in areas with the absolute least environmental impact possible.

Thank you for considering my comments.

Thank you for your comment, Ann McDermott.

The comment tracking number that has been assigned to your comment is SolarD10063.

Comment Date: February 25, 2011 10:57:52AM
Solar Energy Development PEIS
Comment ID: SolarD10063

First Name: Ann
Middle Initial: F
Last Name: McDermott
Organization:
Address: 29212 N. 155th Ave.
Address 2:
Address 3:
City: Surprise,
State: AZ
Zip: 85387
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Love the idea of PEIS, but please don't use land that meets Wilderness requirements. Use land that's already had its environmental integrity compromised. We've plenty of that. What we don't have is plenty of land that's true wilderness anymore.

Thank you for your comment, Ann Bley.

The comment tracking number that has been assigned to your comment is SolarD10064.

Comment Date: February 26, 2011 19:46:22PM
Solar Energy Development PEIS
Comment ID: SolarD10064

First Name: Ann
Middle Initial:
Last Name: Bley
Organization:
Address: 1184 Clouds Rest Point
Address 2:
Address 3:
City: Mesquite
State: NV
Zip: 890341004
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It has come to my attention that in addition to opening up the 7 solar energy development zones in NV, also under consideration is opening up an additional 9.1 million acres in Nevada as potential area for solar development. It is my understanding the the current 7 SEZs with the others identified in the west should be sufficient to supply future planned solar energy development. As a result, I am asking that BLM NOT open the additional 9.1 million acres.

In addition:

- 1) Solar Energy zones should be clearly identified and vetted by conservationists, developers and public officials;
- 2) BLM should encourage the identified 7 SEZs in Nevada as the locations for future construction projects. If additional land is required, BLM should create additional zones with public input and environmental review.

Thank you for your consideration of my comments.

Thank you for your comment, Renée Guillory.

The comment tracking number that has been assigned to your comment is SolarD10065.

Comment Date: February 27, 2011 20:29:10PM
Solar Energy Development PEIS
Comment ID: SolarD10065

First Name: Renée
Middle Initial: H
Last Name: Guillory
Organization:
Address: 1127 E Bluebell Lane
Address 2:
Address 3:
City: Tempe
State: AZ
Zip: 85281
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support BLM developing solar/wind energy on public lands. I think the way best to do this - to save the agency and the public a great deal of cost and bureaucracy (and time) - is to create Solar Energy Zones. I therefore add my name in support of the Solar Energy Zones Alternative being discussed at this week's meetings. I strongly oppose sacrificing precious wilderness or other ecologically-sensitive wild lands even to renewable energy development. Thanks for entering my comments into the public record.
Sincerely, Renée H Guillory

Thank you for your comment, Renée Guillory.

The comment tracking number that has been assigned to your comment is SolarD10066.

Comment Date: February 27, 2011 20:29:11PM
Solar Energy Development PEIS
Comment ID: SolarD10066

First Name: Renée
Middle Initial: H
Last Name: Guillory
Organization:
Address: 1127 E Bluebell Lane
Address 2:
Address 3:
City: Tempe
State: AZ
Zip: 85281
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support BLM developing solar/wind energy on public lands. I think the way best to do this - to save the agency and the public a great deal of cost and bureaucracy (and time) - is to create Solar Energy Zones. I therefore add my name in support of the Solar Energy Zones Alternative being discussed at this week's meetings. I strongly oppose sacrificing precious wilderness or other ecologically-sensitive wild lands even to renewable energy development. Thanks for entering my comments into the public record.
Sincerely, Renée H Guillory

Thank you for your comment, ellen spears.

The comment tracking number that has been assigned to your comment is SolarD10067.

Comment Date: March 1, 2011 11:33:09AM
Solar Energy Development PEIS
Comment ID: SolarD10067

First Name: ellen
Middle Initial:
Last Name: spears
Organization:
Address: 7445 gomer
Address 2:
Address 3:
City: las vegas
State: NV
Zip: 89178
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My name is Ellen Spears. I am a native to Nevada. Last week I was given an article from a fellow co worker about this project. I can't tell you how happy and excited I was to find out that our government and private companies were co opting to provide clean energy to the people. Nevada is one of six states that could become a model on renewable resources to the American people and to the world.

Research:

However, upon investigation I learned that not only was 677,400 acres are to be leased from BLM lands at an assessed market value (?) But, private industry that co opts with our government doesn't have Nevada's best interest in mind. They do not have to pay any royalties to BLM or any of the grant monies that were initially given to them in the amount of \$50 million. They/ you would simply rent cheap land, reduce Nevada's natural resources, change Nevadans way of life, and then pocket the proceeds. (Question: Why are private industries receiving grant monies for research? Why aren't our institutions of higher learning receiving this money? It makes sense that the Universities get developmental money and then private industries can purchase that technology. What a way to bail out that deficit.) Anyways,

Using large amount of land as purposed would reduce the available grazing lands from our northern neighbors by 18 %.(5,760 acres in Dry Lake North, 5,760 acres in Delamar Valley ect.) This most definitely would affect the way of life for those northern ranchers and the Indigenous people that already have grazing permits and grazing rights.

The amount of water it takes to cool the proposed solar towers is thousands and thousands of acre feet of ground water (40,327 ac ft for wet cool and 4,067 ac ft. for dry cool in just the Miller SEZ by Tonopah). Either way this is depleting a lot of our states natural resource. This would affect native plants and animal life as described in your 2900 page Nevadas' feasibility study, some even to extinction. Quote from line 11.7.10.2 of the feasibility study "Plant communities that access groundwater, such as those in the vicinity of Playas could become degraded or lost as a result of lowered ground water levels."

Alternatives:

I asked myself why these great ideas aren't properly implemented to not only benefit the State of Nevada but also all the American people. We are sacrificing land, water, and a way of life and for what, a few jobs and minimal reduction in our power bill. Why are we using solar panels in this manner, which are designed for individual use on roof tops and garages? Why aren't more effective methods being considered for large scale production, such as the Solar Updraft Towers (4 acres of land and no water use) or wind turbines or geothermal? Why aren't solar panels being utilized on roof tops, parking structures, and government buildings independently, as they were designed? Tax break incentives for individual homeowner and legalizing it for all i.e. HOAs would have been a good start. And finally why are past mistakes being repeated by allowing private enterprise to control the masses. Companies like Bechtel, Semprass, Peabody Energy, and other powerhouses that were nuclear and coal producers in the past are repeating their dirty business practices but now they are doing it with a green mask.

Conclusion:

I'm glad that dialog is occurring between industry, government, and citizens and that our mind set is clean energy. Science and technology is here. There is no reason that clean energy is not available to the masses in this day in age. I only hope that our government leads its people with justice. And I hope private enterprise provides affordable clean energy with equity to the people so that this partnership really does become a model for the betterment of the world of humanity.

Thank you for your comment, Howard Israel.

The comment tracking number that has been assigned to your comment is SolarD10068.

Comment Date: March 1, 2011 18:46:26PM
Solar Energy Development PEIS
Comment ID: SolarD10068

First Name: Howard
Middle Initial:
Last Name: Israel
Organization: International Dark Sky Association
Address: 3225 N. First Ave.
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85719
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: PEIS doc.docx

Comment Submitted:



International Dark-Sky Association

3225 N. First Ave.

Tucson, Arizona

1-520-293-3198

The International Dark-Sky Association (IDA) has been made aware of Solar Energy Development Programmatic EIS (PEIS) sites proposed on public land, managed by the Bureau of Land Management, in order to assess environmental impacts associated with the development and implementation of agency-specific programs that would facilitate environmentally responsible utility-scale solar energy development in six western states (Arizona, California, Colorado, New Mexico, Nevada, and Utah). Our concern has to do with the potential environmental impact of light pollution emanating from these sites.

IDA is an educational organization that seeks to preserve the natural night skies worldwide. Light pollution is excessive and inappropriate artificial light and is an increasing problem threatening astronomical facilities, ecologically sensitive habitats, all wildlife, energy use, as well as our human heritage.

The four components of light pollution are often combined and overlapping:

Urban sky glow—the brightening of the night sky over light polluted areas.

Light trespass—light falling where it is not intended, wanted, or needed.

Glare—excessive brightness which causes visual discomfort. High levels of glare can decrease visibility.

Clutter— bright, confusing and excessive groupings of light sources, commonly found in over-lit areas. The proliferation of clutter contributes to urban sky glow, trespass, and glare.

We are concerned about the potential for improper lighting at these facilities and how it will affect mammals, birds, reptiles and insects.

MAMMALS

The bright lights from these facilities will cause these nocturnal mammals to experience a loss of their night ecosystem. Examples of these affected mammals are bats, raccoons, coyotes, deer and moose.

BIRDS

Many species of birds migrate or hunt at night This dependence on darkness makes them extremely vulnerable to bright lights in areas that are naturally dark. Birds can be drawn to light sources and become fixated on the beam. This confusion causes a variety of negative effects, such as:

100 million birds a year throughout North America die in collisions with lighted buildings and towers.

Not wanting to fly back into the dark, they continue to fly in the light's beam until they are exhausted, fall or become prey.

The artificial lights can also cause migrating birds to wander off course and never reach their natural destination.

REPTILES

Nocturnal reptiles can become disoriented by the artificial light invading their homes and experience a change in natural behaviors. These behaviors might include:

Appetite problems resulting in decreased weight

Decrease in mating, resulting in diminished populations

Increased vulnerability to natural predators and unusual ones like cars and humans

INSECTS

Moths and other insects are attracted to artificial lights and may stay near that light all night. This activity around the light:

Expend too much energy and interferes with mating and migration, causing population reduction

Makes them easy prey for bats and other nocturnal predators, further reducing their numbers

Impacts all species who rely on insects for food or pollination

ASTRONOMY

Light Pollution is a serious problem for most amateur astronomers today. Located just a few miles from the proposed Brenda site is an area used by hundreds of amateur astronomers throughout the Phoenix/Tucson area for deep sky viewing. Any extraneous light from proposed solar energy plants will have a great impact not only on amateur astronomy but quite possibly on professional observatories throughout Arizona located hundreds of miles away. Light Pollution to astronomers is analogous to having a sewage treatment plant located in the middle of a residential neighborhood.

Excess manmade light being emitted into the night does enormous environmental harm and wastes energy. It is of utmost importance to protect the natural night sky to avoid the adverse effects of air and light pollution by advocating for intelligent and responsible lighting to protect the night sky quality as well as astronomical observations, wildlife conservation, together with the maintenance of the integrity of nighttime landscapes and cultural heritage scenarios.

PREVENTING LIGHT POLLUTION

Light pollution is that rare issue that costs less to solve, then to let it continue.

We urge the designers and contractors of the solar panel facilities to consider the use of fixtures that will eliminate light pollution while providing safety and security. Formed in 1988, the International Dark-Sky Association is the authoritative voice on light pollution. IDA educates lighting designers, manufacturers, technical committees, and the public about light pollution abatement. We recognize that the best way to accomplish our goal of protecting and restoring our natural night environment and our heritage of dark skies is through promotion of quality outdoor lighting. It is in this spirit that we have developed the Fixture Seal of Approval (FSA) program for dark sky friendly fixtures. The Fixture Seal of Approval provides objective, third-party certification for luminaries that minimize glare, reduce light trespass, and don't pollute the night sky. Hundreds of products and dozens of manufacturers have already been approved under our Fixture Seal of Approval program. It is of utmost importance that the designers and contractors of these sites consider the use of dark sky friendly lighting to insure the protection of natural resources.

We recognize that light pollution must be considered as an imminent threat to the environment, and that the preservation of dark skies is an important and necessary part in the process of the protection and safeguarding of natural and cultural properties worldwide.

We appreciate the proposed action in this PEIS to develop and implement a new Solar Energy Program that would facilitate environmentally responsible utility-scale solar energy development by establishing environmental policies and design features related to utility-scale solar energy development, especially in Arizona. If the International Dark-Sky Association can be of any assistance in these efforts, please do not hesitate to call upon us.

Howard Israel
International Dark-Sky Association
Maricopa County Section Leader
480 893 7523
Howmad1@cox.net
www.phoenixdarkskies.org
www.darkskies.org

Thank you for your comment, Shareen Goodroad.

The comment tracking number that has been assigned to your comment is SolarD10069.

Comment Date: March 1, 2011 19:09:26PM
Solar Energy Development PEIS
Comment ID: SolarD10069

First Name: Shareen
Middle Initial:
Last Name: Goodroad
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

When we mandate for multiple use, we do not necessary mandate for all uses at the same time. Conversely, we also have areas where science, the environment, and the ecology of the area limit available current or projected uses. My biggest concern is protecting sensitive wildlife, maintaining important or unique attributes (ecological, geological, cultural, historical, etc.), and allowing for sensible and healthy outdoor recreation. My suggestion is that the BLM and other federal/state land management agencies make full use of the "brown fields" in their inventories for siting energy projects before considering any alternative sites. These lands are typically near urban areas, reclaimed sites, or other places that are currently disturbed would be much preferred for siting energy projects. Provided that these sites do not disturb any important migratory corridors, wilderness areas, or important habitats. Sound science should combine with good land use planning, sustainability, communication, and accountability to the public.

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10070.

Comment Date: March 1, 2011 21:43:21PM
Solar Energy Development PEIS
Comment ID: SolarD10070

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The great majority of lands in public ownership consist of habitat for native species and other valued resources and it is preferable that these land should remain undisturbed, with solar development occurring on disturbed private lands in a more distributed fashion. But if no alternative prohibiting large scale industrial development is put forth or if policy mandates the development of solar facilities on public lands, an optimal level of environmental protection should be provided for all the lands examined for development including the solar energy study zones. These considerations may conflict with the cost efficiency or convenience of siting of solar facilities and associated transmission lines but should be considered more extensively in the final PEIS. They include implementing the following actions into a preferred alternative.

Restricting all photovoltaic development to heavily disturbed areas. Photovoltaic systems are most amenable to distributed and fragmentary siting and thus in most cases no purpose or need exists to disturb lands in public ownership in the deployment of this technology.

Excluding from consideration for development all areas with known populations of sensitive plants and animals. Sensitive species and varieties should include all those determined as such by the scientific community in addition to those designated by the BLM. The long term success of mitigation measures taken for most of these species is largely unknown with some measures shown to be inadequate.

Excluding all known areas important for the foraging, breeding, and migration of wildlife, and areas important for the ecological functioning of plants species, sensitive or otherwise. In many cases these areas are also difficult to provide adequate mitigation for.

Including in the PEIS a more detailed analysis of the known locations of those populations and habitats to be excluded. The PEIS should also include an analysis of potential habitat of sensitive species and possible locations of important plant and wildlife habitat and recommend avoidance of these areas.

If sensitive populations and important habitat areas are discovered through any means after the adoption of the final document, the PEIS should exclude these areas from further consideration for development.

Include a general analysis of variations in biodiversity and excluding from development areas with a high level of biodiversity.

Exclude areas with a high concentration of archaeological resources or of significance to Native Americans.

These extended analyses and subsequent exclusions should also apply to previously filed applications. A high level of mitigation should be mandated if any of these applications with the above mentioned conflicts are nonetheless approved.

The PEIS should also include an analysis of variations in carbon storage in both soils and standing biomass and require an analysis of carbon emissions resulting from the land disturbance and construction activities of any project that may be approved.

In addition, the PEIS should provide an analysis of the locations of disturbed areas similar to the Restoration Design Energy Project in Arizona and establish new solar energy study zones or other designations in these areas, although they may be of small

size, and prioritize the development of any future projects in these areas over lightly disturbed areas.

Jared Fuller
Provo, UT

Thank you for your comment, Rob smith.

The comment tracking number that has been assigned to your comment is SolarD10071.

Comment Date: March 2, 2011 00:58:51AM
Solar Energy Development PEIS
Comment ID: SolarD10071

First Name: Rob
Middle Initial:
Last Name: smith
Organization:
Address: 3708 E Cholla
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 85028
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear BLM,

I favor the option to limit major solar developments to the specific zones. And I also think this siting should be tied to rooftop solar and development on disturbed private or state lands. The public lands should be a last resort and the best locations should be filled in first before looking more widely.

I am concerned that the Bullard Wash site contains Joshua Trees, which should be saved and not sacrificed for energy development

Thanks

Thank you for your comment, Clyde Stagner.

The comment tracking number that has been assigned to your comment is SolarD10072.

Comment Date: March 2, 2011 13:31:55PM
Solar Energy Development PEIS
Comment ID: SolarD10072

First Name: Clyde
Middle Initial: H
Last Name: Stagner
Organization:
Address: 8565 Pembroke Drive
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85715
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Unless additional non biological sources of energy are enabled,the recent,and future, proliferation of electrcal powered vehicles in the US shall cause an increase in oil imports to the US. Conversion of crude oil to gasoline per vehicle mile traveled consumes less crude oil than the conversion of crude oil to electricity per vehicle mile traveled-the identical vehicle used in both cases except for power train.

Thank you for your comment, Alvin Conaway.

The comment tracking number that has been assigned to your comment is SolarD10073.

Comment Date: March 2, 2011 14:29:31PM
Solar Energy Development PEIS
Comment ID: SolarD10073

First Name: Alvin
Middle Initial: L
Last Name: Conaway
Organization:
Address: 1801 N Rio Yaqui
Address 2:
Address 3: 1801 N Rio Yaqui
City: Green Valley
State: AZ
Zip: 85614
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We installed a 3.4 KWH 16 panel solar system placed in operation 9/9/2009. Without TRICO furnishing 50%, + Federal & AZ tax refund it would not be affordable or repay the cost prior to the life of the system. At present, without including the service contract, added insurance or possible problems, the system should pay for cost in 8 to 10 years. Additionally, even a thin overcast will reduce output from 3K to 1800K. You still need a power source after the sun goes down. It is a help (costly) but not a solution. If cost can be reduced by 75% it will be a partial solution.

Thank you for your comment, Mitchell Timin.

The comment tracking number that has been assigned to your comment is SolarD10074.

Comment Date: March 2, 2011 14:36:40PM
Solar Energy Development PEIS
Comment ID: SolarD10074

First Name: Mitchell
Middle Initial: E
Last Name: Timin
Organization: Earthchurch
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Don't forget about the water! It is important to ensure that electricity is generated by a method that does not use significant amounts of water. Our water crisis is more imminent than our energy crisis. I would like to see this in the legislation, i.e., only power plants that use very little water shall be permitted.

m

Thank you for your comment, Marian Hill.

The comment tracking number that has been assigned to your comment is SolarD10075.

Comment Date: March 2, 2011 16:36:29PM
Solar Energy Development PEIS
Comment ID: SolarD10075

First Name: Marian
Middle Initial: J
Last Name: Hill
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The TRUE cost of solar is less than fossil fuels or nuclear. The power source is free and widely available. In relative terms, it has little environmental impact. Wildlife in open spaces adapt to its presence, and it doesn't consume our most precious resource - water - the way nuclear and other power plants do. In the big picture, the presence of panels in open spaces causes far less environmental damage than fossil or nuclear fuel usage. For our children, grandchildren and our country's prosperity and safety, we must develop significant solar generating plants NOW.

Thank you for your comment, Elizabeth Webb.

The comment tracking number that has been assigned to your comment is SolarD10076.

Comment Date: March 2, 2011 19:39:19PM
Solar Energy Development PEIS
Comment ID: SolarD10076

First Name: Elizabeth
Middle Initial:
Last Name: Webb
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Should have meetings in areas that would actually be impacted by the proposed project -ie Safford!!!!

Also, in a location that has easy access with NON PAY parking!

Thanks!

Thank you for your comment, Michael Neidich.

The comment tracking number that has been assigned to your comment is SolarD10077.

Comment Date: March 2, 2011 23:30:58PM
Solar Energy Development PEIS
Comment ID: SolarD10077

First Name: Michael
Middle Initial: I
Last Name: Neidich
Organization:
Address: 60917 E Eagle Heights Dr
Address 2:
Address 3:
City: Tucson
State: AZ
Zip: 85739
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Let's stop talking and start doing. Solar projects are decades old by now, and everything is known about them.

Thank you for your comment, Pat Lukensmeyer.

The comment tracking number that has been assigned to your comment is SolarD10078.

Comment Date: March 4, 2011 09:59:58AM
Solar Energy Development PEIS
Comment ID: SolarD10078

First Name: Pat
Middle Initial:
Last Name: Lukensmeyer
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

With all the talk that solar is so good for a person's budget & good for the environment, what sort of resources (\$\$\$\$) are available for low income people to afford this new technology? Low income people would also like to participate in helping the environment as well as their pocketbooks. If there are grant programs or something of that nature, then why doesn't the public ever hear of them?

Thank you for your comment, Helene Orr.

The comment tracking number that has been assigned to your comment is SolarD10079.

Comment Date: March 4, 2011 10:44:44AM
Solar Energy Development PEIS
Comment ID: SolarD10079

First Name: Helene
Middle Initial:
Last Name: Orr
Organization:
Address:
Address 2:
Address 3:
City: San Acacio
State: CO
Zip: 81151
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please reconsider the possible destruction of irreplaceable wilderness on public lands by giving free reign to industrial scale solar energy plants that then must use high voltage transmission lines across scenic vistas to transfer energy. Local distributed energy is the much better alternative-we must have the courage to begin an alternative local sourcing for our energy needs instead of handing over priceless beauty to monopolies and their greed. PLEASE inject some sanity before it is too late. Thank you.

Thank you for your comment, Peter Bengtson.

The comment tracking number that has been assigned to your comment is SolarD10080.

Comment Date: March 4, 2011 14:00:39PM
Solar Energy Development PEIS
Comment ID: SolarD10080

First Name: Peter
Middle Initial: Y
Last Name: Bengtson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I attended the meeting held in Tucson on March 2, 2011. I found myself in agreement with many of the speakers.

I'd much prefer to have these industrial scale solar installations placed on already disturbed lands such as mine tailings fields, farm lands that are already disturbed, or other disturbed lands. This is much preferable to disturbing undisturbed lands.

I like the smaller proposal to open up smaller areas in Arizona, the SEZs. I'd like to start small with a limited number of sites and areas.

Pete Bengtson

Thank you for your comment, Tim McKimmie.

The comment tracking number that has been assigned to your comment is SolarD10081.

Comment Date: March 4, 2011 14:38:48PM
Solar Energy Development PEIS
Comment ID: SolarD10081

First Name: Tim
Middle Initial: i
Last Name: McKimmie
Organization:
Address: 1105 Circle Dr.
Address 2:
Address 3:
City: Las Cruces
State: NM
Zip: 88005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

My preference is the SEV in order to minimize impact on wildlife, wildlife corridors, viewsheds, and wilderness quality lands. Installations should be located near already degraded lands, existing roads and existing power lines.

Thank you for your comment, Joe MESTAS.

The comment tracking number that has been assigned to your comment is SolarD10082.

Comment Date: March 4, 2011 17:51:18PM
Solar Energy Development PEIS
Comment ID: SolarD10082

First Name: Joe
Middle Initial: R
Last Name: MESTAS
Organization:
Address: POB 338
Address 2:
Address 3:
City: Manassa
State: CO
Zip: 81141
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is no logical reason why the BLM should convert land for the benefit of huge corporate companies. Since there seems to be no need to maintain this land as open space, wildlife habitats, or cultural preservation it should be turned over to the local governments (counties) so they could better manage and bring benefit to the local citizenry from the use of this land.

Thank you for your comment, Martha Turnquist.

The comment tracking number that has been assigned to your comment is SolarD10083.

Comment Date: March 4, 2011 18:39:42PM
Solar Energy Development PEIS
Comment ID: SolarD10083

First Name: Martha
Middle Initial: A
Last Name: Turnquist
Organization:
Address: 3985 East Presidio Rd.
Address 2: Unit 4
Address 3:
City: Tucson
State: AZ
Zip: 857121048
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe in Solar Energy. Here in Tucson, Arizona there is always plenty of sun. It is important that we take advantage of this excellent source of energy.

Thank you for your comment, Gloria Hacker.

The comment tracking number that has been assigned to your comment is SolarD10084.

Comment Date: March 5, 2011 15:50:44PM
Solar Energy Development PEIS
Comment ID: SolarD10084

First Name: Gloria
Middle Initial: L
Last Name: Hacker
Organization:
Address: 3113 Hillrise Dr.
Address 2:
Address 3:
City: Las Cruces
State: NM
Zip: 88011
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I found out about this project in the past week, too short a time to take in the scope of this enterprise. I am not a scientist, or a person with much technical knowledge, so it is difficult for me to envision how these facilities will be built and how the delivery systems will be designed and situated against the landscape. Visually I could only imagine, a very stark, harsh, structure stretching out to the horizon, permanently changing the contours of the land, and impacting the natural environment in a very dramatic way. I am in favor of developing relatively non-polluting new sources of energy. Theoretically I favor the development of solar technologies. I only hope that the whole environment, and the ecosystems surrounding these projects will be taken into account. Water is an important resource that should never be taken for granted. How much water will be needed to drive these technologies, and from what source will it be drawn? Can systems be designed to recycle the materials involved? Also can other ecologically driven enterprises be established in the same zones as the solar plants, i.e. greenhouses for food production, algae enterprises for supplemental energy. Can these solar plants be made visually, aesthetically appealing, having plants, landscape, between towers or structures, to control dust, erosion? As this project moves forward I hope that the people in this community, i.e. Las Cruces, New Mexico, will be kept informed, not just On-line, but in the local papers, and through local broadcasts. I don't think that many people here in Las Cruces are even aware of this project, and therefore will not be able to comment by the deadline. The media has been at fault here. Perhaps there has been a lack of communication between this agency and the media outlets here. I hope that you will reach out to the local community and provide more opportunities in the future for us ordinary folks to get involved and get informed. I am in favor of the plan which designates in advance zones for solar development based on a thorough environmental study, taking into account crucial wildlife habitat, and areas of wilderness too pristine and special to be tampered with. I would hope that the beautiful, scenic lands of New Mexico will be valued beyond the energy they can provide for our technical, industrial development. The very land itself, the plants, animals, reptiles, insects, all have value beyond what they can supply for our human enterprises. Please let's plan for the future, develop these wonderful technologies, but always seek a balance. Let's preserve our wildlands, and the beauty of nature also.

Thank you for your comment, Michael Boyd.

The comment tracking number that has been assigned to your comment is SolarD10085.

Comment Date: March 5, 2011 17:31:57PM
Solar Energy Development PEIS
Comment ID: SolarD10085

First Name: Michael
Middle Initial: E
Last Name: Boyd
Organization: CAIifornians for Renewable Energy, Inc. (CARE)
Address: 5439 Soquel Drive
Address 2:
Address 3:
City: Soquel
State: CA
Zip: 95073
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I participated in the February 22, 2011 Solar Energy Development PEIS Meeting in Sacramento. Included in my oral comments was mention of the Secretary Salazar's roots of his racist anti-indigenous peoples policy is born from his genocidal legacy as the descendant of Spanish Conquistadors.

First I want to provide video evidence of the Secretary's racist anti-indigenous peoples policy as demonstrating he was insensitivity towards the Massachusetts Wampanoag tribe by leaving them in tears as he drove off with Cape Wind developer wearing his big black cowboy hat.

<http://www.capecodonline.com/apps/pbcs.dll/article?AID=/20100202/MEDIA0303/100209918>

This is like having a KKK march during a funeral procession for a black lynching victim.

In a telephone interview, 58-year-old LeRoy Salazar said family lore holds that the first Salazar in New Mexico was a conquistador in the late 1500s or early 1600s.

At his acceptance speech for the office of Secretary of Interior he is quoted to have said "My story in America began more than 400 years ago when my ancestors settled the city of Santa Fe, N.M.," he said in accepting the nomination on Dec. 17.

His remarks apparently were aimed at emphasizing his Hispanic roots in the United States — that his family did not immigrate from Mexico. "It was a border that came over us," he told The New York Times. "We didn't come over the border."

Don Juan de Oñate y Salazar (1550 – 1626) was a Spanish explorer, colonial governor of the New Spain province of New Mexico, and founder of various settlements in the present day Southwest of the United States.

Oñate was born in the New Spain city of Zacatecas to Spanish-Basque colonists and silver mine owners. His father was the conquistador/silver baron Cristóbal de Oñate, and his mother Doña Catalina Salazar y de la Cadena.[1] His Cadena ancestor fought in the Battle of Las Navas de Tolosa, and was the first to break the line of defense protecting Mohammad Ben Yacub. The family was granted a coat of arms, and thereafter were known as the Cadenas. (Ref. La Calle de Cadena en Mexico," pps. 1—46, Guillermo Porras Munoz). Juan de Oñate married Isabel de Tolosa Cortés de Moctezuma, granddaughter of Hernán Cortés, the conqueror of the Aztec Triple Alliance, and great granddaughter of the Aztec Emperor Moctezuma Xocoyotzin.

In 1595 he was ordered by King Philip II to colonize the northern frontier of New Spain. His stated objective was to spread Roman Catholicism and establish new missions. He began the expedition in 1598, fording the Rio Grande (Río del Norte) at the present-day Ciudad Juárez—El Paso crossing in late April. On April 30, 1598, he claimed all of New Mexico beyond the river for Spain.

That summer his party continued up the Rio Grande to present-day northern New Mexico, where he encamped among the Pueblo Indians. He founded the province of Santa Fé de Nuevo México and became the province's first governor. Gaspar Pérez de Villagrà, a captain of the expedition, chronicled Oñate's conquest of New Mexico's indigenous peoples in his epic *Historia de Nuevo México* (1610).

Oñate soon gained a reputation as a stern ruler of both the Spanish colonists and the indigenous people. In October of 1598, a

skirmish erupted when Oñate's occupying Spanish military demanded supplies from the Acoma tribe—demanding things essential to the Acoma surviving the winter. The Acoma resisted and 13 Spaniards were killed, amongst them Don Juan Oñate's nephew. In 1599, Oñate retaliated; his soldiers killed 800 villagers. They enslaved the remaining 500 women and children, and by Don Juan's decree,[2] they amputated the left foot of every Acoma man over the age of twenty-five. Eighty men had their left foot amputated. Other commentators put the figure of those mutilated at 24.[3]

[1] Simmons, Marc, *The Last Conquistador: Juan de Oñate and the Settling of the Far Southwest*, University of Oklahoma Press, Norman, Oklahoma, 1991, p. 30

[2] Ginger Thompson. "As a Sculpture Takes Shape in Mexico, Opposition Takes Shape in the U.S.," *The New York Times*, January 17, 2002. Retrieved 2008-07-15.

[3] Simmons, Marc, *The Last Conquistador: Juan de Oñate and the Settling of the Far Southwest*, University of Oklahoma Press, Norman, Oklahoma, 1991, p.145

Thank you for your comment, Sharon Ray.

The comment tracking number that has been assigned to your comment is SolarD10086.

Comment Date: March 5, 2011 20:06:39PM
Solar Energy Development PEIS
Comment ID: SolarD10086

First Name: Sharon
Middle Initial: M
Last Name: Ray
Organization:
Address: PO Box 91
Address 2:
Address 3:
City: Saguache
State: CO
Zip: 81149
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The BLM should not carry forward a plan that opens approximately 22 million acres (within 6 states) to development – this is over 100 times more land than what the agency's own analysis says it really needs, and includes many places that should be protected for wildlife habitat, clean air and water.

The least intrusive action alternative to BLM lands and open landscape is the Solar Energy Zones (SEZ) Alternative. Unfortunately, that is not what was selected.

SLVEC provided public comment on the 4 selected study areas in the SLV for this PEIS scoping in September 2009. At that time, we made the following recommendation. "It is understood that "solar applications received by the BLM are for large- scale, commercial facilities. These facilities propose to have a large foot print and are likely to be an exclusive use of the land. They will also require occupancy of the surface for a long period of time, as much as thirty years. These characteristics generally require the BLM to amend the land use plan and will require the BLM to conduct a detailed environmental review under NEPA. Adequate time will also be needed to conduct any environmental studies needed and to coordinate with a wide variety of concerned organizations. There is also a need to consult with tribal and state governments and to conduct cultural and historic clearances."

Recommendations:
"The BLM will have to amend it's land use plan, which is governed by "Multiple Use" policies to make an "exclusive use" determination of these proposed solar study areas. We are concerned about the precedence this will set on other BLM lands located in the general vicinity and strongly encourage the agency to consider a no action alternative, and leave the option open for siting on degraded private lands instead. Further, we encourage BLM to conduct a detailed environmental review that will be administered through the local field service offices. We assume this environmental review will be an Environmental Impact Statement (EIS). Local field offices should have the final say regarding the siting of these proposed utility scale facilities and the determination decision of what the land base is purported to support."

Sharon Ray

Thank you for your comment, Nancy Santori.

The comment tracking number that has been assigned to your comment is SolarD10087.

Comment Date: March 5, 2011 21:49:59PM
Solar Energy Development PEIS
Comment ID: SolarD10087

First Name: Nancy
Middle Initial:
Last Name: Santori
Organization:
Address: 102 E Briles Rd
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 85085
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please adopt the more restrictive solar energy zone alternative. If the other option offering more acreage is adopted, it may result in more controversy which will delay the process of bringing solar development to Arizona.

Thank you for your comment, Brendan Hughes.

The comment tracking number that has been assigned to your comment is SolarD10088.

Comment Date: March 6, 2011 01:36:36AM
Solar Energy Development PEIS
Comment ID: SolarD10088

First Name: Brendan
Middle Initial:
Last Name: Hughes
Organization:
Address: 61093 Prescott Trail
Address 2:
Address 3:
City: Joshua Tree
State: CA
Zip: 92252
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

BLM should rethink this entire PEIS process. Arizona has already provided a model in its Restoration Design Energy Project. BLM should identify severely degraded tracts of private or public land that have no habitat value and create SEZs out of these areas. BLM offices in the other five states targeted in the current Draft PEIS should create their own Restoration Design Energy Projects. This would prevent many of the impacts and mitigation measures that make the current DPEIS a 10,000-page document.

BLM has not given a reasonable range of alternatives in the DPEIS. For instance, an environmentally preferred alternative would not allow solar development on any BLM land. Although counter to the wishes of Secretary Salazar, this is a perfectly valid and necessary option to include in the process.

None of BLM's alternatives provide adequate protection for wilderness-quality lands. For example, the Iron Mountain SEZ incorporates the largest remaining unprotected roadless area in the entire California desert, while being immediately adjacent to two wilderness areas. Also, citizen-proposed wilderness has not been excluded from consideration for solar development. The DPEIS acknowledges that even all 600,000 acres of SEZs will not be needed to meet the goals of the six western states. Citizen-proposed wildernesses or potential additions to wilderness can be excluded without a solar developer missing them.

The three alternatives do not take into account the importance of intact habitat for genetic exchange and climate change adaptation. For example, the Riverside East SEZ cuts off several major wildlife corridors between mountain ranges. Also, the SEZs include important ecological areas like Bullard Wash, where Joshua trees and saguaros exist at a low-elevation and southern extreme of the Joshua tree's range. This type of outlying habitat could aid in the survival of the Joshua tree in the face of Climate Change, as well its important friend the yucca moth. Sacrificing such a unique ecology when the Arizona Restoration Design Energy Project has identified 59 sites throughout the state is unnecessary and unconscionable.

I do applaud some of the mitigation measures proposed in the DEIS, and I would encourage BLM to make these even more stringent to protect natural, cultural, and other resources. BLM should learn from its mistakes, like the Ivanpah SEGS, and steer solar development to demonstrably degraded and impaired private and public lands.

Thank you for your consideration.

Thank you for your comment, Amanda Rose.

The comment tracking number that has been assigned to your comment is SolarD10089.

Comment Date: March 6, 2011 16:22:22PM
Solar Energy Development PEIS
Comment ID: SolarD10089

First Name: Amanda
Middle Initial:
Last Name: Rose
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am opposed to the use of BLM lands for large solar field arrays. I would prefer to use private and non-pristine lands, and, to have small, distributed solar here and elsewhere. The use of large solar arrays and thereby the use of distance transmission seems illogical. Better to help all communities to make use of land and/or building tops in the immediate vicinity of where the electricity is needed.

Thank you for your comment, Theresa Dodge.

The comment tracking number that has been assigned to your comment is SolarD10090.

Comment Date: March 7, 2011 10:56:05AM
Solar Energy Development PEIS
Comment ID: SolarD10090

First Name: Theresa
Middle Initial:
Last Name: Dodge
Organization: Sanitation Districts of Los Angeles County
Address: 1955 Workman Mill Road
Address 2:
Address 3:
City: Whittier
State: CA
Zip: 90601
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 18290291.pdf

Comment Submitted:



COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

STEPHEN R. MAGUIN
Chief Engineer and General Manager

March 3, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Comments on the Draft Solar Programmatic Environmental Impact Statement

Thank you for the opportunity to provide comments on the Draft Solar Energy Development Programmatic Environmental Impact Statement (Solar PEIS) noticed for availability on December 17, 2010. The Sanitation Districts of Los Angeles County (Sanitation Districts) request that the alternatives for Imperial and Riverside Counties in California, specifically the Imperial East and Iron Mountain/Riverside East alternatives, remove the entire Mesquite Regional Landfill Rail Spur (MRL Rail Spur) and Eagle Mountain Railroad from the BLM Lands Available status, and the programmatic design features prohibit overhead obstructions and buried facilities cross these rail lines.

The Sanitation Districts are a confederation of 23 independent special districts located throughout Los Angeles County serving the wastewater and solid waste management needs for over 5.7 million people. The Sanitation Districts provide an essential public service of solid waste management to the second largest metropolitan area in the nation by constructing and operating landfills, transfer stations, refuse-to-energy, and materials recovery facilities. The Sanitation Districts have invested over \$500 million in public funds to develop a regional solid waste system using the Mesquite Regional Landfill (MRL) and the future Eagle Mountain Landfill.

The MRL Rail Spur is located in Imperial County, California, within the area shown as BLM Lands Available in the California and Imperial East maps. This approximately five-mile rail spur is within a 150-foot wide BLM Right of Way (CACA-29617), which extends from the Union Pacific Railroad mainline at milepost 697 (about one mile northwest of Glamis) and parallels Hwy 78 to the MRL site. The primary means of delivery of refuse to MRL is rail. Therefore, if rail access is compromised, the MRL will not be able to provide this essential public service. The MRL rail spur is under construction and scheduled to be complete in 2011. This spur will provide rail access to the site for up to five trains a day of municipal solid waste in and out of the MRL throughout the 100-year life.

For similar reasons, the Sanitation Districts also request that California and Iron Mountain/Riverside East alternatives prevent any hindrance to use the existing Eagle Mountain Railroad (CACA- 25594). This 52-mile railroad is shown on both the Iron Mountain and

DOC# 1829029

Riverside East maps included in Draft Solar PEIS Chapter 2, Description of Alternatives, and is the subject of a Memorandum of Agreement between Kaiser, BLM, and the U.S. Navy (November 2004). The Sanitation Districts have entered into an agreement to purchase the Eagle Mountain Landfill, including the railroad. The railroad and unhindered rail access are a critical part of the Eagle Mountain Landfill project.

The Sanitation Districts request that Final Solar PEIS design features for solar infrastructure maintain the overhead clearance for a Class I railroad based upon the American Railway Engineering and Maintenance-of-Way Association, and Union Pacific Railroad standards, whichever is greater, and that no buried facilities are permitted to cross either the MRL Rail Spur or the Eagle Mountain Railroad.

The Sanitation Districts appreciate the opportunity to comment on the Solar PEIS, and have attached copies of the MRL Rail Spur and Eagle Mountain Railroad documents noted in this letter. Please contact Ms. Theresa Dodge at (562) 908-4288, extension 2599, if you have any questions or need additional information.

Very truly yours,

Stephen R. Maguin



Thomas J. LeBrun
Department Head
Facilities Planning Department

TJL:CB:TDD:ddg

cc: Ronald Pearce, Marine Corps Air Station

Thank you for your comment, Thane Somerville.

The comment tracking number that has been assigned to your comment is SolarD10091.

Comment Date: March 7, 2011 12:25:52PM
Solar Energy Development PEIS
Comment ID: SolarD10091

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Attachment: Comments on Draft Solar PEIS_030711.pdf

Comment Submitted:

LAW OFFICES
MORISSET, SCHLOSSER, JOZWIAK & SOMERVILLE
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March 7, 2011

Submitted online at <http://solareis.anl.gov>
and via First Class Mail

Linda Resseguie
BLM Solar PEIS Project Manager
c/o Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, Illinois 60439

Re: Comments of Quechan Indian Tribe on Draft Programmatic Environmental
Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Resseguie:

On behalf of the Quechan Tribe of the Fort Yuma Indian Reservation, we submit the following comments on the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar PEIS). As described in more detail below, the Tribe's comments on the Solar PEIS include the following:

- The Solar PEIS presents a misleading description of current law regarding solar energy development on public lands; specifically, there is no Congressional mandate or legal prioritization of utility-scale solar energy development on public lands
- The Tribe strongly opposes the no-action alternative, which would continue the current deficient process of case-by-case solar project analysis on BLM lands.
- The Tribe strongly opposes the Solar Energy Development Program Alternative, because it opens lands with sensitive cultural and natural resource values to utility-scale solar development, and opens more lands to solar development than necessary.
- The Tribe supports the concept of the Solar Energy Zone Program Alternative, which would prospectively identify specific lands that are suitable for utility-scale solar, and specifically prohibit utility-scale solar on all other BLM lands; however, the Tribe does not support the development of utility-scale solar on Class L lands within the California Desert Conservation Area.

- The proposed alternatives must be revised to exclude utility-scale solar development on Class L lands within the California Desert Conservation Area.
- No further individual utility-scale solar projects should be approved on BLM lands in the study area until the Solar PEIS is complete and an approved alternative is selected; the current case-by-case approval regime is undermining the purpose of the Solar PEIS, which is to prospectively identify lands most suited to solar development.
- The Tribe opposes the inclusion of the Imperial East site as a Solar Energy Zone due to its location in a sensitive cultural area.

I. Interest of the Quechan Indian Tribe

The Quechan Tribe's Fort Yuma Reservation at its current site was established in 1884 as a permanent homeland for the Quechan people. The Quechan people and their ancestors have inhabited the area surrounding the confluence of the Colorado and Gila Rivers for centuries. The Quechan Tribe's traditional lands extend well beyond the boundaries of the present day Fort Yuma Indian Reservation. Traditionally, Quechan settlements, or rancherias, were scattered north and south along the Colorado River from the confluence area, and eastward along the Gila. Traditional lands to the west of the present day reservation were also utilized by the Quechan people. According to Quechan tradition, the northern territory extended to the vicinity of Blythe, California, the southern territory reached to Sonora, Mexico, the western territory extended to California's Cahuilla Mountains, and the eastern territory approached Gila Bend, Arizona. The lower Colorado River tribes, which include the Quechan, shifted up and down the Colorado and Gila rivers, utilizing the banks and floodplain on both sides of the rivers for subsistence and settlements at different historical periods. (Alfonzo Ortiz, *Handbook of North American Indians*, Volume 10, Southwest (Quechan) (Smithsonian Institution, Washington D.C. 1982). Certain lands identified or proposed for solar development in Arizona and California fall within the Tribe's traditional territory.¹

The cultural landscape of the Quechan consists of a myriad of natural and cultural features. Natural features include the Colorado desert and river, mountains, hills, rock outcrops, flora, and fauna. Cultural features include mythology locales, sacred places, settlement and battle site locations, trails, and other resource use areas, along with prehistoric and historic archaeological sites. The latter include rock art (geoglyphs, petroglyphs, and intaglios), trails (stamped paths), trail markers, rock alignments, rock cairns, cleared (tamped) circles (sleeping, teaching, prayer, and dance circles), milling areas, pot drops, and other site features. See, e.g., Birnbam, Charles A., *Preservation Brief 36: Protecting Cultural Landscapes: Planning, Treatment, and Management*. Technical Preservation Services, National Park Service, Washington D.C. (1994); Russell, John C.; Woods, Clyde M.; and Jackson, Underwood, *An Assessment of the Imperial Sand Dunes as a Native American Cultural Landscape*. Prepared for

¹ Table 4.16-1 of the Solar PEIS fails to identify the Quechan Tribe as having traditional territory in California. The Tribe's traditional territory is located both in Arizona and California.

the California State Office of Bureau of land Management, Sacramento, California, by EDAW, Inc., San Diego, California (2002).

The Tribe is directly affected by solar energy development on BLM lands. The Tribe is currently engaged in litigation against the Department of the Interior based on Interior's unlawful approval of the Imperial Valley Solar (IVS) project on lands within the traditional territory of the Tribe that contain sensitive cultural and natural resources of significance to the Tribe. *See Quechan Tribe of the Fort Yuma Indian Reservation v. United States Department of the Interior*, Civil No. 10-2241 (S.D. Cal.). The Tribe is challenging the Department of the Interior's decision to approve the massive utility-scale project on sensitive Class L lands within the California Desert Conservation Area. On December 15, 2010, the Court made a preliminary determination that BLM had failed to properly consult with the Quechan Tribe prior to its approval of the IVS Project. On January 13, 2011, the Court preliminarily enjoined construction of the IVS Project due to Interior's failure to comply with applicable law. Numerous other legal challenges to solar projects approved by Interior under the arbitrary "fast-track" program are ongoing.

II. Comments Of Quechan Tribe on Solar PEIS

A. There Is No Congressional or Executive Mandate For Utility-Scale Solar Development: Utility-Scale Solar Development May Only Be Authorized If Fully Consistent With Existing Resource-Protection and Land Management Laws and Regulations.

The Solar PEIS repeatedly states that there is a legal mandate for utility-scale energy development on public lands. For example, the Introduction to the Solar PEIS begins by stating:

A number of Executive Orders, Congressional mandates, and federal agency orders and policies promote expedited and concentrated federal action supporting the development of domestic renewable energy resources. [BLM] is considering taking further actions to facilitate solar energy development in compliance with these orders and mandates.²

This statement is not correct and misleads the public, because no federal law mandates any solar energy development on public lands. It is misleading for BLM to state that its program to approve utility-scale solar energy development on public lands is mandated by Congress when it is not.

The only statutory enactment that addresses solar energy development is Section 211 of the Energy Policy Act of 2005, which states it is "the sense of Congress that the Secretary of the

² Other similar statements are found in the Solar PEIS. For example, page ES-1 states that Interior and DOE are proposing to "facilitate solar energy development in compliance with various orders, mandates, and agency policies." Pages ES-2, 3 state that "the proposed Solar Energy Program has been designed to further the BLM's ability to meet the requirements for facilitating solar energy development on BLM-administered lands established by the Energy Policy Act of 2005"

Interior should seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity.” This language contains no mandatory directive of any kind. Nor does the Energy Independence and Security Act of 2007 contain any mandatory directive to develop renewable energy on public lands. Congress has not approved or required any program for utility-scale renewable energy development on public lands. Nor has Congress waived or limited in any way the applicability of existing federal laws when reviewing proposed utility-scale solar projects. The Department of the Interior must fully comply with all existing federal resource-protection and land management laws. The repeated reference to a Congressional mandate for renewable energy development on public lands, where there in fact is no such mandate, is misleading to the public and skews the analysis.

Likewise, Executive Order 13212 (issued nearly ten years ago under a different Administration) requires executive departments to comply with all applicable laws in reviewing energy projects and to ensure that increased production of energy occurs in “a safe and environmentally sound manner.” Executive Order 13514 (October 5, 2009) does not mandate or direct any energy development on federal public lands.

Secretarial Order 3285A1 provides support for the programs identified in the Programmatic EIS, but specifically directs the identification of sites best suited for large-scale solar while ensuring protection and preservation of sensitive resources.

To be clear, there is no federal or executive mandate to develop utility-scale renewable energy projects on public lands. While such projects may be permissible on certain public lands under pre-existing law, it is inaccurate to state or suggest that federal policy prioritizes or mandates utility-scale renewable energy development on public lands. The laws and orders cited on pages 1-2 and 1-3 of the PEIS strongly suggest that solar development on public lands may only be allowed if federal agencies comply with all existing resource-preservation laws and carefully ensure that existing public-land resources will not be adversely affected.

B. The No-Action Alternative Must Be Rejected; The Current Approach of Case-By-Case Project Approvals Fails to Protect the Public Lands

The No-Action Alternative would continue the status quo in which BLM separately accepts, analyzes, and reviews individual solar energy applications on a case-by-case basis. To date, the status quo approach has proven unsatisfactory to both solar energy developers and those interested in protection of public lands and resources. It is clear that BLM needs to carefully study and implement a program that designates certain non-sensitive lands suitable for large-scale solar development, authorizes solar development in those areas, and prohibits utility-scale solar development on all other public lands.

Utility-scale solar projects are a unique form of public land development due to the very large land areas that are necessary for such projects. These renewable energy projects have significant impacts on species habitat and cultural landscapes, in addition to other resources, due to their scale. Solar PEIS, p. 5-217 (acknowledging impacts to cultural resources). The current

case-by-case approach fails to adequately consider the cumulative impact associated with multiple utility-scale renewable energy projects. It is imperative that BLM identify and set aside certain non-sensitive land areas for utility-scale solar development and prohibit such intensive development on all other lands.

The current approach, which allows applications for solar development on nearly all BLM lands not set aside for wilderness or other special management purposes, is inefficient and has proven unsuccessful. To date, no utility-scale solar energy projects have been constructed under the current BLM policies. Most, if not all, of the “fast-track” projects that have been approved are subject to litigation due to flaws in the existing BLM process and failure to adequately protect affected resources. By designating a reasonable amount of specific lands for solar development, BLM could focus its limited resources on implementing development on those lands, while avoiding controversy and conflicts that arise when BLM approves projects on resource-sensitive lands.

C. The Solar Energy Development Program Alternative Must Be Rejected; This Alternative Opens Too Much Acreage To Utility-Scale Solar, Would Authorize Development on Sensitive Lands, and Will Result in Continued Resource-Conflicts.

The Solar Energy Development Program Alternative should be rejected. This alternative fails to achieve the goal of prospectively identifying specific lands that are the most appropriate for utility-scale solar energy development. This alternative broadly opens nearly 22 million acres of public lands in the six-state area to utility-scale solar development. BLM’s current analysis is that 214,000 acres of BLM-land in the study area would likely be developed over the next 20-year period. Thus, there does not seem to be any reasonable need to open a land area of 22 million acres (100-times greater than foreseeable demand). The Solar Energy Development Program Alternative opens far more land than is necessary to meet anticipated solar development demand over the next two decades.

The problem with opening too much land to utility-scale solar is that it will lead to the same problems and inefficiencies that are resulting under BLM’s existing policies and procedures. Although Interior and DOE have attempted to identify specific categories of land that are not appropriate for development, it is clear that the agencies have not affirmatively studied these 22 million acres to determine whether specific resource-conflicts exist. For example, some of the public lands identified as appropriate for development under this alternative are within the traditional territory of the Quechan Tribe and likely contain cultural resources, trails, and sacred areas that would be inappropriate for development.

In order to achieve the agencies’ development goals, it would be better to effectively plan ahead to affirmatively determine which lands are the most appropriate for large-scale solar. Interior and DOE should focus on identifying a smaller subset of public lands that are the most appropriate for utility-scale solar development. The Solar Energy Zone Program Alternative best achieves that goal.

D. The Solar Energy Zone Program Alternative Represents The Best Alternative Evaluated In the Solar PEIS.

The Solar Energy Zone Program identifies specific Solar Energy Zones in the six-state area that are determined to be the most appropriate for utility-scale solar energy development. This alternative would authorize utility-scale solar on nearly 700,000 acres (more than three times the anticipated demand over the next twenty years) and would close all other BLM-managed lands to such development. The concept of this alternative represents the best approach to large-scale solar energy development. Rather than unnecessarily opening up tens of millions of acres to large-scale, resource-intensive, and largely untested solar energy projects, Interior should take a more careful and restrained approach. The SEZ Program offers an area of land that is sufficient to achieve the agencies' development goals, but not so broad that agency resources will be drained analyzing proposals that are controversial or of marginal quality. It seems that the Solar Energy Zone Program Alternative is most in line with the purpose of the PEIS – to identify specific areas that are most suited to solar energy development.

E. The Action Alternatives Must Be Revised To Exclude Utility-Scale Solar Energy Development on Class L Lands Within the California Desert Conservation Area.

Interior and DOE should revise the Solar PEIS to exclude utility-scale solar energy development on Class L lands within the California Desert Conservation Area. Development of utility-scale renewable energy projects is not consistent with the Class L land designation.

The Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1701 et seq. (“FLPMA”) mandates a comprehensive planning system for the use of public lands managed by BLM. In FLPMA, Congress expressly set aside public lands of the California desert as the “California Desert Conservation Area” and mandated development of a comprehensive, long-range management plan for these unique desert lands. 43 U.S.C. § 1781. Interior developed the California Desert Conservation Area Plan (“CDCA Plan”) in 1980. The CDCA Plan, like all land use plans developed under FLPMA, has binding legal effect. 43 U.S.C. § 1732(a) (requiring Secretary to manage public lands in accordance with the land use plans developed under FLPMA).

To achieve Congress' mandate of multiple-use management and resource preservation, the CDCA Plan divides CDCA lands into four land-use classes, known as Classes C, L, M, and I, which provide a hierarchy of permissible land uses and development on CDCA lands. The CDCA Plan provides:

Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not diminished.

The CDCA Plan further elaborates that consumptive uses on Class L lands are allowed “only up to the point that sensitive natural and cultural values might be degraded.” Class L provides

“protective resource management which complements many identified Native American values.” In contrast, Class M provides for “higher intensity use” such as “mining, livestock grazing, recreation, energy, and utility development.” Class I lands allow intensive development and provide for “concentrated use of lands and resources to meet human needs.” Nearly four million acres (over 30% of BLM lands under management in the CDCA) are Class M or I lands set aside for moderate to high-intensity development.

Solar energy development is not per se prohibited on Class L lands; however, the Solar PEIS deals only with large utility-scale projects that are very likely to result in degradation of the natural and cultural values that led to the Class L designation. Utility-scale projects often cover many thousands of acres with solar-related infrastructure. Such development is wholly incompatible with the purposes of the Class L designation and inconsistent with Congress’ clear intent to protect the natural and cultural resources of the CDCA. Moreover, prohibiting solar development on Class L lands will not interfere with Interior’s development goals, because there are literally millions of acres within the CDCA that are specifically designated for high-intensity, large-scale land uses such as utility-scale solar. In addition, small solar projects that do not interfere with cultural and natural values could potentially be developed on such Class L lands. In order to comply with FLPMA and the CDCA Plan, BLM must exclude Class L lands from the lands available for utility-scale solar development.

F. Interior Should Cease Its Review of Proposed Solar Projects Until Final Completion of the Solar PEIS and Approval of A Solar Energy Program.

There are currently dozens of active applications to develop solar energy projects on BLM lands. However, continuing to process those pending applications is inconsistent and interferes with the purpose of the Solar PEIS. Development of the pending active applications would result in nearly 75,000 MW of generation, which is nearly triple BLM’s estimate of solar development on BLM lands in the six-state area over the next 20 years. *See* Solar PEIS, p. 2-22. The purpose of the Solar PEIS is to formulate a program that will facilitate development of large-scale solar projects in the appropriate areas, and in a manner that is consistent with protection of the public lands. The current solar project applications are not limited to the proposed Solar Energy Zones and are not necessarily limited to lands within the Solar Energy Program Development alternative. It is likely that some of the projects are located in areas that would be excluded from solar development in a solar program approved under the PEIS. Allowing these pending projects to go forward would largely defeat the purpose of this planning process. In order to preserve the benefits associated with this planning process and to avoid unnecessary resource conflicts, it is prudent to wait until a Solar Energy Program is in place before processing and approving additional solar projects.

G. Interior Should Not Approve Imperial East as a Solar Energy Zone Due to the Prevalence of Cultural Resources, Prehistoric Human Remains, and Visual Impacts

Although the Tribe generally supports the Solar Energy Zone concept, it does not support the identification of lands known as Imperial East as an approved Solar Energy Zone. First,

these lands are Class L lands, which, as described above are not appropriate for utility-scale solar energy development. Second, these lands fall within the traditional territory of the Quechan Indian Tribe and are in close proximity to lands known and recognized for their cultural sensitivity. It is highly likely that there are Quechan cultural sites and possibly remains of Quechan ancestors within this area. It is not appropriate to promote utility-scale energy development on these lands.

H. The Section 106 Process Must Be Completed, In Government-to-Government Consultation With the Tribe, Before Reaching A Final Decision on Any Proposal That May Impact Quechan Cultural Resources.

The Solar PEIS does not approve specific projects and there is an acknowledgement that individual projects must still undergo further reviews under NEPA and Section 106 of the National Historic Preservation Act. The Tribe expects full compliance with the Section 106 process and expects the federal agencies to fulfill its obligations to meaningfully consult with the Tribe on a government-to-government basis when reviewing proposed projects that could affect resources of significance to the Tribe. The Tribe objects to any process that would result in approval of utility-scale solar projects prior to full completion of the Section 106 and government-to-government consultation processes. The Tribe also objects to any scheme that defers consultation until some future time after a project has been approved. *See Order Granting Preliminary Injunction, Quechan Tribe of the Fort Yuma Indian Reservation v. United States Department of the Interior*, Case NO. 10-2241 (S.D. Cal., December 15, 2010) (enjoining construction of Imperial Valley Solar project due to failure of United States to properly consult with Quechan Tribe).

Page 14-7 of the Solar PEIS notes that the Quechan Tribe is one of five tribes that affirmatively requested government-to-government consultation regarding the Solar PEIS; however, such consultation has not occurred.

I. Additional Comments

As stated in Section 5.15.3.1, the Tribe agrees that the use of previously disturbed lands should be encouraged; however, cultural resource surveys and completion of the Section 106 process must be completed even on lands that have had prior disturbances. In some cases, in desert areas, cultural resources are located just below the surface of a disturbed area.

In Section 5.16, the Solar PEIS identifies potential mitigation measures to address Native American concerns, including such measures as avoiding visual intrusion on sacred areas, avoiding impacts to sacred springs and waters, avoiding impacts to culturally sensitive plants and wildlife species, etc. While the Tribe agrees that sacred areas and objects should be avoided, the Tribe objects to the use of the phrase “when possible” that follows each of these mitigation measures. The purpose of this Solar PEIS is to determine land areas that are the most appropriate for large-scale solar development. Thus, the government should be prospectively limiting development to those areas that do not contain sacred areas and objects. With appropriate planning, it should always be possible to avoid sacred areas.

Table 6.1-2 states that the impacts to cultural resources would be the same for both the SEZ Program alternative and the Solar Energy Development Program alternative, albeit the impacts in the SEZ Program would be concentrated in a smaller area. The Tribe disagrees that the impacts will be the same under each alternative. First, the likelihood of impacts in the Solar Energy Development Program is far greater given the fact that 30 times more land is available for development under that alternative. It is misleading to state that the impacts to cultural resources under the two alternatives will be the same. Second, the SEZ Program should only be allowing solar development in areas determined not to be culturally sensitive. As stated repeatedly throughout, the purpose of this planning process is to determine those public land areas that are most appropriate for large-scale solar development. Those lands that contain sensitive natural resources should simply not be included with the solar energy zones.

As stated in Section 6.2.2, the environmental impacts of the SEZ Program alternative would be minimized due to the limited land areas and the prospective determination that such areas are appropriate for large-scale solar. The Tribe supports the concept of limiting large-scale solar development to specific areas deemed most appropriate, i.e., those areas that lack sensitive cultural and natural resources, and precluding large-scale solar development on all other public lands at this time.

The Tribe objects to the statement on page 6-100 that cumulative effects on cultural resources are expected to be small “because of the relatively small fraction of land disturbed.” It is inaccurate and misleading to analyze the impacts to cultural resources by simply dividing the number of acres disturbed by the number of total acres in existence. The appropriate inquiry is to determine whether or not the specific areas targeted for development have significant cultural resources and to make every effort to move development out of such sensitive areas.

Appendix A, Section A.2.1.2.2, describes the proposed pre-application process for the future Solar Energy Program. That program requires the applicant to consult with holders of grazing rights and mining claims in the pre-application process, but does not require any consideration of cultural resource conflicts or consultation with affected tribes. It is important for the applicant and Interior to determine early in the process whether lands at issue contain significant cultural resources or sacred areas. A cultural resource consultation should be part of the pre-application process.

Appendix C confirms that all proposed utility-scale solar development in California is within the California Desert Conservation Area. The Tribe is concerned with Interior’s proposal to allow such a large amount of intensive development within the CDCA. As noted above, utility-scale development on Class L lands within the CDCA is not permissible. Interior must ensure that any proposed utility-scale development within the CDCA is limited to Class M or I lands. Interior should also consider public lands outside the CDCA in California for solar.

Thank you for your consideration to the Tribe’s comments.

Solar PEIS Comments
March 7, 2011
Page 10

Sincerely yours,

MORISSET, SCHLOSSER, JOZWIAK & SOMERVILLE

A handwritten signature in black ink, appearing to read 'Frank R. Jozwiak', with a long horizontal flourish extending to the right.

Frank R. Jozwiak
Thane D. Somerville
Attorneys for Quechan Indian Tribe

cc: President Mike Jackson, Sr.
Vice-President Keeny Escalanti, Sr.
Members of the Quechan Tribal Council
Bridget Nash-Chrabasz, Historic Preservation Officer

Thank you for your comment, Peter Satrun.

The comment tracking number that has been assigned to your comment is SolarD10092.

Comment Date: March 7, 2011 12:36:30PM
Solar Energy Development PEIS
Comment ID: SolarD10092

First Name: Peter
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Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I would agree w/ the SLVRCA in opposition to SEZ and urge to consider EPA plan first. Thanks for sharing.

Thank you for your comment, Philip Incao.

The comment tracking number that has been assigned to your comment is SolarD10093.

Comment Date: March 7, 2011 14:12:24PM
Solar Energy Development PEIS
Comment ID: SolarD10093

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Comment Submitted:

I am strongly opposed to leasing BLM land for the use of industrial solar power plants. Given the many unknowns and the huge, long-term ecological footprint of this proposal, I believe this should be the last resort, not the first option. Solar energy is the wave of the future, and it must be utilized using a new paradigm and in far-seeing, futuristic ways. Distributed Generation in our vast urban landscapes and the EPA Re-Powering America Plan offer a responsible and cost-effective alternative for solar energy development

The traditional models of generating electricity in a centralized area and transmitting it over vast distances are antiquated and not appropriate to new technologies. Recent research by Dr. Michael Allen and colleagues at the Center for Conservation Biology at UC Riverside suggest this approach could result in a net gain in atmospheric carbon by interrupting ancient carbon-sequestration processes in arid ecosystems, and furthermore it will increase sulfur hexafluoride (SF₆), a highly potent greenhouse gas used for electric transmission and distribution. SF₆ has a global warming potential 23,900 times higher than CO₂.

These power plants will turn thousands of acres of intact, ecologically-valuable public lands into industrial zones, destroying habitat, disturbing migration patterns, and further corrupting the few wild places left on this planet. So I urge you to reconsider leasing our precious, protected lands to industrial solar complexes. Look to the future for new ways of distributing energy as well as in using these new technologies, and please protect our public lands for future generations.

Thank you for your comment, Jennifer Thomson.

The comment tracking number that has been assigned to your comment is SolarD10094.

Comment Date: March 7, 2011 14:14:38PM
Solar Energy Development PEIS
Comment ID: SolarD10094

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Comment Submitted:

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Thank you for your comment, Diane Bairstow.

The comment tracking number that has been assigned to your comment is SolarD10095.

Comment Date: March 7, 2011 14:15:41PM
Solar Energy Development PEIS
Comment ID: SolarD10095

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Attachment:

Comment Submitted:

I am strongly opposed to leasing BLM land for the use of industrial solar power plants. Given the many unknowns and the huge, long-term ecological footprint of this proposal, I believe this should be the last resort, not the first option. Solar energy is the wave of the future, and it must be utilized using a new paradigm and in far-seeing, futuristic ways. Distributed Generation in our vast urban landscapes and the EPA Re-Powering America Plan offer a responsible and cost-effective alternative for solar energy development

The traditional models of generating electricity in a centralized area and transmitting it over vast distances are antiquated and not appropriate to new technologies. Recent research by Dr. Michael Allen and colleagues at the Center for Conservation Biology at UC Riverside suggest this approach could result in a net gain in atmospheric carbon by interrupting ancient carbon-sequestration processes in arid ecosystems, and furthermore it will increase sulfur hexafluoride (SF₆), a highly potent greenhouse gas used for electric transmission and distribution. SF₆ has a global warming potential 23,900 times higher than CO₂.

These power plants will turn thousands of acres of intact, ecologically-valuable public lands into industrial zones, destroying habitat, disturbing migration patterns, and further corrupting the few wild places left on this planet. So I urge you to reconsider leasing our precious, protected lands to industrial solar complexes. Look to the future for new ways of distributing energy as well as in using these new technologies, and please protect our public lands for future generations.

Thank you for your comment, Donald Vargas.

The comment tracking number that has been assigned to your comment is SolarD10096.

Comment Date: March 7, 2011 17:29:51PM
Solar Energy Development PEIS
Comment ID: SolarD10096

First Name: Donald
Middle Initial:
Last Name: Vargas
Organization: Imperial Irrigation District
Address: P.O. Box 937
Address 2:
Address 3:
City: Imperial
State: CA
Zip: 92251
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Comment_Letter_SEDD10096.pdf

Comment Submitted:



IMPERIAL IRRIGATION DISTRICT

ENVIRONMENTAL, REGULATORY AND EMERGENCY PLANNING • P.O. BOX 937 • IMPERIAL, CA 92251
TELEPHONE (760) 482-3600 • FAX (760) 482-3603

GS-EREP

March 3, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

SUBJECT: BLM & DOE Notice of Availability of the Draft Programmatic EIS for Solar Energy Development in Six Southwestern States

On December 16, 2010 the Bureau of Land Management (BLM) and the Department of Energy (DOE), as co-lead Agencies, filed in the Federal Register, Notice of Availability of the Draft Programmatic Environmental Impact Statement (EIS) for Solar Energy Development in Six Southwestern States and Notice of Public Meetings. The BLM is considering taking further actions to facilitate solar energy development in compliance with various orders, mandates, and agency policies. For the BLM, these actions include the evaluation of a new Solar Energy Program applicable to utility-scale solar energy development on BLM-administered lands in 6 southwestern states (Arizona, **California**, Colorado, Nevada, New Mexico, and Utah). The DOE is considering taking actions to facilitate solar energy development in compliance with various orders, mandates, and agency policies. For the DOE, these actions include the evaluation of developing new program guidance relevant to DOE-supported solar energy projects. The BLM and the DOE are working jointly as lead Agencies to prepare this Programmatic EIS to evaluate the proposed BLM program and whether to develop the DOE guidance.

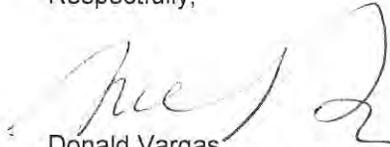
Pursuant to the above, the Imperial Irrigation District (IID) has reviewed the above mentioned document and submits the following comments on the project:

1. The proposed location of the Imperial East Solar Energy Zone is located on IID's East Mesa Unit and north of Highway 98. IID Water Department facilities that could be impacted include the All American Canal, Drop 4 Hydro Plant, Drop 3 Hydro Plant, several All American drains, all other adjacent water facilities, and well monitoring sites.
2. The Draft Solar PEIS shows generalized map locations. The DOE and BLM will need to discuss impact to IID's operation and maintenance activities for the proposed Imperial East Solar Energy Zone.
3. Any construction or operation on IID property or within its existing and proposed right of way or easements will require an encroachment permit, including but not limited to: surface improvements such as proposed new streets, driveways, parking lots, landscape; and all water, sewer, storm water, or any other above ground or underground utilities. A copy of the encroachment permit application is included in the IID's Developer Project Guide. The Developer Project Guide with the encroachment permit application can be found at: <http://www.iid.com/Modules/ShowDocument.aspx?documentid=2328>. For additional information regarding encroachment permits, the IID Real Estate Section should be contacted at (760) 339-9239.

4. On page 9.1-21, Lands and Realty and Affected Environment sections, the last sentence of the third paragraph states "IID can sell water for solar development." All water supplies must be obtained through IID for this project. All new non-agricultural water project supply requests are processed in accordance with the IID's Interim Water Supply Policy (found at <http://www.iid.com/Modules/ShowDocument.aspx?documentid=269>). For additional information regarding the Interim Water Supply Policy, the IID Water Supply Planning/Colorado River Manager may be contacted at (760) 339-9038.
5. In order to obtain a water supply from IID for the project, the project proponent will be required to comply with all applicable IID policies and regulations and may be required to enter into a water supply agreement with IID. Such policies and regulations require, among other things, that all potential environmental and water supply impacts of the project have been adequately assessed, appropriate mitigation has been developed and appropriate conditions have been adopted by the relevant land use permitting/approving agencies.
6. Any new, relocated, upgraded or reconstructed IID facilities required for and by the project (which can include but is not limited to electrical utility substations, electrical transmission and distribution lines, etc. and water delivery and drainage structures) need to be included as part of the project's CEQA and/or NEPA documentation, environmental impact analysis and mitigation. Failure to do so will result in postponement of any construction and/or upgrade of IID facilities until such time as the environmental documentation is amended and environmental impacts are fully mitigated. **Any and all mitigation necessary as a result of the construction, relocation and/or upgrade of IID facilities is the responsibility of the project proponent.**

Should you have any questions, please do not hesitate to contact me by phone at 760-482-3609 or by e-mail at dvargas@iid.com. Thank you for the opportunity to comment on this matter.

Respectfully,



Donald Vargas
Environmental Specialist

cc: Mario Escalera. – Manager, Energy Dept. Operations & Infrastructure
James Ross. – Executive Program Manager, Water Dept.
Mike L. King. – Manager, Water Dept.
Jeff M. Garber. – General Counsel
Joel Ivy. - Asst. Mgr. Energy Dept.
Juan Carlos Sandoval. – Asst. Mgr. Energy Dept.
Carlton L. King. – Asst. Mgr., Energy Dept. Customer Service Operations
Richard R. White. – Asst. Mgr., Energy Dept. Construction & Maintenance Operations
Tina Shields. – Asst. Mgr., Water Dept. Resources Planning & Management
David L. Barajas. – General Supt., Energy Dept. System Planning & Engineering
Michael S. Trump. – General Supt., Energy Dept. Customer Operations & Planning
Ismael Gomez. – Chief Engineer, Water Dept. Engineering Services
Bruce Wilcox. – Environ. Proj. Mgr., Water Dept. QSA Water Transfer
James P. Kelley. – Supervisor, Real Estate & Right-of-Way
Vikki Dee Bradshaw. – Asst. Supv., Environmental Management

Thank you for your comment, Marylin Williams.

The comment tracking number that has been assigned to your comment is SolarD10097.

Comment Date: March 7, 2011 17:42:45PM
Solar Energy Development PEIS
Comment ID: SolarD10097

First Name: Marylin
Middle Initial: K
Last Name: Williams
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

The use of land in Colorado in this manner is an outrage. The rape of the land by Goldman Sachs who brought us the bail-out and is now using it to take more money out of our state, BP who has already ruined the Gulf states, and the other corporations who care nothing about our state or hard working people, only their own profit, is unacceptable. If you gave the same amount of money to us to provide independent distribution of energy production, our country, our state, and our economy would be in better shape.
SHAME ON YOU!

Thank you for your comment, James Welke.

The comment tracking number that has been assigned to your comment is SolarD10098.

Comment Date: March 7, 2011 18:01:25PM
Solar Energy Development PEIS
Comment ID: SolarD10098

First Name: James
Middle Initial: M
Last Name: Welke
Organization:
Address: 634 Albany St
Address 2:
Address 3:
City: Ferndale
State: MI
Zip: 48220
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

PEIS sounds, I'm sad to say, like a bad idea all around.

First, when I see names like BP, Chevron, JP Morgan, and Goldman Sachs associated with any use of public resources, including land (or Gulfs... i.e. Gulf of Mexico), my hackles are immediately raised. These folks do not, under any circumstances, put the interests of the public first. Their sole concern is short-term profit, and long-term domination of market share to the exclusion of all other options.

Second, utility scale electricity generation is not generally considered a least-cost solution for renewable electricity generation. A proven better and cheaper approach is distributed renewables, where electricity is generated near the load (on the roof, or in adjacent property), and where local co-generation (CHP: combined heat and power) is implemented in the case of thermal generators. Distributed renewables do not require the construction of long-distance transmission lines, so lower cost and better efficiency are gained. Also, distributed renewables bring the added benefit of more, better paid jobs in existing communities.

So, why would we embrace the use of public land for corporate, utility scale electricity generation? Well, it sounds like interested utilities and corporations want to dictate the terms of renewable electricity generation, and insure a perpetual profit stream at the expense of ratepayers. By implementing capital-intensive projects, corporate planners insure their dominating influence will persist for many, many years (this is the same approach used by the nuclear power industry -- once ratepayers have invested a fortune to build one of those things, they are loath to abandon it, even if better options are present).

Further, this plan sounds a little like mountain top removal to me. Once you build in these environments, the environment is altered -- pristine ecosystems gone -- forever. Distributed renewables offer power generation on already developed land (for less expense, and no lossy transmission lines).

If there is no stopping this, I suggest we go very slowly. No "fast track," thank you. Take sufficient time to evaluate the social and environmental impact, GHG footprint, and economics of these plants. If, after detailed, public-reviewed study, these projects are deemed worthwhile from a public interest perspective, please stick with BLM option #1: "A no action alternative that continues the issuance of right-of-way authorizations for utility-scale solar energy development on a case-by-case basis in accordance with existing policies."

Then, I would insist that these utilities be publicly owned, not-for-profit entities. They should not be corporate profit centers that hold ratepayers captive for decades.

Thanks!

More: <http://completelybaked.blogspot.com/search/label/Energy>

Thank you for your comment, cindy Beaver .

The comment tracking number that has been assigned to your comment is SolarD10099.

Comment Date: March 8, 2011 09:01:56AM
Solar Energy Development PEIS
Comment ID: SolarD10099

First Name: cindy
Middle Initial: l
Last Name: Beaver
Organization:
Address: 2050 sandstone way
Address 2: p.o. box 1044
Address 3:
City: Crestone
State: CO
Zip: 81131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please do not give away valuable land for huge corporate development. We have faster, cheaper, less destructive alternatives for meeting our solar energy goals. Do the right thing.

Thank you for your comment, Kurt Chaffin.

The comment tracking number that has been assigned to your comment is SolarD10100.

Comment Date: March 8, 2011 09:52:17AM
Solar Energy Development PEIS
Comment ID: SolarD10100

First Name: Kurt
Middle Initial:
Last Name: Chaffin
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I adamantly oppose this effort to set up a solar power grid in the Utah area, anywhere! The reason for this is that as the administrators of public lands, the DOI and BLM are selectively using policy to best fit a contentious, one sided agenda. The application of policy in Utah, according to BLM, is to shut out recovery of natural resources and legitimate public uses, while pandering to controversial and highly restrictive rules that serve a vary narrow segment of society.

In Addition, it is not equitable to take away an energy resource recovery effort that would use a space of an acre or two to drill for energy, and replace it with a set up that will take many, many more acres of giant black squares lined up in rows. The view-shed impact of such a solar set up far exceeds that of a drill setup in my opinion. In addition, the energy benefit is not equal either. On cloudy days the harvest of solar energy will be decreased and produce less if any energy at all. Damage to the equipment is a real potential occurrence creating more cost and reducing benefit. The output created will likely benefit a very small group of people, not a greater segment of the state, AND will likely be sent to users out of state! If this actually happens, the people of Utah will be once again disregarded and ignored by the federal government administrators.

Also, it's very likely that the area will be off limits to public use by virtue of the policy created by BLM, DOI or any of the other energy related agencies involved in this.

I do not support this effort. I have had enough of BLM and DOI staff dictating what they think should happen in my state while ignoring those who live here who are directly impacted by erroneous and bias decisions.

Terminate this project immediately. Stop wasting our time and our tax-payer money.

Thank you for your comment, Donald Begalke.

The comment tracking number that has been assigned to your comment is SolarD10101.

Comment Date: March 8, 2011 14:24:17PM
Solar Energy Development PEIS
Comment ID: SolarD10101

First Name: Donald
Middle Initial:
Last Name: Begalke
Organization:
Address: PO Box 40381
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 850670381
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The alleged "Programmatic Solar EIS" is not in the email you sent 12/17/10.
Two subsequent emails from you do not include the PEIS either. If you do not send it, how can a person read the PEIS?

Donald

Thank you for your comment, Eve Cannella.

The comment tracking number that has been assigned to your comment is SolarD10102.

Comment Date: March 8, 2011 16:30:41PM
Solar Energy Development PEIS
Comment ID: SolarD10102

First Name: Eve
Middle Initial: A
Last Name: Cannella
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly object to solar panels being placed on or near sacred sites. Specifically the Giant Intaglios and the surrounding sites in and near Blythe, California, and the California desert corridors. It is an unconscionable act to destroy a sacred site. For a moment, think about your house of worship and how you would feel if it were destroyed. These sacred sites are not only treasures for the indigenous inhabitants, but for all of us.

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10103.

Comment Date: March 8, 2011 16:59:04PM
Solar Energy Development PEIS
Comment ID: SolarD10103

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Photovoltaic development on public lands should be limited to small scale projects on areas that are already heavily disturbed. Little purpose or need exists to disturb lands in public ownership by the construction of large scale projects since photovoltaic technology can easily be sited in a highly distributed manner such on small parcels and rooftops near regions of demand. In addition, ample private land exists to accommodate a large amount of solar development, distributed or otherwise. Preferably, public land resources should be reserved as much as possible for conservation or relatively low intensity multiple use that at least partially preserves the natural ecological functioning of a particular location.

Jared Fuller
Provo, Utah

Thank you for your comment, James Dieterich.

The comment tracking number that has been assigned to your comment is SolarD10104.

Comment Date: March 8, 2011 17:04:34PM
Solar Energy Development PEIS
Comment ID: SolarD10104

First Name: James
Middle Initial: A
Last Name: Dieterich
Organization:
Address: 73625 Catalina Way
Address 2: Apt #11
Address 3:
City: Palm Desert
State: CA
Zip: 92260
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of developing solar power within the proposed areas.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10105.

Comment Date: March 8, 2011 17:42:04PM
Solar Energy Development PEIS
Comment ID: SolarD10105

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Overall, the amount of utility-scale solar development may be a little too high, but not that much too high. I do not agree with many of the commentors at the Indian Well, CA public hearing. The positive effects of utility-scale far outweigh the negative and highly mitigatable impacts to desert habitat. In fact, if these solar projects are not developed, there is a very good chance that with global warming, the desert creatures and habitat will be destroyed anyway or move to higher elevations, if elevations exist. I agree that distributed solar on city rooftops is necessary as well, but those are all portions of clean renewable energy that must be developed along with utility-scale solar.

My biggest complain on this PEIS is the lack of discussion on Off-site mitigation. If these utility-scale projects impact biological resources, those impacts should be mitigated through appropriate land acquisition and conservation. This should be covered in the PEIS.

Thank You,

Thank you for your comment, Russell TROUTMAN.

The comment tracking number that has been assigned to your comment is SolarD10106.

Comment Date: March 8, 2011 18:38:34PM
Solar Energy Development PEIS
Comment ID: SolarD10106

First Name: Russell
Middle Initial: E
Last Name: TROUTMAN
Organization:
Address: PO Box 723
Address 2:
Address 3:
City: Saguache
State: CO
Zip: 81149
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I moved to the Valley to be away from all the junk associated with big city after a career in public service. I wish to be isolated from all new development and bought property adjoining BLM to further isolate myself and now you want to invade me with more so called progress. I object to the proposed sites near Saguache, Colorado. Please look elsewhere as we have a good life here and don't want it ruined with unsightly panels and towers.

Thank you for your comment, mitch lankford.

The comment tracking number that has been assigned to your comment is SolarD10107.

Comment Date: March 9, 2011 10:27:27AM
Solar Energy Development PEIS
Comment ID: SolarD10107

First Name: mitch
Middle Initial: s
Last Name: lankford
Organization: sunquest solar llc
Address: 1660 lakeside drive #231
Address 2:
Address 3:
City: bullhead city
State: AZ
Zip: 86442
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The impact of solar in the desert or the mohave area ia dependant upon three things. One, the wildlife must be considered during the construction phase. Two, the use of water during operation must be kept at a low - no change to existing watersheds and use. Thirdly, the energy generated in AZ and or other states must directly benefit the local communities that are part of the electric grid being affected by the project. In other words the local tax payers and residents must have some benefit to it or everybody says "not in my back yard" Possibilities could range from tax breaks on power usage, night lighting offset(s) for streets / Hwy's. Mostly, the use of federal lands to provide power is an american thing, therefor all americans should have a piece of the pie, and share in the benefits. Thank you for the opportunity to provide public comment.

Thank you for your comment, Tom Bagwell.

The comment tracking number that has been assigned to your comment is SolarD10108.

Comment Date: March 10, 2011 09:28:05AM
Solar Energy Development PEIS
Comment ID: SolarD10108

First Name: Tom
Middle Initial:
Last Name: Bagwell
Organization: New Mexico Department of Agriculture
Address: MSC 3189
Address 2: P.O. Box 30005
Address 3:
City: Las Cruces
State: NM
Zip: 880038005
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SOLAR-PEIS.pdf

Comment Submitted:

Attached are New Mexico Department of Agriculture's comments to the Solar Energy Development PEIS.



New Mexico Department of Agriculture
Office of the Director/Secretary
MSC 3189
New Mexico State University
P.O. Box 30005
Las Cruces, NM 88003-8005
Phone: (575) 646-3007

March 10, 2011

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 South Cass Avenue
EVS/240
Argonne, IL 60439

To Whom It May Concern:

New Mexico Department of Agriculture (NMDA) submits the following comments to the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States.

Part of NMDA's vision is ". . . proactive advocacy and promotion of New Mexico's agricultural industries." We understand the need for development of renewable energy sources to provide for current and future energy demands; however, development of the Solar Energy Zones (SEZ) will remove these lands from multiple-use status and significantly impact area ranching operations. The PEIS is a substantial and impressive document that accurately identifies a wide range of impacts. Our comments focus on analysis of the effects that development of the SEZs within New Mexico would have on ranching operations associated with the 11 grazing allotments identified in the PEIS.

The SEZs in New Mexico encompass over 113,000 acres of Bureau of Land Management (BLM) administered lands that are currently managed as part of range livestock operations with the exception of two small areas on the eastern edge of the Afton SEZ. The PEIS estimates that under a full development scenario, 9,306 animal unit months (AUM) of forage would become unavailable for grazing causing the cancellation of three grazing permits and reduction in AUMs for eight others. This estimate is based on the assumption that AUM loss is proportional to public land acres lost to the SEZs. Deviations from this assumption are partially explained in the text specific to each allotment with the exception of the La Mesa Allotment, which shows a 15 percent reduction in land area and 32 percent reduction in AUMs. In order to account for these deviations, a more meaningful metric would be to provide the percentage of AUMs lost when analyzing impacts to ranching operations. The forage an AUM represents directly relates to the income producing ability of the allotment. Thus, a percentage reduction in AUMs equates to a percentage reduction in income to the ranch operation.

Appendix M, Section M.4.1.2 Analysis Approach and Information Sources, provides the assumption ". . . allotments that lose greater than 50% of their land area would suffer a large impact; losses of 25% to 50% would be considered a moderate impact; and losses of less than 25% would be considered a small or negligible impact." NMDA disagrees with this scale characterizing the magnitude of impacts to affected ranches. As outlined above, the percent reduction in land area is directly proportional to percent

reduction in income producing ability of the allotments. To suggest that a 25 percent reduction in income producing ability is “. . . a *small or negligible impact*” to a ranch operation is erroneous. When analyzing the estimated AUM losses to each allotment, the percentage loss ranges from 13 percent to 100 percent (impacts to Corralitos Ranch Allotment from the Afton and Mason Draw SEZs are combined). NMDA posits that a 13 percent reduction in AUMs represents a major impact to ranching operations. This position is supported by reports of nominal rates of return for ranches ranging from negative to about 3 percent, depending on ranch size (Bartlett et al. 2002). Any increased management costs associated with indirect impacts from solar energy development would further exacerbate impacts. Impacts deemed small or negligible in the PEIS could, in many cases, lead to total loss of economic viability for affected ranching operations.

Beyond direct impacts to ranch income, AUMs from BLM grazing allotments represent value to associated, privately owned base properties. Rimbey et al. (2007) estimated the 2003 marginal permit value for BLM-administered allotments to be \$128 per AUM. This amount varies with the percentage of the allotment that is BLM land. In situations where solar energy development reduces the economic viability of a ranch to the point it can no longer operate, the affected land owner is left with a base property that has been significantly devalued because of the loss of access to BLM forage.

The PEIS provides little analysis of potentially applicable mitigation measures related to grazing use affected by solar energy development. Beyond suggesting development of range improvements and changes in grazing management, the document only encourages agreements between solar energy developers and ranchers. Ranchers displaced by solar energy development would not have the ability to relocate to adjacent or nearby federally managed lands as other uses such as recreation and wildlife would.

Under the current framework, a subset of Americans (the affected ranchers) will bear a disproportionate amount of costs associated with utility scale development of solar energy resources on federally managed lands. NMDA believes that mitigation and/or compensation to affected ranching operations for the severe adverse impacts that will occur with solar energy development should be mandatory and not merely encouraged. In addition, consideration should be given to the potential environmental justice outcomes wherein one segment of the population is disproportionately affected.

Thank you for the opportunity to comment on this important matter.

Sincerely,



Tom Bagwell
Interim Director/Secretary

TB/JM/lo

Literature Cited:

Bartlett, E. Tom, L.A. Torell, N.R. Rimbey, L.W. Van Tassell, and D.W. McCollum. 2002. Valuing Grazing Use on Public Lands. *Journal of Range Management*. 55: 426-438.

Rimbey, Neil R., Torell, L.A., and Tanaka, J.A. 2007. Why Grazing Permits Have Economic Value. *Journal of Agricultural and Resource Economics*. 32(1):20-40.

Thank you for your comment, Ronald Decker.

The comment tracking number that has been assigned to your comment is SolarD10109.

Comment Date: March 10, 2011 17:32:30PM
Solar Energy Development PEIS
Comment ID: SolarD10109

First Name: Ronald
Middle Initial: A
Last Name: Decker
Organization:
Address: 428 Kochia Way
Address 2:
Address 3:
City: Sterling
State: CO
Zip: 80751
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The proposed SEZ plotting plan.

I don't believe that the Public Utilities should be able to do anything with land they do not already possess. They don't deserve it. I've already lost enough to the taxes paid on my Energy Bill. and I simply do not feel they will ever deserve my trust again. They canceled the Rebate Program for Consumers, and now they want Eminent Domain for more property in Reservations and BLM land.

So I say NO.

Thank you for your comment, william poleson.

The comment tracking number that has been assigned to your comment is SolarD10110.

Comment Date: March 11, 2011 11:35:24AM
Solar Energy Development PEIS
Comment ID: SolarD10110

First Name: william
Middle Initial: w
Last Name: poleson
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a conservative but, with continued use and growth of the solar power industry, prices will come down and efficiency will improve and the government subsidy can be reduced, I hope. Any industry that can't exist without government involvement should not. In the meantime drill for oil and gas and dig more coal for cleaner non arab energy.

Thank you for your comment, Chuck Bell.

The comment tracking number that has been assigned to your comment is SolarD10111.

Comment Date: March 13, 2011 17:37:15PM
Solar Energy Development PEIS
Comment ID: SolarD10111

First Name: Chuck
Middle Initial:
Last Name: Bell
Organization: Lucerne Valley Economic Development Assoc. (LVEDA)
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

LUCERNE VALLEY ECONOMIC DEVELOPMENT ASSOCIATION (San Bernardino County – Calif.) Chuck Bell, Pres. 760 964 3118 chuckb@sisp.net

RE: SOLAR PEIS

Oppose all utility-scale “renewable” projects until the grid can fully accommodate its power without siphoning it off due to capacity constraints – decelerating/accelerating base load coal/natural gas/nuclear generation to accommodate it (which increases emissions/wastes power/disrupts systems, etc).

“Fast tracking” is unraveling a multitude of conservation efforts that citizens and BLM have spent decades implementing.

We're screwing up the integrity of the Calif. Desert - partitioning it out w/o a comprehensive plan - losing the "whole" of it by giving away its "parts".

Ft. Irwin's (base expansion) and Ivanpah's (solar project) experiences indicate tortoise relocations don't work well enough to constitute "full" mitigation. There's a lot more than tortoise that need protection - a multitude of other habitats - open space - etc.

Relying on off-site "conservation" lands to compensate these project impacts might be a "feel good" measure - but the demand will far outpace the supply (much of which is already set aside for conservation and multiple use) - we're just moving stuff around - the Counties lose tax base when private lands are transferred to BLM/DFG/etc. - plus reduces areas for other legit. multiple uses.

SOLUTIONS:

Halt solar/wind application processing until "Programmatic" is finalized/implemented.

Look at the desert as a "whole" - an "Energy Plan" with zoning and/or specific siting criteria - determine the "right" places.

Acknowledge that the acreage requirement per solar/wind MW is a poor/marginal tradeoff of desert resources within the total mix of energy options.

Projects on BLM currently under processing that are in "wrong" locations - per the Plan - could be transferred to "approved" locations with minimal cost and burden to applicants.

DOI eliminate its "fast tracking" practice of trumping BLM in final actions!

BLM increases its lease rates commensurate with the average cost of leased/purchased private parcels (ie: fallowed ag. land, etc. that can't be used for anything else in today's market) - leveling the playing field for private property owners to benefit from these projects - quit subsidizing the use of public land at the expense of free market options.

BLM/CEC/etc. require all applicants for public land sites to present a detailed analysis of options to use private parcels for their

projects prior to initiating any formal processing. Adopt policy: ""Fill up rooftops - parking lots - fallowed ag. lands with solar/wind -where necessary infrastructure exists - (which alone should be sufficient to meet "renewable goals") --- before considering the use of the Plan's "zoned" public land"".

Thank you for your comment, Milt Hetrick.

The comment tracking number that has been assigned to your comment is SolarD10112.

Comment Date: March 13, 2011 21:25:17PM
Solar Energy Development PEIS
Comment ID: SolarD10112

First Name: Milt
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Privacy Preference: Withhold address from public record
Attachment: BLM_PEIS_ReviewCommentsHetrickFinal.docx

Comment Submitted:

The BLM Draft Programmatic Environmental Impact Statement (PEIS) goes a long way in capturing today's consciousness in a comprehensive assessment of the impact of proposed utility-scaled solar power generation systems to be deployed on public land. The PEIS website is an outstanding application of today's technology for disseminating public information.

My detail comments are provided in the attached Word file.

**Review Comments on
CURRENT AND PROPOSED BUREAU OF LAND MANAGEMENT
SOLAR ENERGY DEVELOPMENT POLICIES AND DESIGN FEATURES**

(Draft Solar PEIS December 2010)

Contents

Introduction	1
Comments about PEIS – General	2
Comments about PEIS – Specific	2
PEIS APPENDIX A (Annotated) - Reviewer comments are indicated in Red Text	3
Conclusions	5
ENDNOTES	6

Introduction

We live in a unique era of knowledge – an exciting fast paced era of evolving awareness and consciousness. The BLM Draft Programmatic Environmental Impact Statement (PEIS) goes a long way in capturing today’s consciousness in a comprehensive assessment of the impact of proposed utility-scaled solar power generation systems to be deployed on public land.

My particular perspective is one of a retired engineer/physicist (i.e. aerospace engineer), now an elder and advocate for planet Earthⁱ. From this viewpoint, I am keenly aware of the ecological stress the ever growing number of humans is having on our global life system. That being said, I still support the responsible development of new tools and technology that allow humans to evolve socially, to extend their consciousness and to exercise their mindful creativity.

Because planet Earth has evolved life that depends on/requires energy from the Sun to animate its accumulated star stuff, emphasis on harvesting sunlight incident on land (including that under BLM stewardship) and sea is of primary importance to life’s (and our) continuing existence. Because today, many of our actions, including the consumption of ancient non-renewable energy reserves, and introduction of green house gases into the atmosphere, are unsustainable.

As we humans become more conscious, we realize that along with basic human rights & individual freedoms come personal responsibility to act in right relationship with both our human and our non-human global family. There is an emerging concept of Ecomoralityⁱⁱ involving the ethics of sustainability. In the frame of Ecomorality, our consumption/harvesting of Ancient Sunlight (petroleum, coal, natural gas, tar sands, shale oil, etc.)ⁱⁱⁱ for any use other than to not have to use Ancient Sunlight is unethical/immoral. For example, an ethical use of our dwindling supply of this non-renewable resource might be to manufacture wind turbines for a wind farm or a photovoltaic solar power generation system that can be substituted for a coal burning power plant.

Land Use Philosophy #1. Harvesting current sunlight for food energy. Biologists using DNA/RNA analysis have given us the [three-domain classification system](#)^{iv} to differentiate the diverse (but interdependent) forms of life (past and present) on planet Earth: [archaea](#), [bacteria](#), and [eukaryote domains](#). We humans (a twig of the eukaryote branch) have evolved to be totally dependent on the energy of the Sun for our daily supply of food energy. But because of our evolved cellular complexity, capability, and adaptability, humans, of course, cannot simply stand in the Sunlight, absorb the electromagnetic energy and convert it into useful chemical energy needed by our cellular furnaces ([mitochondria](#)). We became totally dependent on our plant cousins to harvest current sunlight and make the initial photosynthetic conversion

to glucose (chemical energy). Then, of course, we harvest plant life and other animal life (that have already harvested plants) for our human subsistence. Sustainable land-based and sea-based sunlight harvesting for food using natural solar plants remains our number one priority. It appears the 24 SEZs selected by the BLM in the 6 western States lack adequate water rights for the land to support sustainable agriculture other than natural harvesting by grazing/foraging animal life. But nevertheless, the land is currently harvesting sunlight and producing food for the natural habitat (wild life and soil microorganisms).

Land Use Philosophy #2. Harvesting current sunlight for tool energy. In addition to naturally harvesting current sunlight for food, the BLM land can also be used to harvest sunlight sustainably to produce electrical energy needed for the technology/tools that extend human capability. These human “tools” include home appliances that heat and cool our homes, wash and dry our clothes, help prepare, process, cook, and store our food, provide light; electric vehicles for transportation; machinery for manufacturing, equipment for design and development and research, and equipment for health care, for communication, for entertainment, etc. The DoE has identified several applicable utility-scale solar power generation technologies that can be located on BLM land to harvest current sunlight.

Comments about PEIS – General

The BLM Draft Programmatic Environmental Impact Statement (PEIS) goes a long way in capturing today’s consciousness in a comprehensive assessment of the impact of proposed utility-scaled solar power generation systems to be deployed on public land.

The PEIS website is an outstanding application of today’s technology for disseminating public information.

Comments about PEIS – Specific

- 1) Although probably present somewhere in the 11,000 pages, I did not find a Life Cycle Assessment or a Social LCA. To evaluate multiple proposals, the amount of Ancient Sunlight (petroleum, coal, natural gas, etc) , water and other natural resources consumed in manufacturing the harvesting system should be available for comparison of alternatives. Likewise the LCA would identify the amount of “waste” products, contaminants, pollutants generated/released into the air/water during the manufacturing process / installation / operation of the system.
- 2) Based on past performance of regulated profit-oriented monopolistic utilities, I would be concerned about the decommissioning phase of the power system. The PV systems should last 20-25 years before the cells have degraded to the point they need to be replaced. It is suggested that an escrow fund be established up front by the power company to cover decommissioning / recycling costs. Otherwise the contractor will have a tendency to take their monopolistic profits for 25 years and bail out leaving the taxpayer to cover the cost of recycling/restoring the BLM land.
- 3) As an un-informed reviewer of section **A.2.2.10 Design Features for Water Resources**, I was shocked that coarse screening did not eliminate sunlight harvesting technologies that require significant water usage – specifically for application in the 24 SEZs contained within the 6 western states where water resources are already scarce. Then I did find in Table A.2-2 of section A2.3 Solar Energy Zone-Specific Design Features, that for specific zones, e.g. **Colorado:** Antonito Southeast - *Water Resources*: Water resource analysis indicates that wet-cooling options would not be feasible.
- 4) If water is available, then I would question why electrolysis systems that generate clean hydrogen were not considered feasible within the Foreseeable Future (next 20 years). Hydrogen remains a viable sustainable candidate for transportation fuel and is a basic component for the production of today’s chemical fertilizer^v. Currently the production of fertilizer is unsustainable because: 1) current hydrogen is made from non-renewable Ancient Sunlight (so called “clean” natural gas) and 2) the process of converting natural gas to hydrogen releases millions of tons of CO₂ into the atmosphere^{vi}.
- 5) It is not clear if any of the 24 SEZs are also candidates for co-harvesting wind energy.

- 6) It would be unethical to “scrape” the land of its natural life forms/habitat just to make the installation of the solar system “easier” because natural harvesting is already in place to support the non-human life in the SEZs. BLM project “Design Features” should clearly state that **the proposed solar power system will co-habitat the BLM land**. Some suggestions on how this “**design feature**” may be further accentuated in the PEIS are provided below using Appendix A.
- 7) There did not seem to be any mention of the concept of selecting a solar system that was designed specifically for a “Cradle to Cradle” philosophy – where at the end-of-life, the system is decommissioned and used as the input for the next use of the raw materials. Using Ecomorality principles, an ethically designed solar harvesting system could be completely recycled – in an ideal sustainable world not a single atom would be considered as waste and get hauled to a land fill. Some suggestions on how this “**design feature**” may be further accentuated in the PEIS are provided below using Appendix A.

PEIS APPENDIX A (Annotated) - Reviewer comments are indicated in Red Text

Draft Solar PEIS December 2010

A.2.2.1 Design Features for Lands and Realty

10

11 • If a proposed action might have an adverse effect on prime and unique
12 farmland (**or other natural solar harvesting processes involving native plants, animals, etc.**), this
possibility must be discussed in the associated environmental
13 analysis, along with a consideration of alternatives or appropriate mitigation
14 measures.

1 A.2.2.8 Design Features for Soil Resources and Geologic Hazards

31 Project developers shall implement the design features for soil resources given below and
32 develop others that address unique site conditions not anticipated here. Routine site inspections
33 shall be conducted to identify and correct improperly installed, damaged, or ineffective design
34 features. Inspections shall be made more frequently during the rainy season and during and
35 following intense rainfall events to ensure the timeliness of corrective actions.

36

37

A.2.2.8.1 Siting and Design

44

45 • Project structures and facilities should be sited to avoid disturbance in areas
46 with existing biological soil crusts to the extent possible. **The design shall include a quantitative assessment
of existing natural solar harvesting (e.g. in terms of annual biomass generated, CO₂ sequestered, heat
balance, etc.) and if/and to what extent the proposed solar energy harvesting will impact the current
natural process.**

**[Note #1 : The ideal siting and design layout allows the combined harvesting of sunlight as both biomass
(chemical energy) and electrical energy – i.e the two processes are not necessarily mutually exclusive.**

**[Note #2: After the solar energy system power transmission infrastructure has been designed, the SEZ
should be re-evaluated for feasibility of adding a wind farm for additional electrical power generation at
this site]**

47

1 • Project areas shall be replanted with native vegetation at spaced intervals to
2 the extent possible to break up areas of exposed soil and reduce soil loss by
3 wind erosion.

1 A.2.2.8 Design Features for Soil Resources and Geologic Hazards

11 A.2.2.8.2 *General Multiphase Measures*

7 • A spill prevention plan to identify sources, locations, and quantities of
 8 potential chemical releases (through spills, leaks, or fires) and define response
 9 measures and notification requirements shall be developed and followed to
 10 reduce the potential for soil contamination. The plan shall also identify
 11 individuals and their responsibilities for implementing the plan.

Suggestion: The development of a comprehensive Soil Integrity Control Plan for the SEZ should be considered. This plan would acknowledge, collect, integrate all the soil subculture issues addressed throughout the PEIS (e.g. Spill Prevention Plan and other related issues that focus on Soil Contamination Control; wind and water erosion; consideration of microorganisms relative to herbicides/pesticides/dust control, etc;) as well as issues that may not yet be included such as energy/heat balance changes as equipment/panels are added, diversion/evaporation of natural precipitation, effects of leaking electrical potentials, EMI/EMF phenomena, etc. The Soil Integrity Control Plan would cover the entire project life cycle from site survey, construction, checkout/startup, operation and extend through de-commissioning. The Soil Integrity Control Plan would simply apply the emerging principles of Ecomorality (the ethics of sustainability) and assure the BLM project is implemented in “right relations” with planet Earth.

[An Air and a Water Integrity Control Plan are also recommended]

1 A.2.2.11 Design Features for Ecological Resources

14 A.2.2.11.2 *General Multiphase Measures*

15
 16 General design features for eliminating or reducing impacts on plant communities and
 17 habitats, wildlife resources, aquatic resources, and special status species that apply to all or
 18 nearly all of the project phases include the following:

19
 20 • Project developers shall designate a qualified biologist who will be
 21 responsible for overseeing compliance with all design features related to the
 22 protection of ecological resources throughout all project phases, particularly in
 23 areas requiring avoidance or containing sensitive biological resources, such as
 24 special status species and important habitats. Additional qualified biological
 25 monitors may be required on site during all project phases as determined by
 26 the BLM, USFWS, and appropriate state agencies. **The design shall include an assessment of existing natural solar harvesting (e.g. in terms of annual biomass generated, CO₂ sequestered, heat balance, etc.) and if/and to what extent the proposed solar energy harvesting will impact the current natural process.**

27
 28 • All personnel shall be instructed on the identification and protection of
 29 ecological resources (especially for special status species), including
 30 knowledge of required design features.

[Note: This planned personnel training is an excellent feature. It might include discussion of today’s DNA/RNA based Tree of Life. Seeing the human connection with all life on the planet can instill a sense of respect for the land (and non-human life) in those who design, install, operate, and de-commission this project. It might include a discussion of Ecomorality (the ethics of sustainability –including the design principles of “cradle to cradle” that eliminates all “waste” – everything is recycled – nothing ends up in a landfill at end of life)]

1 maintain wildlife habitat, maintain soil health, and reduce erosion potential.
2 All short (i.e., less than 7-in. [18-cm] tall) native vegetation shall be retained
3 to the maximum extent possible. **Blading within the project site shall be**
4 **minimized to the maximum extent possible.** Where necessary and feasible,
5 shrub cover may be mowed and/or raked to smooth out the surface. Retention
6 of native root structure and seeds within the project area would help retain
7 soil stability, minimize soil erosion, and minimize fugitive dust pollution.
8 Retention of native seed and roots within the project site will also facilitate
9 recovery of vegetative cover. Use of native plant species will minimize the
10 need to water the vegetation, because native species are already adapted to the
11 local climate and moisture regime of the area.

Conclusions

- The Draft PEIS is an impressive compilation of diverse expertise. Excellent job.
- Do place a value on the current harvesting of sunlight that has evolved in these SEZs – it may look like meaningless sagebrush, cactus, dessert grass, rodents and reptiles, etc., but it has evolved as nature’s way to harvest current sunlight and must be respected.
- Do continue to assure that the selected contractor will design, develop, install, operate and de-commission a solar power generation system that is in “right relations”^{vii} with the BLM land – that will co-habitat with the existing natural harvesting system that is already in place. We need both for a sustainable future.
- Do use the insights gained from a Life Cycle Assessment (LCA) as a yardstick for selecting the most appropriate technology as well as a SLCA.
- Do look at including the “Cradle to Cradle” design philosophy as a necessary feature. Assure that the products deployed for 30 years, when de-commissioned become the input for new evolving processes (can be efficiently recycled into other sunlight harvesting or other products/tools). Our human power generation creation should mimic nature where there is “Zero Waste.”
- Don’t forget the possibility of solar powered hydrogen generation technology within the next 20 years – Sorry but natural gas is not clean (nor is it sustainable) despite all the propaganda by the current energy companies. Clean hydrogen may be the sustainable transportation fuel and source of agricultural fertilizer within 20 years.
- Do try to further develop and employ the concepts of Ecomorality: the ethics of sustainability e.g. No ancient sunlight or ancient water is to be used except to avoid the future use of same.

Respectfully submitted,

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ENDNOTES

ⁱ M. Hetrick retired from Lockheed Martin in 2002 as a manager in propulsion engineering, and continued to work as a part-time employee until 2010. His background is in aeronautical engineering (BAAE, The Ohio State University) and physics (MS, University of Denver). Between 1979 and 1982, he worked for Science Applications Inc. on small DOE contracts and for The Oil Shale Company (TOSCO), before returning to aerospace engineering.

ⁱⁱ *At such time that the History of Nature becomes known, and celebrated, as the core of every body's faith, then ecomorality, and its attendant commitment to achieve sustainability, will emerge as a guiding planetary principle.* [Ref: Chapter 30: **Ecomorality: Toward Ethics of Sustainability**, by Ursula Goodenough; from *"A Pivotal Moment: Population, Justice & the Environmental Challenge,"* edited by Laurie Mazer.]

ⁱⁱⁱ **Ancient Sunlight**- used to denote petroleum, coal, natural gas, oil shale, tar sands, etc. – complex hydrocarbon molecules believed to have formed around 400 million years ago during the so called Carboniferous Period, when there was a large amount of carbon dioxide in the atmosphere. Over an estimated 70 million year period, sunlight stimulated the photosynthesis process that captured, sequestered much of this carbon and in this process patiently captured, converted and stored a significant fraction of the sun's electromagnetic energy (light) incident daily on the planet in the form of biomass (plant life). Because we currently perceive this one-time-only-supply of black stuff as an easy energy fix to burn in slave engines, we refer to it as "fossil fuel" - ignoring the fact that its usefulness far exceeds that of fuel. We ignore that the burning process returns the carbon to the atmosphere (in the form of carbon dioxide, etc.) where it resumes its role as a "greenhouse gas." To be perfectly clear, ANY use of Ancient Sunlight is unsustainable. If we humans were fully conscious, we would only use Ancient Sunlight so as not to have to use Ancient Sunlight. For example, using Ancient Sunlight to make a wind turbine that generates electrical power from wind energy might be a conscientious use of this one-time-only reserve- we are using Ancient Sunlight to harvest current sunlight. *An excellent easy to read reference on this topic is "The Last Hours of Ancient Sunlight," by Thom Hartmann.*

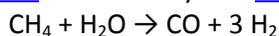
^{iv} [Ref: http://en.wikipedia.org/wiki/Three-domain_system]

^v [Ref: <http://en.wikipedia.org/wiki/Hydrogen#Industrial>] Industrial production of hydrogen is mainly from the steam reforming of natural gas...^[7] with the two largest uses being **fossil fuel** processing (e.g., **hydrocracking**) and **ammonia** production, mostly for the fertilizer market.

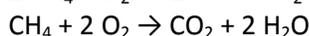
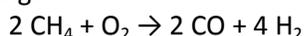
[Ref: http://en.wikipedia.org/wiki/Haber_process] The Haber process is important because previous to its discovery, ammonia had been difficult to produce on an industrial scale, and fertilizer generated from ammonia today is responsible for sustaining one-third of the Earth's population.^[5] It is estimated that half of the protein within human beings globally is made of nitrogen that was originally fixed by the Haber process, the remainder was produced by **nitrogen fixing bacteria**.^[6] By far the major source of the **hydrogen** required for the Haber-Bosch process is **methane** from **natural gas** (**This method of producing hydrogen is unsustainable, but could be transformed to a sustainable process if the hydrogen were produced sustainably – i.e. by harvesting current sunlight to produce electrical power for the electrolysis of water and clean production of hydrogen.**)

Synthesis gas preparation - today's unsustainable approach

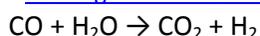
(Using our current unsustainable process) First, the natural gas (**mostly methane**) is cleaned, mainly to remove **sulfur oxide** and **hydrogen sulfide** impurities that would poison the catalysts of the Haber process. The clean methane is then reacted with **steam** over a catalyst of **nickel oxide** – the process of **steam reforming**:



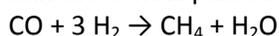
Secondary reforming then takes place with the addition of air to convert the methane that did not react during steam reforming.



Then the **water gas shift reaction** yields more hydrogen from CO and steam.



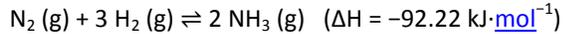
The gas mixture is now passed into a methanator^[8] which converts most of the remaining CO into methane for recycling:



This last step is necessary as carbon monoxide poisons the catalyst. (Note, this reaction is the reverse of steam reforming). The overall reaction so far turns methane (**Ancient Sunlight**) and steam into carbon dioxide (**Greenhouse gas**), steam, and hydrogen.

Ammonia synthesis – Haber process

The final stage, which is the actual Haber process, is the synthesis of ammonia using an iron catalyst promoted with K₂O, CaO and Al₂O₃:



This is done at 15–25 MPa (150–250 bar) and between 300 and 550 °C, passing the gases over four beds of catalyst... On each pass only about 15% conversion occurs, but any unreacted gases are recycled, so that eventually an overall conversion of 98% can be achieved.

^{vi} [Ref: http://www.ieabioenergy-task38.org/publications/GHG_Emission_Fertilizer%20Production_July2004.pdf] The major GHG emissions associated with nitrogen-containing fertiliser production are carbon dioxide (CO₂) emitted when natural gas is combusted as part of ammonia synthesis. (on the order of 2000 gm of CO₂ / kg of fertilizer)... The production of fertilisers demands much energy and generates considerable greenhouse gas (GHG) emissions. Kongshaug (1998) estimates that fertilizer production consumes approximately 1.2% of the world's energy and is responsible for approximately 1.2% of the total GHG emissions.

^{vii} Right Relationship

[Ref: **Right Relationship: Building a Whole Earth Economy**" by Peter G. Brown and Geoffrey Garver]

..."A thing is right when it tends to preserve the integrity, resilience(stability), and beauty of the common wealth of [all] life. It is wrong when it tends otherwise." pg 5.

[Ref: **Chapter 30: Ecomorality: Toward Ethics of Sustainability**, by Ursula Goodenough; from "A Pivotal Moment: Population, Justice & the Environmental Challenge," edited by Laurie Mazer.]

Another perspective of "right relations" is provided by Ursula Goodenough:

*And now we are called to recognize our deep affiliation with, as well as dependence on, all the creatures and habitats of the planet. This realization has been translated as an invocation to be stewards, to take responsibility for reversing the many alarming trajectories the planet is taking. But "stewardship" puts us back into the mind frame of humans-as-other, hence I better resonate with the invocation that we be participants in establishing **right relations** with our fellow beings and our earthly habitat.*

Thank you for your comment, william crum.

The comment tracking number that has been assigned to your comment is SolarD10113.

Comment Date: March 14, 2011 10:53:19AM
Solar Energy Development PEIS
Comment ID: SolarD10113

First Name: william
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Address:
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City: col
State: OH
Zip: 43220
Country: USA
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Attachment:

Comment Submitted:

I am in favor of alternative energy being developed on Federal lands [which belong to all] across not only the initial site but all across the USofA. I would also include Federal Highways, all Federal property and Parks. We see the horror on TV each day with our friends in Japan. Reportedly Japan is the "BEST" prepared of all nations.

We should move immediately, because of the above, and the National Green programs, long term international competitive position, and our present position with alternative power.

Should natural or manmade disaster occur and at some time in the future it will, efforts at that point are too late.

Japan, Russia and our own experience with nuclear power [3 Mile Island, Military] suggest we are not ready to depend on that vehicle at crunch time.

Thank you for your comment, Patricia Johnson.

The comment tracking number that has been assigned to your comment is SolarD10114.

Comment Date: March 14, 2011 12:51:07PM
Solar Energy Development PEIS
Comment ID: SolarD10114

First Name: Patricia
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Comment Submitted:

Two small comments: First, At point installation should be given a priority, as the High Intensity Power Lines are not involved. However, there is a great abundance of land in the San Luis Valley that is not being used or is under used. I am not opposed to using BLM lands for Solar Plants, after Due Diligence is properly performed.
Second: Water must be of the utmost importance in any planning of land use. Not only the purity of our water guaranteed, but also use of Wetlands must be protected. I have been told that there are no (present) plans to use Wetlands for Solar Plants, however, if they do, new Wetlands would be engineered to provide for the wildlife. This will not work. Wetlands must be preserved.
Thank You.

Thank you for your comment, clarice Davis.

The comment tracking number that has been assigned to your comment is SolarD10115.

Comment Date: March 14, 2011 15:26:28PM
Solar Energy Development PEIS
Comment ID: SolarD10115

First Name: clarice
Middle Initial: L
Last Name: Davis
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Using little or no water. That would be number 1. 2nd would be using local or at least American businesses. 3rd would be taking time to really figure out how successful these Solar/wind farms would be. 4th would be how enviromentally compatible they are...

So far it seems to be a battle of who has the most money or pull in getting these things built. And in the end it will still cost us consumers more no matter how it is done. But NOT using Arizona water should be the first consideration. Thank you for your attention.

Thank you for your comment, Andrew Parker.

The comment tracking number that has been assigned to your comment is SolarD10116.

Comment Date: March 14, 2011 17:30:00PM
Solar Energy Development PEIS
Comment ID: SolarD10116

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Attachment:

Comment Submitted:

Some of my comments are Utah-centric.

I am not opposed to solar energy, as long as it is restricted to rooftops and parking lots. Rube-Goldberg schemes to pave the West's valleys would be an environmental and aesthetic disaster with little or no impact on demand for fossil fueled and nuclear power plants. Subsidies to solar and wind power will drive electricity costs up, unnecessarily.

Putting aside CO2 concerns, the environmental impact of a coal mine, oil or gas field feeding a modern power plant is far, far less than a wind or solar farm of equivalent electric output; and it can provide base load and peak demand power at any time of the day or night. (that is not to say that I blindly support coal, oil and gas powered electricity.)

If you are dead set on going through with this environmental and economic harakiri, I would suggest the following:

- Drop the Wah Wah Valley from your SEZ list.
- You appear to have located the other two SEZ's in or adjacent to existing agricultural and industrial zones (I hope the wind farms have not scarred the Wah Wah yet), and close to transportation and transmission lines. That is begrudgingly acceptable.
- Require that developers of these SEZs have an approved restoration plan that remains fully funded (to adjust for inflation, changing regulations, etc..) throughout the life of the project. A few isolated rusting hulks remaining from previous human activities may appear aesthetically pleasing to some, but thousands of acres of derelict solar panels (and windmills), may be hard to take for future generations, though it could serve as a lasting monument to monumental stupidity.
- No subsidies (including pricing guarantees). Maybe, just maybe, a solar farm can be economically justified if it provides high priced peak demand power during hot summer days -- but I doubt it.

Thank you for your comment, Alice Alexander.

The comment tracking number that has been assigned to your comment is SolarD10117.

Comment Date: March 15, 2011 10:32:38AM
Solar Energy Development PEIS
Comment ID: SolarD10117

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Address 3: Post Office Box 470
City: Pawnee
State: OK
Zip: 74058
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for submitting the referenced project proposal for our review and comment. Our comment on this project and its potential to affect historic properties is required by Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations 36 CFR Part 800.

Given the information provided, the Pawnee Nation has no known historic properties that would be affected by the project as proposed. Therefore, in accordance with 36 CFR 800.4(d) (1), you may proceed with the project(s) as planned.

Please retain this correspondence and your documented finding in order to show compliance with Section 106 of the National Historic Preservation Act, as amended. If you have any questions please do not hesitate to contact our office at (918) 762-3654 Ext. 24.

Thank you for your comment, Andrew Wang.

The comment tracking number that has been assigned to your comment is SolarD10118.

Comment Date: March 15, 2011 11:53:40AM
Solar Energy Development PEIS
Comment ID: SolarD10118

First Name: Andrew
Middle Initial:
Last Name: Wang
Organization: SolarReserve
Address: 2425 Olympic Blvd, Suite 500 East
Address 2:
Address 3:
City: Santa Monica
State: CA
Zip: 90404
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SolarReserve PEIS Comments 2011-03-15.pdf

Comment Submitted:

Attached PDF

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue - EVS/240
Argonne, IL 60439

March 14, 2011

To whom it may concern:

SolarReserve is a California-based developer of utility scale solar power projects. Our focus is to use molten salt power tower technology to capture the sun's energy, store it, and convert it into electricity both during times when sunlight is available and when it is not. SolarReserve is in the process of permitting projects on public land managed by the Bureau of Land Management (BLM) in California, Arizona and Nevada, and we are proud that our Crescent Dunes project in Tonopah, NV was one of the nine solar projects to receive a BLM right-of-way grant in 2010. We applaud the BLM's efforts to explore new ways to speed the development of solar on public lands by the implementation of new solar-specific policies in the Solar Programmatic Environmental Impact Statement (PEIS) and Record of Decision (ROD). SolarReserve believes its technology holds much promise in moving the country to a clean, reliable energy future and we urge the BLM to adopt policy choices in the Solar ROD and Final PEIS that support transparent, thorough, and efficient solar permitting in both Solar Energy Zones and other open areas of public land.

What worked right in the 2010 "Fast Track" Initiative

SolarReserve recognizes the importance of Secretary Salazar's leadership and focus on public land renewable energy as a Departmental priority. We understand that there are many competing resource demands on any individual BLM Field Office, but the consistent message from agency leadership of the importance of renewable energy to the country made the difference in 2010. Several procedural changes that were implemented to facilitate the development of the 2010 Fast Track projects were critical to success. These 2010 Fast Track initiatives should be retained and strengthened as a part of this PEIS. Among these were:

- BLM's Renewable Energy Coordination Offices,
- additional, trained BLM staff to assist in permitting,
- coordination *within* the Department (BLM, U.S. Fish and Wildlife Service) and *among* other federal (Departments of Defense and Transportation), state and local agencies,
- a clear permitting timeline – December 31, 2010 – to work towards, and
- Secretarial approval of right-of-way grants.

What is helpful in the Solar PEIS

SolarReserve supports the BLM's "Solar Energy Development", Preferred Alternative to identify and incentivize the use of Solar Energy Zones (SEZs) while continuing to provide for solar energy development in other otherwise compatible areas of public land. The Preferred Alternative would allow for the most efficient (time and cost) development of utility grade solar energy on public lands and it will provide a comprehensive analysis and mitigation recommendation for solar energy that should result in a more rapid recognition of both environmental benefits (reduced carbon/pollutants) and economic benefits (taxes, rents, clean tech jobs).

Although some argue that the SEZ acreage alone is sufficient, as solar project developers we would respectfully disagree. While the selected SEZ areas may be good sites for utility grade solar from BLM's land management perspective (i.e., resource conflict avoidance), from our perspective as a company trying to develop a new energy source and deliver it to the market at an economical cost, there are additional critical business considerations (e.g., transmission capacity, water availability, FAA and military coordination, site access, geotechnical, etc.) that could make some of the SEZ areas challenging. SolarReserve would also argue that there are other sites with pending applications that should be included as either additions to the SEZs or remain available for prioritized permitting as the situation warrants.

Maximum siting flexibility is critical to the solar industry at this stage of development. Utility scale solar energy is at an early stage, and there are still many unknowns that can only be answered as solar technology is implemented over time in a variety of locations. We are concerned that a more limited area of public land opened for solar energy development (SEZ-only alternative) may prove inadequate and inappropriately constrict the development of solar energy as these "unknowns" are answered over the next decade. These evolving issues include:

- *Technology* – how will solar technology gain in efficiency, reduce its footprint, or what new technological challenges may develop?
- *Economics* – what is the pace of economic recovery, how will the recovery of the economy be reflected in equity, debt and public financing for clean technologies?
- *Political Support* for – will renewable energy portfolio standards (RPS) and other support for renewable energy at state, local and national levels increase or decrease?
- *Transmission* – is there adequate capacity on existing transmission and when, where, and how will transmission be developed?
- *Utility Company Appetite* – is purchase of renewable energy it static, growing, or diminishing in a particular market?
- *Environmental Impacts* – a limitation today (e.g., water) may be addressed in time or as-yet unidentified environmental or resource constraints (e.g., new ESA listings or new DOD conflicts) may constrain development?

In addition to our successfully permitted Crescent Dunes Solar Energy Project, SolarReserve has BLM applications pending in non-SEZ areas that we believe are good sites from a business perspective and siting analysis – strong solar resource, few resource conflicts, adjacent to transmission, and a market for the power plant output. If a SEZ-only approach were followed or if the BLM direction was to only prioritize SEZ projects, SolarReserve is concerned that these non-SEZ projects would be deprioritized and delayed due to inattention. SolarReserve believes at this comparatively early stage of solar energy development it is important to support sufficient project development so that we can more rapidly "learn by doing" and advance our industry to the level of efficiency and reliability that can best serve our nation's long-term energy demands.

We also generally agree with the areas that BLM has identified as not suitable for solar development, but approve of the agency's intent to allow the use of some of these "off-limit" areas for supporting infrastructure. In addition, in large measure, SolarReserve supports the Proposed Solar Energy Development Policies performance standards described in Appendix A. This type of broad siting guidance allows the solar industry to plan from the start of project development to meet standards that can reduce environmental impacts. We identify some areas below for improvement.

SEZ Incentives for Consideration in the Solar PEIS

SolarReserve suggests that BLM incentivizes the use of SEZs rather than prohibit development outside of SEZs. We have several suggestions that we believe support the use of SEZs by expediting and making more certain the permitting process on federal land. When the Solar PEIS process was initiated, the intent was to amend the relevant Resource Management Plans (RMPs) in a manner that would allow for solar development and expedite the permitting process by tiering from a project environmental document to the Solar PEIS. In June 2009, Secretary Salazar directed that the Solar PEIS be modified to also identify and analyze solar energy zones where solar development would be the priority for those lands. We are concerned that the level of environmental analysis in the Draft PEIS may not support significant tiering and offer some suggestions.

- First, three areas that are technically complex, costly and have a potential for project delay are compliance with the National Historic Preservation Act Section 106 consultation process, the Endangered Species Act Section 7 consultation process, and the Clean Water Act Section 404 wetlands delineation process. Each of these processes requires extensive, site-specific survey requirements, and consultation among federal agencies or in the case of NHPA, government-to-government consultation with tribal groups. A valuable incentive in the SEZ would be for a reduced survey requirement either on the basis of the environmental work that was conducted in the PEIS or as the result of government conducted baseline surveys (biological, wetlands and cultural). This survey information could be used by the BLM to both geographically guide and streamline the right-of-way application phase. Reimbursement for the survey work can be captured later in the cost-recovery agreement between the applicant and the BLM. In addition with the involvement of the solar industry/applicant, this BLM survey work could lead to the development of agreements that would improve the SEZ permitting process. For example, a NHPA Programmatic Agreement among the BLM, Advisory Council, state and tribes, ESA § 7 conservation plan with FWS and relevant state wildlife agency and a wetlands mitigation agreement or nationwide or state-wide rule developed with the Army Corps of Engineers.
- Second, as a solar power tower developer, visual resource management (VRM) class designations can restrict the development of our technology. We suggest that the final Solar PEIS provide that a SEZ, by definition, is a VRM Class IV – an area where high visual contrast is acceptable.
- Third, the Solar PEIS should also include an efficient process to add areas to the SEZ – for example, an expedited (Environmental Assessment) and targeted Plan Amendment process.
- Fourth, incentives around transmission and gen-tie connection need to be provided by the Solar PEIS to support and incentivize the use of the SEZs for transmission purposes. Limited transmission capacity is a major hurdle within renewable power industry.
- Fifth, the final Solar PEIS and ROD should accomplish the goal of “green-lighting” the SEZ for solar development and not require any further RMP Amendments to permit solar development. It is frustrating to discover at the permitting stage that an area identified in an RMP as appropriate for solar development has other resource constraints that will require a Plan Amendment for a solar project to move forward.

Thank you again for the opportunity to provide constructive comment during a pivotal stage of growth and development of the solar power industry. We would be glad to engage in follow on discussions to the extent that it would assist BLM through the PEIS process in 2011.

Sincerely,
SolarReserve

Thank you for your comment, Cynthia Jones.

The comment tracking number that has been assigned to your comment is SolarD10119.

Comment Date: March 15, 2011 20:46:01PM
Solar Energy Development PEIS
Comment ID: SolarD10119

First Name: Cynthia
Middle Initial: S
Last Name: Jones
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

To Whom it May Concern,

I have recently reviewed the map of proposed solar installations on BLM land surrounding Lake Tamarisk, Desert Center and the surrounding regions. I am not opposed to solar power, but I am highly concerned by the scale of the proposed installation.

I have several questions that I am hoping will lead to reconsideration of the scope of the proposed projects.

1. What will happen to the quality of life for the residents of that area?

My parents are in their 70's now. They lived in the Desert Center/Eagle Mountain area nearly 50 years. They choose to live there because of low population density, clean air and a generally high quality of outdoor life that is affordable. The proposed solar power installations around Desert Center will undoubtedly lead to a reduction in air quality that is likely to affect the elderly most significantly. Even more importantly, natural beauty has been shown to significantly enhance mental and emotional well-being and in fact is a fundamental precept of the field of Ecological Psychology. These solar installations will have a dramatic and devastating effect on the natural beauty of this region, which will impact all permanent and seasonal residents in the community of Lake Tamarisk.

2. Dr. Robert J. Glennon, Morris K. Udall Professor of Law and Public Policy, University of Arizona, a leading scholar of water issues in the Southwest, has stated repeatedly that the energy issues in this country cannot be separated from fresh water issues. Where will the water come from that will be used to build and run these solar installations? I assume the water will be pumped from the Chuckawalla Valley Groundwater Basis. This aquifer currently supplies water for residents, plants and wildlife.

What will happen to groundwater levels in the region? In the region near XXX Arizona, the water table has been depleted to the point that the general level of the ground surface has dropped XX feet. The largest tree in the region, the Palo Verde, has declined dramatically in number because their roots can no longer reach the water table, which has had dramatic impacts on all of the species that depend on these trees, e.g. the unique Phainopepla, myriad and uncommon annual plants such as "Whispering Bells", and several species of bees and other insects. In the Desert Center area, centuries old creosote bushes and ironwood will be detrimentally impacted.

3. What is the plan for dealing with the spread of shade tolerant invasive species and the fire hazard that will result?

The solar panels, even if they are installed a few feet above ground level, will cast shade deep enough that the native shrub species are unlikely to survive. When this shade is coupled with the destruction of the soil crust (a unique community of microorganisms that takes years to form) during installation of the solar panels, the likely plants to return to the area will be invasive mustards that are highly flammable when they dry at the end of the season. Invasive species, particularly of grasses and other species such as the mustard, create sufficient fuel that fires in deserts are now a real and persistent threat. Unlike other regions of California, the deserts are not fire-adapted ecosystems and a single fire kill plants that are hundreds of years old, as has recently happened in Joshua Tree National Monument.

Why destroy wild land that offers maximum ecosystem services to the world when there is so much degraded and poorly used land

elsewhere? Why can't solar panels be placed over parking lots in cities, on top of large buildings or abandoned strip malls?

Thank you for your comment, Summit Lake Paiute Tribe.

The comment tracking number that has been assigned to your comment is SolarD10120.

Comment Date: March 15, 2011 22:12:59PM
Solar Energy Development PEIS
Comment ID: SolarD10120

First Name: Summit Lake
Middle Initial:
Last Name: Paiute Tribe
Organization: Summit Lake Paiute Tribe
Address: 1708 H Street
Address 2:
Address 3:
City: Sparks
State: NV
Zip: 894314337
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 031411 Comment on DOE BLM Draft Solar Energy PEIS.pdf

Comment Submitted:

The Summit Lake Paiute Council, governing body of the federally recognized Summit Lake Paiute Tribe hereby submits its Comment on the DOE-BLM Draft PEIS on Solar Energy Projects. The Tribe believes the PEIS falls far short of meeting the federal government's trust responsibility to Tribes and should give Tribes not only the same status as States but give Tribes a preference as set forth in the attached Comment.



SUMMIT LAKE PAIUTE TRIBE
Primary Administrative Office
1708 H Street, Sparks, NV 89431-4337
(775) 827-9670 (775) 827-9678 (fax)

SUMMIT LAKE PAIUTE COUNCIL
Chairman: Warner Barlese • Vice-Chairperson: Ernie Barlese
Secretary/Treasurer: Jerri Lynn Barlese • Council Member: Jerry L. Barr • Council Member: Randi DeSoto

March 14, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

Re: Comment, Draft DOE-BLM Programmatic EIS for Solar Energy Development

Dear Madam or Sir,

By way of introduction, my name is Warner Barlese. I am the Chairman of the governing body of the Summit Lake Paiute Tribe (Tribe), the Summit Lake Paiute Council (Council).

In reviewing the Draft DOE-BLM (U.S. Department of Energy-Bureau of Land Management) Programmatic EIS (PEIS) for Solar Energy Development, I note that it appears that traditional territory of the Summit Lake Paiute Tribe, near the Summit Lake Reservation, is marked as "Lands available for Application – Solar Development Program". See Map Prepared December 2010, BLM-Administered Lands Being Analyzed for Solar Development and Proposed Solar Energy Zones in Nevada (Argonne National Laboratory (attached)).

The PEIS does not treat Tribes as a state relative to DOE's allocation of SEZ's (Solar Energy Zones) by state per renewable energy portfolio requirements as a driver for allocating solar project demand. This needs to be corrected not only as a matter of fairness but as a matter of the trust responsibility of the United States through DOE and BLM. This Tribe has an established renewable energy portfolio standard. For example the Tribe's Energy Portfolio in relation to long-term energy goals of the Tribe are:

- To guarantee the availability of affordable and reliable energy to all its members;
- To reduce the energy bills of tribal members and administration;
- To further the Tribe's goals for self-sufficiency;
- Self-Determination through empowerment in the Tribe's energy interests;
- To minimize the environmental impact of current and/or future development;
- To produce all of the Tribe's energy needs through renewable sources by 2025;
- To build sustainable homes and making existing buildings more efficient; and,
- To contribute to the Tribe's local economy consistent with the Tribe's cultural values.

Furthermore, the PEIS does not consider the interests of Tribes in getting first right of refusal/and or option for adjacent/proximate BLM surplus properties and the inherent ability of Tribes to acquire land or the right to use land for energy projects, including that was once their land before the United States stole same whether or not compensated by the U.S. Court of Claims or Indian Claims Commission. This needs to be corrected.

Visit the Tribe's web site (www.summitlaketribe.org) it is updated every several days



SUMMIT LAKE PAIUTE TRIBE
Primary Administrative Office
1708 H Street, Sparks, NV 89431-4337
(775) 827-9670 (775) 827-9678 (fax)

SUMMIT LAKE PAIUTE COUNCIL
Chairman: Warner Barlese • Vice-Chairperson: Ernie Barlese
Secretary/Treasurer: Jerri Lynn Barlese • Council Member: Jerry L. Barr • Council Member: Randi DeSoto

Argonne National Laboratory
Solar Energy PEIS
March 14, 2011
Page 2 of 2

If you have any questions, please contact the Director of the Tribe's Environmental Protection Department, Ron Johnny.

Sincerely,

Warner Barlese
Chairman
Summit Lake Paiute Council

cc:

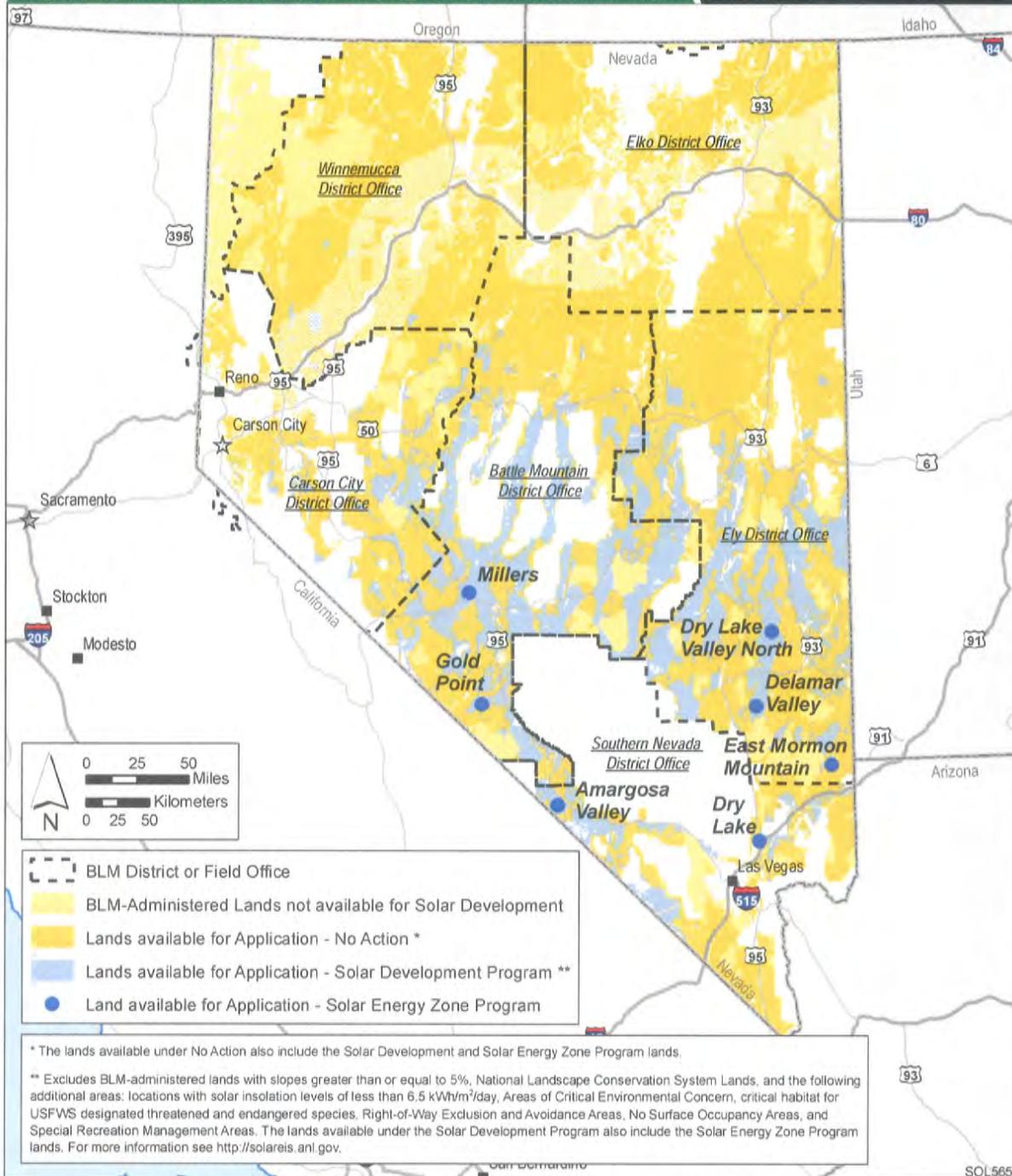
Members, Summit Lake Paiute Council
DOE Office of Indian Energy Policy and Programs by email: tribalconsultation@hq.doe.gov
BLM Winnemucca District Office: G Seidlitz, R. Mendez and M. Hall
BIA Western Nevada Agency Superintendent
Director, SLPT Natural Resources Department
Director, SLPT Environmental Protection Department

WB/rej

BLM-Administered Lands Being Analyzed for Solar Development and Proposed Solar Energy Zones in Nevada
 Map Prepared December 2010



Property of the U.S. Departments of Energy and the Interior for use in preparation of their Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States



Thank you for your comment, Milton Jones.

The comment tracking number that has been assigned to your comment is SolarD10121.

Comment Date: March 16, 2011 11:36:46AM
Solar Energy Development PEIS
Comment ID: SolarD10121

First Name: Milton
Middle Initial:
Last Name: Jones
Organization: Town of Saguache, Colorado
Address: PO Box 417
Address 2:
Address 3:
City: Saguache
State: CO
Zip: 81149
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Town of Saguache, Colorado, has no substantive comments on the Solar PEIS. However, the town trustees do want to go on record as saying that we expect to be very involved in any EIS and other planning that may take place on the De Tilla Gulch site, which is about four miles from the Saguache town limits.

We also share the concerns of Saguache County that at the present time the BLM does not appear to be factoring in a plan to share revenue from industrial-scale solar development with local governments.

Thank you for your comment, Hans Reolofs.

The comment tracking number that has been assigned to your comment is SolarD10122.

Comment Date: March 16, 2011 16:10:40PM
Solar Energy Development PEIS
Comment ID: SolarD10122

First Name: Hans
Middle Initial:
Last Name: Reolofs
Organization: Private citizen
Address: 449S 2050W
Address 2:
Address 3:
City: Cedar City
State: UT
Zip: 84720
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

In ref. to proposed SEZ in the BLM's Cedar City Ranger District, I am strongly opposed to approval of the listed acreage in the energy zones if the created energy is not totally being consumed in the State of Utah for the benefit of Utah residents.

Thank you for your comment, Christopher Lish.

The comment tracking number that has been assigned to your comment is SolarD10123.

Comment Date: March 17, 2011 00:21:26AM
Solar Energy Development PEIS
Comment ID: SolarD10123

First Name: Christopher
Middle Initial:
Last Name: Lish
Organization:
Address:
Address 2:
Address 3:
City: Olema
State: CA
Zip: 94950
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, Illinois 60439

Dear Ms. Resseque,

As part of a clean energy future that includes energy efficiency, conservation, and rooftop solar panels, I support environmentally responsible solar projects on our public lands. If done right, renewable energy development on public lands can both meet our climate and clean energy needs and protect our beloved wildlands and crucial wildlife habitat.

"Every man who appreciates the majesty and beauty of the wilderness and of wild life, should strike hands with the farsighted men who wish to preserve our material resources, in the effort to keep our forests and our game beasts, game-birds, and game-fish--indeed, all the living creatures of prairie and woodland and seashore--from wanton destruction. Above all, we should realize that the effort toward this end is essentially a democratic movement."
-- Theodore Roosevelt

We have an historic opportunity to get solar development right on public lands, and the long-term plan for solar now under development will play a critical role. We zone uses in our towns and neighborhoods, and we should do the same for our public lands.

To ensure that solar development on public lands is really smart from the start, I recommend that:

- The BLM focus on siting projects properly in areas with the least amount of conflict or potential impacts on sensitive lands and wildlife. Science should guide the agencies decisions. Projects should be limited to these designated "zones;"
- The BLM should NOT open up an additional 21 million acres to development, including wildlands and important wildlife habitat. We simply do not need to develop such large areas and can reevaluate additional lands through a future process;
- The BLM should strongly consider recommendations from local stakeholders to eliminate proposed development areas in sensitive areas from the get-go.

By moving to a truly smart from the start process, the BLM can ensure that solar development avoids the many conflicts, controversies and impacts that have plagued oil and gas development on public lands. I urge you to take this common-sense approach of focusing on zones that will allow solar development that is faster, cheaper and better for the environment and consumers.

"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."
-- Aldo Leopold, The Conservation Ethic

Thank you for your consideration of my comments. Please do NOT add my name to your mailing list. I will learn about future developments on this issue from other sources.

Sincerely,
Christopher Lish
Olema, CA

Thank you for your comment, Elizabeth Reece.

The comment tracking number that has been assigned to your comment is SolarD10124.

Comment Date: March 18, 2011 13:05:13PM
Solar Energy Development PEIS
Comment ID: SolarD10124

First Name: Elizabeth
Middle Initial: A
Last Name: Reece
Organization:
Address: 26250 Park View Dr Space 121
Address 2:
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: solar letter 1 EAR.wps

Comment Submitted:

see attached letter.

FROM

Elizabeth A. Reece
16250 Park View Dr. sp. 121
Desert Center, CA 92239

Date March 12, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

To Whom it May Concern,

I am a resident of Lake Tamarisk Desert Resort and I have just recently become aware of a proposal involving the development of **Solar Energy Zones (SEZ)**, in the Desert Center California Area. This will undoubtedly disrupt the lives of residents and the fragile desert ecosystem alike. My understanding is that the types of concerns that may be addressed include, but are not limited to animal and plant life, noise, safety issues, proximity to the local community, I have many concerns about such a proposal and would like to have the following accepted as my official comment for matters that I would like to see addressed and mitigated.

I am in possession of the BLM map showing future (SEZ), and I am very concerned about the area between Lake tamarisk Desert Resort and Desert center which is covered with a considerable number of large trees. This (SEZ) is within ½ mile of approx. 200 families.

I would not like to see a (SEZ) within 3 miles of a populated area for all of the above mentioned concerns.

I would very much like you to schedule an information meeting at the Desert Center C.S.A. hall in March. We would like to get involved but not have to drive all the way into Indian Wells to the public meeting.

Sincerely,

Elizabeth A. Reece

Thank you for your comment, Roger Reece.

The comment tracking number that has been assigned to your comment is SolarD10125.

Comment Date: March 18, 2011 15:33:40PM
Solar Energy Development PEIS
Comment ID: SolarD10125

First Name: Roger
Middle Initial:
Last Name: Reece
Organization: Lake Tamarisk Desert Resort
Address: 26250 Parkview Drive
Address 2:
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Word doc with signatures.docx

Comment Submitted:

FROM
Roger T. Reece
16250 Park View Dr. sp. 121
Desert Center, CA 92239

Date March 12, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

To Whom it May Concern,

I am a resident of Lake Tamarisk Desert Resort and I have just recently become aware of a proposal involving the development of Solar Energy Zones (SEZ), in the Desert Center California Area. This will undoubtedly disrupt the lives of residents and the fragile desert ecosystem alike. My understanding is that the types of concerns that may be addressed include, but are not limited to animal and plant life, noise, safety issues, proximity to the local community, I have many concerns about such a proposal and would like to have the following accepted as my official comment for matters that I would like to see addressed and mitigated.

I am in possession of the BLM map showing future (SEZ), and I am very concerned about the area between Lake tamarisk Desert Resort and Desert center which is covered with a considerable number of large trees. This (SEZ) is within ½ mile of approx. 200 families.

I would not like to see a (SEZ) within 3 miles of a populated area for all of the above mentioned concerns.

I would very much like you to schedule an information meeting at the Desert Center C.S.A. hall in March. We would like to get involved but not have to drive all the way into Indian Wells to the public meeting.

Sincerely, Please see 2 attachments with 64 signatures that
Agree with this letter.
Roger T. Reece

Petition for 3 mile limit from Lake Tamarisk Desert Resort for Solar Energy Zones

NAME	ADDRESS
Jim Coy	ALL Desert Center CA 92239 Lot 143 Lake Tamarisk Resort
JEAN FUTA	lot 32 LAKE TAMARISK
SHARON KRITSE	" 8 " "
George Christoph	LOT 115 Lake Tamarisk
Walter Gutter	" 29 " "
J. McEwan	" 33 " "
John W. Munn	" 73 " "
Ken Boyd	21 & 22 " "
Betty Boyd	" " " "
Rick Cranford	Lot 05 " "
John Dineen	43641 Tamarisk DR
Jack Miller	lot #18 LTDR
Sandy Reid	LOT 131 LTDR
Rod Reid	✓
Sharon Blankenship	Lot 130 LTDR
FRANK WAIKAK	Lot 87 "
Philip J Harder	Lot 138 "
Doris M. Carroll	lots 90 + 91 "
Philip Harder	Lot 138
Howard Geyer	lot 42
Aime F. Tidens	Lot 20
Jessie A. Tidens	LOT #20
Margaret Braueford	LOT #5 Lake Tamarisk Res.
Charles Falogh	Lot #77 Lake Tamarisk
Edward Hirsch	LOT #77 Lake Tamarisk
Shirley Miller	LOT 18 " "
Carolyn Orner	LOT #57 " "
Sam R. Co	LOT #57 " "
Jason Thering	# 58 LTDR
Peggy Cousins	# 2 & 3 LTDR
George & Shiz Thompson	Lot 89 LTDR
Jim & Pearl Dawson	Lot 69
Juon	lot 80

Petition for 3 mile limit from Lake Tamarisk Desert Resort for Solar Energy Zones

NAME	ADDRESS <small>all Desert Center CA. 92239</small>
Faye Reese	26250 Parkview Dr sp 121
Shirley McLean	26250 Parkview #60
Helene Danley	26250 Parkview #61
Philip Conway	26250 Parkview #61
Sharon Quate	44071 Shasta Wl.
William Quate	" " "
Carol Schloer	26250 Parkview Dr Sp 122
Ed Schloer	" " " "
Dany Jutka	26250 Parkview Dr Lot #59
Paul Schlot	26250 Parkview Dr (Lot 132)
Margit Eskew	26250 Parkview Dr #38
Ken Statler	26591 Calabrey Dr.
Paul Wilhelm	#144 LT
Bob Jacobson	Lot-24 LT.
Ruth Oliphant	Lot 115 LT
Mel Haegen	LOT 114 LT
Shirley Bronson	Lot 106
AL PALM FR	Lot 8
Nancy Ray	Sp 55
Smoky Hagg	Lot 114
Hubert (Capt)	Lot 1
Kenneth Brown	Lot 106
Cheryl Steury	Lot 65
W. D. Brown	" 65
Marti Grogan	" 113
Vivian J. J.	" 55
Serge Lazikow	" 113
Thomas J. J.	# 113
E. M. Lundberg	# 139
Gay Tucker	# 139
Paul Bragg	103
Jim & Denny J. J.	Lot #117
Kal J. J.	Lot 122
Norm J. J.	Lot 119

Thank you for your comment, Blaine Nay.

The comment tracking number that has been assigned to your comment is SolarD10126.

Comment Date: March 18, 2011 20:57:44PM
Solar Energy Development PEIS
Comment ID: SolarD10126

First Name: Blaine
Middle Initial: S
Last Name: Nay
Organization:
Address: 714 South 1175 West
Address 2:
Address 3:
City: Cedar City
State: UT
Zip: 84720
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Regarding solar energy development, I oppose government taking a role in any way other than necessary regulations and enforcement to protect the rights of the people and to protect the environment. I therefore urge the total rejection of using public funds to study the impact of any proposed solar energy zones or to prepare any form of impact statement. I urge the total rejection of any government subsidies for any form of alternative energy development and production. All those costs must be entirely born by the commercial and/or private entities that intend to profit from solar energy. If "green" energy is such a good idea, why hasn't any power company already established significant wind or solar farms at its own expense?

Experience shows that alternative energy technologies (ie solar and wind) are not profitable without government subsidies. Consequently, the government and the developers must anticipate that the equipment installed in the proposed solar energy zones will break down long before they break even, let alone make an unsubsidized profit. I therefore demand that prior to approval, any entity that installs any alternative energy system on public land be required to set aside sufficient funds to promptly remove and properly dispose of all obsolete, unused, damaged, and worn out equipment and restore the land to its natural condition. The California countryside is littered with broken-down wind turbines because they don't even produce enough reliable electricity to pay for repairs or removal. We must stop that taxpayer-subsidized nonsense!

Because the sun doesn't always shine and the wind rarely blows at optimum speed, both solar and wind power are so unreliable that conventional power sources (coal, gas, hydro, nuclear) must be sized to provide 100% of the energy needs of the customers. Therefore, to protect the consumer's expectation of constant, reliable, on-demand energy, any entity that installs any alternative energy project on public land must also install, maintain, and operate a conventional energy source to ensure that the facility, as a whole, always produces at least the rated output of the alternative energy source.

Any alternative energy project on public land must have no adverse effect whatsoever on other historical uses of that land such as wildlife habitat, grazing, hunting, recreation, mineral development, logging, etc.

Since alternative energy advocates consider conventional energy sources to be evil, I demand that any alternative energy development in the proposed solar zones be done entirely without using carbon-based fuel or other conventional sources of energy. That includes not using any energy whatsoever that is derived from carbon to manufacture, transport, install, and maintain any of the equipment, wiring, foundations, and other structures associated with the project.

Thank you for your comment, Connie Simkins.

The comment tracking number that has been assigned to your comment is SolarD10127.

Comment Date: March 19, 2011 12:28:21PM
Solar Energy Development PEIS
Comment ID: SolarD10127

First Name: Connie
Middle Initial: C
Last Name: Simkins
Organization: N-4 State Grazing Board
Address: P.O. Box 461
Address 2:
Address 3:
City: Panaca
State: NV
Zip: 89042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Figure_1_Ely_Springs_Allotment.pdf

Comment Submitted:

N-4 State Grazing Board comments are in three separate forms. 1. our letter which is 60 kB, 2. this map which is 693 kB, and 3. the Lincoln County Commission letter which is 14.6 MB five pages on colored letterhead. Please let me know if all three are NOT received.

Connie Simkins
775-962-1333

Thank you for your comment, Connie Simkins.

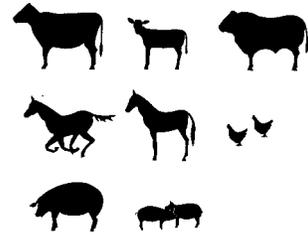
The comment tracking number that has been assigned to your comment is SolarD10128.

Comment Date: March 19, 2011 12:30:39PM
Solar Energy Development PEIS
Comment ID: SolarD10128

First Name: Connie
Middle Initial: C
Last Name: Simkins
Organization: N-4 State Grazing Board
Address: P.O. Box 461
Address 2:
Address 3:
City: Panaca
State: NV
Zip: 89042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 3-19-11 Solar DPEIS comments.doc

Comment Submitted:

This is the N-4 State Grazing Board letter. You are also being sent right now, the Ely Springs Cattle map, and the Lincoln County Commission letter 3-7-11.



N-4 State Grazing Board
P.O. Box 461
Panaca, Nevada 89042
775-728-4682
March 19, 2011

Ms Heidi M. Hartmann, Document Manager
Solar Energy Draft Programmatic EIS
Argonne National Laboratory
9700 Cass Avenue – EVS/240
Argonne, Illinois 60439

Re: Grazing Board comments to Draft PEIS for Solar Energy

Dear Ms Hartmann

The N-4 State Grazing Board is a subdivision of the State of Nevada, organized under Nevada Revised Statute 568, Grazing and Ranging. Board members are elected from among those who pay grazing fees for livestock on the public land in the Ely Bureau of Land Management district which contains the Nevada Counties of White Pine and Lincoln. The Grazing Board has participated in the administrative review of this Draft Solar PEIS as a cooperating agency.

The goal of the Grazing Board is to assure wise multiple use of the public land in this BLM district. The Grazing Board advocates planning and managing projects and activities in such a way as there is no net loss of grazing forage. This beneficial forage is commonly known as AUMs (Animal Unit Month which means enough forage to feed one cow and one calf for one month). Development of solar plants in Delamar Valley, East Mormon Mountain, and Dry Lake Valley North will result in serious impacts to all of the public land uses in this area, the most detrimental to the public lands grazing permittees that this board represents. There are fifteen ranching families impacted in these three SEZs.

On September 1, 2009 we submitted five pages of comments during the scoping period for this Solar DPEIS. This letter is attached for your reference. The Grazing Board supports the use of this PEIS to identify lands that are appropriate for utility solar development; identify generic impacts of such actions and potential mitigation measures; and establish policies and practices that will implement such solar projects while minimizing impacts to public lands for all multiple uses by tiering site-specific recommendations to this Solar PEIS.

As a result of the thorough study of some 1200 pages of the Draft Solar PEIS, coupled with dozens of meetings with BLM, Lincoln County Commissioners, Nevada Department of Wildlife, individual ranchers, hunters, sportsmen, recreation enthusiasts, and members of the public in these two Nevada counties, the N-4 State Grazing Board supports the recommendations and positions of the Lincoln County Commission as evidenced in their five page letter dated March 7, 2011 and Figure 1 "Lincoln County Recommended SEZ Within Ely Springs Cattle Allotment". We have attached a copy of the Lincoln County letter and map for your information.

This SEZ was developed through the involvement in the above-mentioned meetings and sessions with those most directly and negatively impacted. The efforts of this Board have been to try to find a way to locate the SEZ in a place that would have the least impact to the land and resources, while allowing the development of renewable energy projects in site-specific and technology specific locations. The Ely Springs Cattle allotment owners have invited the location of the SEZ on their private property and grazing land. The N-4 Board strongly supports this proposal to locate solar energy facilities only inside this one grazing allotment where it has been invited. As detailed in the Lincoln County letter, this would allow more than enough land for solar development that would create more renewable energy than can be carried by the current and four Future planned transmission lines.

The N-4 Board representatives were pleased to participate in the Delamar and Dry Lake Valley tour on February 17, 2011 with you and your Argonne associates along with Dr. Jane Summerson and Linda Resseguie. We were able to submit spoken comments at the Cedar City, Utah public hearing on March 9, 2011. You are invited to seriously consider our written and spoken comments on this important issue. Please feel free to contact our range consultant, Jeremy Drew with Resource Concepts at 775-883-1600 or our secretary Connie Simkins 775-962-1333 for any further information you may need.

Sincerely,

(signed) Gracian Uhalde

Gracian Uhalde, Chairman
N-4 State Grazing Board

*Encls 2
Scoping comments 9-1-2009
Lincoln Co. Comm. letter and Figure One Ely Springs Cattle SEZ 3-9-11*

*Governor Brian Sandoval
US Senator Harry Reid
US Senator John Ensign
Congressman Dean Heller
Congressman Joe Heck
Congresswoman Shelley Berkley
Senator Dean Rhoads
Senator John Lee
Assemblyman Ed Goedhart
Assemblyman Pete Goicoechea
Bob Abbey, Director BLM
Amy Lueders, Acting Nevada BLM Director
Rosemary Thomas, Ely BLM Manager
Victoria Barr, Manager Caliente BLM
Steve Boies, Chairman, Grazing Board Central Committee
Ron Cerri, Nevada Cattlemen's Association
Jeff Fontaine, Nevada Association of Counties
Doug Busselmann, Nevada Farm Bureau
Dr. Jane Summerson, NEPA Compliance, DOE
Linda Resseguie, Realty Specialist, BLM*

Thank you for your comment, Connie Simkins.

The comment tracking number that has been assigned to your comment is SolarD10129.

Comment Date: March 19, 2011 12:38:26PM
Solar Energy Development PEIS
Comment ID: SolarD10129

First Name: Connie
Middle Initial: C
Last Name: Simkins
Organization: N-4 State Grazing Board
Address: P.O. Box 461
Address 2:
Address 3:
City: Panaca
State: NV
Zip: 89042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: LC DPEIS Solar letter.pdf

Comment Submitted:

This is the Lincoln County Commission letter dated March 7, 2011 size 14.6 megabytes. I hope this goes through your 15 megabyte system. You are also receiving two other submissions that should be combined to be the submission for the N-4 State Grazing Board. They are map of Ely Springs Cattle SEZ and the N-4 letter



*Board of County Commissioners
Lincoln County, Nevada*

P.O. Box 90 – Pioche, Nevada 89043
Telephone (775) 962-5390
Fax (775) 962-5180

COUNTY COMMISSIONERS

George T. Rowe, Chair
Ed Higbee
Paul Mathews
Paul Donohue
Kevin Phillips

DISTRICT ATTORNEY

Daniel Hooge
COUNTY CLERK
Lisa C. Lloyd

March 7, 2011

Solar Energy Draft Programmatic EIS
Attn: Ms. Heidi M. Hartmann, Document Manager
Argonne National Laboratory
9700 Cass Avenue – EVS/240
Argonne, Illinois 60439

RE: Comments to Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

Dear Ms. Hartmann:

Lincoln County, Nevada has completed a comprehensive review of the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (DPEIS) and provides the following comments thereto. Lincoln County has participated extensively in the National Environmental Policy Act (NEPA) process leading to release of the DPEIS for public comment. During the summer of 2009, Lincoln County, through the Bureau of Land Management's Nevada State Director, requested that proposed Solar Energy Zones in Delamar Valley, Dry Lake Valley (North) and in the vicinity of the East Mormon Mountains be included in the scope of the Programmatic Environmental Impact Statement for Solar Energy Development (PEIS). The Board of Lincoln County Commissioners believe that utility-scale solar energy development on BLM-administered land, if done in the right locations, at an appropriate scale and in a manner which avoids, minimizes and/or otherwise mitigates impacts to other multiple uses, particularly to permitted grazing of livestock, can contribute to energy security in the United States and provide important economic and fiscal benefits in Lincoln County.

At BLM's invitation, Lincoln County executed a Memorandum of Understanding with the Bureau of Land Management and Department of Energy on August 3, 2009 wherein Lincoln County became a Cooperating Agency regarding preparation of the DPEIS. In a letter dated September 8, 2009, Lincoln County provided BLM's PEIS contractor with

extensive comments on the scope of issues to be addressed with the DPEIS. In this letter, Lincoln County also requested that BLM significantly reduce the size of and recommended specific locations for the boundaries of the Delamar Valley SEZ, the Dry Lake Valley North SEZ and the East Mormon Mountains SEZ. Over the past year, Lincoln County has, in its role as a Cooperating Agency, reviewed and provided extensive written comments to Chapters 3, 5, 6, 7, 11.2, 11.4 and 11.5 of the Administrative Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (ADPEIS). Lincoln County's comments have consistently sought to encourage BLM to identify and evaluate SEZs in Lincoln County of appropriate scale and location, which avoid or minimize impacts to other multiple uses, particularly to permitted grazing of livestock and recreation. Lincoln County's many previously submitted comments have also been intended to improve the accuracy and scientific defensibility of the Programmatic Environmental Impact Statement for Solar Energy Development. Lincoln County desires that the PEIS serve to facilitate expeditious utility-scale solar development on select public lands in the County.

Unfortunately, review of the DPEIS by Lincoln County has revealed a document which has failed to respond to many of the substantive comments offered over the past many months by Lincoln County. Most importantly, the DPEIS proposes SEZs in Lincoln County at a scale and in locations which will not effectively avoid or minimize adverse impacts to the environment and permitted public land uses, especially range livestock grazing. Lincoln County encourages BLM and the Department of Energy (DOE) to consider and address the following comments when preparing the Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (FPEIS).

General Comments

1. The County recognizes the value of combining solar development activities into an energy park (SEZ) rather than widely dispersed solar installations and existing right-of-way application processes. As such, the County OPPOSES the "Solar Energy Development Program Alternative (the Preferred Alternative)" but SUPPORTS the "Solar Energy Zone Program Alternative" provided that SEZs are located in areas that limit the impacts to other multiple uses, critical habitats and resource values. **Lincoln County recommends that the FPEIS and any related Record of Decision identify the Solar Energy Zone Program Alternative as the BLM Preferred Alternative.**

SEZs should be located in areas with "Low Potential for Conflict" per the Screening Criteria listed in Instruction Memorandum No. 2011-061 regarding Right-of-Way Management for Solar and Wind Energy issued by the Department of the Interior on February 7, 2011.

The SEZ Program Alternative will limit the exorbitant amount of time, money and energy (on behalf of the County, local stakeholders and State and Federal Agencies) that goes into making sure that solar development rights-of-way are "smart from the start" and sited in appropriate locations.

2. The County has previously advocated for approximately 2,775 acres of the southern portion of the Delamar Valley SEZ (near and including Delamar Lake) to be designated as a priority area for solar development. However, after careful consideration and further input from solar developers, BLM Specialists and grazing permittees, the County has revised its stance and now advocates that the entire Delamar Valley SEZ be classified as “lands excluded from utility-scale solar energy development”. **Lincoln County recommends that the FPEIS and any related Record of Decision classify the entire Delamar Valley SEZ as “lands excluded from utility-scale solar energy development”.**

3. The County fully supports the Renewable Energy Goal found on page 73 of the Ely District Record of Decision and Approved Resource Management Plan dated August 2008 (BLM/NV/EL/PL-GI08/25+1793) that states “Goals – Renewable Energy: Provide opportunities for development of renewable energy sources such as wind, solar, biomass and other alternative energy sources while minimizing adverse impacts to other resources.”

The proposed Delamar Valley SEZ does not “minimize adverse impacts to other resources” including, but not limited to: Water Resources, Soil Resources, Vegetation Resources, Visual Resources, Recreation, Livestock Grazing, and County Socioeconomics.

From the County’s perspective, development in any portion of the proposed Delamar Valley and East Mormon Mountain SEZs would have unacceptable impacts to the above listed resources. Therefore, both the Delamar Valley and East Mormon Mountain SEZs should be classified as “lands excluded from utility-scale solar energy development”. **Again, Lincoln County recommends that the FPEIS and any related Record of Decision classify the entire Delamar Valley SEZ and East Mormon Mountain SEZ as “lands excluded from utility-scale solar energy development”.**

4. The County does not support solar development (total acres proposed for development within SEZs) in excess of the capacity of existing or reasonably foreseeable power transmission facilities. North-south running power lines common to both the Dry Lake Valley North and Delamar Valley SEZs, include:

- An existing 69 kV LC Power District #1 Line
- The proposed 500 kV LS Power / NV Energy One Nevada Line (600 MW Capacity per LS Power)
- The proposed 500 kV NV Energy Line
- The proposed 230 kV SNWA Line

Generally the maximum transmission line capacity is 1,500 MW for a 500 kV line, 500 MW for a 230 kV line, and 75 MW for a 69 kV line. Therefore, the maximum capacity of existing transmission lines or those under consideration in the reasonably foreseeable future is approximately 3,575 MW. In reality the line capacities would likely be much less (approximately half of the maximum capacity ratings) given the line length, which results in approximately 1,800 MW of line capacity. It should also be noted that access

to these lines by project developers will be expensive, as it will require development of new power substations and associated infrastructure.

Assuming half of this maximum capacity would be available for solar (a very generous assumption) and assuming production of 9 acres / MW for a solar development (per the assumptions used in the Draft PEIS), the maximum solar acres supported by existing or foreseeable transmission line capacity within the Dry Lake Valley North and Delamar Valley SEZs is approximately 8,000 combined acres.

Assuming an 80% build-out of the designated SEZ areas (per the assumptions used in the Draft PEIS), the combined SEZ area for both the Dry Lake Valley North SEZ and the Delamar Valley SEZ combined should NOT exceed 10,000 acres. **Lincoln County recommends that the FPEIS and any related Record of Decision identify no more than 10,000 acres of BLM-administered land within the western half of the Ely Springs Cattle Allotment in Dry Lake Valley North for SEZ designation. It is important to note that the owner of the grazing permit for the Ely Springs Cattle Allotment supports solar development within the allotment and the owner's adjacent private land. Further, Lincoln County recommends that the Final PEIS and any related Record of Decision classify all portions of the proposed Delamar Valley SEZ as "lands excluded from utility-scale solar energy development".**

As shown on Figure 1, Lincoln County has identified an area within the Ely Springs Cattle Allotment portion of the Dry Lake Valley North SEZ. This above-mentioned area exceeds the 10,000-acre required maximum area per reasonably foreseeable transmission capacity. Therefore, designating the Delamar Valley SEZ as "lands excluded from utility-scale solar energy development" should have no impact on the overall feasibility of solar energy production within Lincoln County, nor should it encumber the renewable energy goals of the State of Nevada or the current Federal Administration based on the need for renewable energy and available transmission capacity.

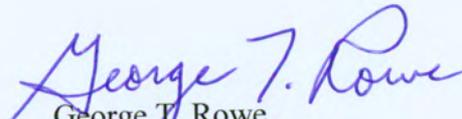
5. After careful consideration of the characteristics of the East Mormon Mountains proposed SEZ and review of the impacts of developing the East Mormon Mountain SEZ described in the Draft Solar PEIS, Lincoln County has concluded that it can not support designation of any portion of the proposed East Mormon Mountains SEZ. Lincoln County is particularly concerned with significant impacts to existing permitted livestock grazing; excessive slopes in many areas of the SEZ; and impacts to desert tortoise and sensitive plant species which will result from solar development with the East Mormon Mountain SEZ. Removing 8,900 acres from the middle of what is left (after devastating wildland fires) of the Gourd Springs allotment will likely result in termination of the livestock ranching operation of the existing permittees. This is an unacceptable consequence of developing the proposed East Mormon Mountains SEZ for solar energy development. **Therefore, Lincoln County recommends that the Final PEIS and any related Record of Decision classify all portions of the proposed East Mormon Mountains SEZ as "lands excluded from utility-scale energy development".**

Specific Comments

Attachment 1 contains Lincoln County's comments to specific chapters of the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States.

I and my staff look forward to working with BLM, DOE, Argonne National Laboratory and their staffs in preparing a Final PEIS which facilitates utility-scale solar energy development on BLM-administered land in Lincoln County in site-specific and technology-specific locations, at an appropriate scale and in a manner which avoids or minimizes impacts to other multiple uses, particularly to permitted grazing of livestock, and which contributes to energy security in the United States while providing economic and fiscal benefits in Lincoln County.

Sincerely,


George T. Rowe
Chairman

cc: US Senator Harry Reid
US Senator John Ensign
Congressman Dean Heller
Congressman Joe Heck
Congresswoman Shelley Berkley
Bob Abbey, Director, Bureau of Land Management, Washington, D.C.
Dr. Jane Summerson, Department of Energy, Wash, D.C.
Linda Resseguie, Bureau of Land Management, Wash, D.C.
Jim May, Argonne National Laboratory
Amy Leuders, Acting Director, Nevada BLM, Reno, Nevada
Rosemary Thomas, District Manager, Ely BLM
Victoria Barr, Field Manager, BLM Caliente Field Office
State Senator Dean Rhoads
State Senator John Lee
State Assemblyman Ed Goedhart
State Assemblyman Pete Goicoechea

Attachments Seven: Chapter 3, Chapter 5, Chapter 11.2 Delamar, Chapter 11.4 Dry Lake North, Chapter 11.5 East Mormon Mountains, Appendix A and M, and Lincoln County Recommended SEZ within Ely Springs Cattle Allotment pdf map

Thank you for your comment, Gerald Grey.

The comment tracking number that has been assigned to your comment is SolarD10130.

Comment Date: March 19, 2011 12:48:56PM
Solar Energy Development PEIS
Comment ID: SolarD10130

First Name: Gerald
Middle Initial: L
Last Name: Grey
Organization:
Address: 26250 Parkview #145
Address 2:
Address 3:
City: Desert Center
State: CA
Zip: 92239
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

After viewing your Solar Energy Zones in our Desert Center Area, I am extremely concerned that BLM has approved an area surrounding our community. Please do not allow the establishment of solar panels surrounding us. I request that you maintain a 3 mile exclusion zone around populated areas. I am concerned not only from the aesthetic point of view, but also from the damage to our desert around us and the impact of our atmospheric conditions with the installation of solar panels in our area.

Why did you not have any meetings in our area to discuss this dramatic change to our environment?

Thank you for your consideration in this matter.

Gerald Grey

Thank you for your comment, Beau McClure.

The comment tracking number that has been assigned to your comment is SolarD10131.

Comment Date: March 20, 2011 12:07:57PM
Solar Energy Development PEIS
Comment ID: SolarD10131

First Name: Beau
Middle Initial:
Last Name: McClure
Organization: Public Lands Foundation
Address: 6510 W. Lucia Drive
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 850837406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: 2011-03-17 Letter-Solar Energy DPEIS.doc

Comment Submitted:

I am submitting the attached letter from Henri Bisson, President, Public Lands Foundation, to BLM Director Robert Abbey regarding the Solar Energy DPEIS on behalf of the Public Lands Foundation. Your careful consideration would be greatly appreciated.



For America's Heritage

Public Lands Foundation

P.O. Box 7226 Arlington, Virginia 22207

March 17, 2011

Robert Abbey, Director
Bureau of Land Management
1849 C Street NW, Room 5665
Washington, D.C. 20240

Dear Director Abbey:

The Public Lands Foundation wishes to compliment you and your staff, along with the Department of Energy and Argonne National Laboratory, who developed the Draft Programmatic Environmental Impact Statement (DPEIS) on Solar Energy Development in Six Southwestern States. It is an outstanding example of how National Environmental Policy Act (NEPA) documents should be developed. We commend you for the work done to collect and analyze the information about the land, the technology and the impacts of solar energy development on BLM lands. And, we also appreciate the process that has been provided for public input during the 90-day comment period.

As you know, the Public Lands Foundation is a national non-profit conservation organization formed in 1987 that advocates and works for the retention of public lands in public hands, professionally and sustainably managed for the responsible common use and enjoyment of the American people. Our members are predominantly retired former Bureau of Land Management (BLM) employees with many years of experience in natural resources management.

Three alternatives are considered in the DPEIS. They are:

- No Action Alternative,
- Solar Energy Development Program Alternative (the Preferred Alternative), which would allow solar energy facility applications on nearly 22 million acres of BLM lands in six states (Arizona, California, Colorado, Nevada, New Mexico and Utah), and
- Solar Energy Zone (SEZ) Alternative, which would allow utility scale solar energy developments on 677,400 acres of BLM lands in 24 Solar Energy Zones in the same six states.

The Public Lands Foundation believes these provide an appropriate range of alternatives for consideration. And, we endorse the SEZ Alternative. There is no need to allow solar energy developments to scatter across nearly 22 million acres of BLM lands in these six western states at this early stage of the federal government's solar energy initiative. The BLM has identified 677,400 acres in 24 Solar Energy Zones in these six states where solar energy developments can be concentrated and probably approved without significant conflicts with other environmental and public values. And, these SEZ areas should be used for the first stage of this solar energy initiative. We also believe that any leasing in the SEZs should be done competitively.



For America's Heritage

Public Lands Foundation

P.O. Box 7226 Arlington, Virginia 22207

The Reasonably Foreseeable Development Scenario (page ES-12 of the Executive Summary of the PEIS), estimates the amount of solar energy generation on BLM-administered lands in the study area over the 20-year study period to be about 24,000 megawatts (MW), with a corresponding dedicated use of about 214,000 acres of BLM-administered lands. This is evidence that the SEZ Alternative, which includes 677,400 acres, is more than adequate for the 20-year study period. To address the situation where additional solar energy development is required, we recommend that a process be developed to designate additional SEZ areas as the need arises in the future.

If a decision is made to adopt the preferred alternative, then we believe that a modification to that alternative be considered. We believe that the approach being analyzed in Arizona BLM's Restoration Design Energy Development Project EIS should be applied for areas outside the SEZs in all six states. This approach considers suitable disturbed lands across all ownerships and is a much better approach for considering additional new development areas. This approach is very reasonable, focuses on disturbed lands, and would provide greater certainty for potential developers by eliminating much of the conflict being experienced currently in California. We also believe that any areas identified through this process should only be made available for competitive leasing after being nominated by potential developers for consideration. These lands should not be made available through application.

We recently learned that the Bureau of Reclamation (Reclamation) is considering and planning for the development of renewable energy facilities on its Project lands. We have been told that solar facilities at pump stations and hydraulic generation along canals are being examined. In a state like Arizona, we are told that 14 percent of energy consumption is used to move water for the Central Arizona Project. This is quite significant! A West-wide look by Reclamation at replacing traditional energy usage with new renewable energy sources seems to us to be something that should be considered in the Reasonably Foreseeable Development Scenario. It is not currently mentioned.

The DPEIS does not address or consider renewable energy development on public lands withdrawn by the military. We know that there are many obstacles to planning and actually accomplishing this development, but those obstacles need to be overcome. There are very many disturbed areas on these withdrawn lands, some areas are clearly suited for solar and wind development and others could be leased for geothermal energy. Some of the challenges are legal requirements that could be changed; others involve the need to develop an approach that rewards the military by allowing revenue sharing from the leases to be used for Base Operations. We believe that the Defense Department, Department of Energy and the Department of the Interior must put aside their differences and work together to present Congress with a recommended solution. The Country needs these agencies to resolve this issue!

The Public Lands Foundation endorses the criteria that are used to identify public land areas that should be off limits for solar energy facilities (pages ES-8 and 9). In addition to these criteria, the



For America's Heritage

Public Lands Foundation

P.O. Box 7226 Arlington, Virginia 22207

PLF strongly urges the BLM to consider the following three suggestions in siting and developing solar energy facilities:

- siting facilities near existing transmission line corridors, and as close as possible to the urban centers which use the energy,
- authorizing low water use facilities rather than those which require large quantities of water for steam generation of energy, and
- only permitting the use through issuance of rights-of-way or competitive leases, not by sale of the land, and with strong requirements and bonding to ensure that the facilities are removed and the lands are again made available for new technology and the needs of future generations.

PLF Position Statement 2010-20, *"Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands,"* which was approved by our Board of Directors on December 3, 2010, is enclosed for your consideration.

Thank you for the opportunity to provide input.

Sincerely,

/s/ Henri Bisson

Henri Bisson, President

Enclosure

PLF Position Statement 2010-20, *"Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands"*

Thank you for your comment, Beau McClure.

The comment tracking number that has been assigned to your comment is SolarD10132.

Comment Date: March 20, 2011 12:16:42PM
Solar Energy Development PEIS
Comment ID: SolarD10132

First Name: Beau
Middle Initial:
Last Name: McClure
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Address: 6510 W. Lucia Drive
Address 2:
Address 3:
City: Phoenix
State: AZ
Zip: 850837406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: SEDD10132.doc

Comment Submitted:

Please give careful consideration to the attached Public Lands Foundation Position Statement No. 2010-20, Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands, which was referenced in our letter to BLM Director Robert Abbey that was submitted to you earlier today.

Public Lands Foundation Position Statement

Impacts of Solar and Wind Energy Development and Production on the National System of Public Lands

December 3, 2010

PLF 2010-20

Executive Summary

Development of large-scale renewable energy projects on the National System of Public Lands administered by the Bureau of Land Management (BLM) is relatively new. There is broad support for pursuing alternative energy sources both to reduce carbon emissions and to reduce the reliance on foreign oil, but development must be done smart from the start. This means early coordination and involvement among all interested parties, and seeking ways to minimize impacts. Public lands administered by the BLM that have less-significant natural/cultural resource values or are located close to urban areas or existing transmission line corridors are more suitable for renewable energy development than are public lands in remote areas or those with wilderness or other high natural/cultural resource values. Proposed renewable energy developments on public lands must also be viewed from a regional or even national perspective.

Background

At the Annual Meeting of the Public Lands Foundation (PLF) in September 2010, PLF invited representatives of government agencies, conservation organizations, and renewable energy industries to Reno, Nevada to discuss the impacts of solar and wind energy development and production on BLM-managed public lands. Speakers and panelists presented information on wind and solar technology, potential impacts, the permitting process and potential strategies for development.

From these presentations, several themes emerged. There was broad agreement that a need exists to develop renewable energy sources both as a way to reduce CO₂ emissions and as a way to reduce the United States' dependence on foreign oil. The importance of early and frequent participation and involvement of all interested parties was universally recognized. This included early agency notification of plans, early inventories, early involvement of regulatory agencies such as the State Historic Preservation Offices (SHPO) and state and federal wildlife agencies, and early identification of public land areas that have significant natural and cultural resources that should not be disturbed by solar and wind energy developments.

Solar energy production and water uses are, in many cases, closely connected. For example, the BLM is working to find ways of minimizing impacts by looking for opportunities to use previously disturbed sites, as well as exploring the potential to use waste water rather than groundwater in solar energy facilities. Speakers expressed concern about the impacts of the additional transmission line corridors that will be needed to transport the energy from wind and solar sites to urban areas, particularly since many of the wind and solar sites on public lands are in remote areas, far removed from existing transmission line corridors. Speakers also suggested there is a need to look at the big picture through the use of regional assessments, programmatic Environmental Impact Statements (EISs), etc. Finally, speakers expressed

concern over the adequacy of the EISs related to the newness of analyzing potential wind and solar developments.

Discussion

Oil, gas and coal will continue to be the mainstay of the United States energy portfolio for some time, even though they are producing greenhouse gases that are contributing to climate changes. Renewable energy sources—solar, wind and hydropower—are seen by some as the answer to the impacts caused by non-renewable energy development. It has been estimated that every 1,000-megawatt-hours of wind generated power would reduce CO₂ emissions by 2 to 2.5 million tons. In addition, high gasoline prices are adding to the desire to pursue alternative energy sources in order to reduce our dependence on foreign oil. These two factors are driving speculative applications and fueling fears of a land rush on public lands.

In order to deal with mounting pressures for renewable energy development, early and frequent interaction is needed among all interested parties. State and Federal permitting and regulatory agencies are often very busy and reluctant to invest much time until many of the project details are known. Industry, on the other hand, is often reluctant to invest a lot of money in project design and planning until they know what the likelihood of approval is. Many times a full year of inventory information is needed prior to even beginning the National Environmental Policy Act (NEPA) documentation process.

Siting is the key to doing renewable energy development right. Some public lands are simply not appropriate for renewable energy development, while others are much more suitable. Disturbed lands, lands with low resource values, and lands close to urban areas or close to existing transmission line corridors are more suitable for renewable energy development than lands in remote areas, lands with wilderness or other high natural resource values, or lands far from existing transmission line corridors. Siting in suitable areas will help minimize controversy, maximize public support, and lead to timely approval of developments. Projects proposed on unique and sensitive lands will surely generate controversy and result in delays.

A series of BLM maps showing “avoidance areas” of sensitive public lands would aid developers in finding suitable locations, and may cut down on agency workload by reducing the number of speculative applications. Such maps could be developed based on existing information and updated as new information becomes available. Areas not shown as “sensitive” would still have to undergo the NEPA process and there would be no guarantees for approval, but at least the known sensitive areas could be avoided.

Environmental groups want to be involved in the process. The Nevada Wilderness Project is advocating a “Smart from the Start” approach to dealing with renewable energy development in Nevada. This approach recognizes that to gain the benefits of renewable energy sources and to reduce climate change impacts, there is no way around the fact that renewable energy generation and transmission impacts will occur. This acceptance allows for an acknowledgement that there will be some land-disturbing activities that are necessary to achieve the greater-good benefits associated with renewable energy development. This proactive approach moves the organization from saying “no” to development to being able to say “yes” to some projects. With this common sense approach, conservation groups can assist the agencies and developers in choosing the right locations that are economically viable for the developer, and at the same time, be conservation minded.

Because large scale solar and wind developments on public lands are relatively new, many of the impacts are not widely understood. Federal land managers must look for ways to better understand and minimize potential impacts. Identifying “avoidance areas” in advance would also provide for increased efficiency

in conducting inventories and evaluating impacts by focusing efforts on areas with higher potential for development.

In many places, State and private lands are available to meet the need for renewable energy development. The BLM in Arizona has embarked on a Restoration Design Project, which is looking at disturbed/damaged lands as sites for renewable energy projects. Examples include former mining sites, abandoned agricultural fields, and closed sanitary landfills, most of which are on non-federal lands. The advantages include reduced impact to undisturbed public lands, placement of energy projects near where the energy loads are located, and increased use of private and state lands for generating jobs and tax revenues.

Renewable energy developments can be large-scale, and almost certainly will eventually be widespread. In addition to large-scale commercial developments, there is potential for and interest in smaller scale distributed generation projects to benefit local communities. In either case, it is critical to be smart and deliberative in developing solar and wind energy resources. Regional Assessments of the public lands best suited for renewable energy development have the potential to provide a big picture view, and improve coordination between interested parties. However, in order for regional assessments to be successful, high-level policy agreements need to be developed and adhered to at all levels. Programmatic EISs are also a potential tool in looking at broader landscapes. In order to be successful, however, they need to be done very carefully.

While many current activities would be able to continue on the National System of Public Lands in wind energy development areas, large-scale solar developments represent a long term, possibly permanent disturbance of large areas of land. Many of these developments will be located in the desert. Some developments may eventually be abandoned as technology changes. Reclamation of desert environments is an extremely long process, particularly when left to nature. Bonding for development and application of restoration techniques would provide some recourse for abandoned developments. A reclamation bond fund should be established and payments made during operation of the project to assure an adequate bond at the time of the anticipated reclamation date. Clustering developments near high demand areas would help reduce the impacts in less developed areas.

The BLM has many years of experience doing EISs. But, renewable energy development is a relatively new area. Many of the specific impacts are not as well understood as impacts encountered in historic agency programs such as livestock grazing and water resource protection. In addition, many of the employees, particularly at the field level, may be new to preparing EISs and may not have the experience to fully understand some of the legal requirements. Clear Purpose and Need Statements and cumulative impact discussions are critical. Using experienced regional EIS teams is one way to improve the quality and consistency of EISs.

PLF Position

1. Public lands with low natural/cultural resources, or located close to urban areas or existing transmission line corridors, are more suitable for renewable energy development than are public lands in remote areas or with wilderness or other high natural/cultural resource values.
2. Regional “avoidance area” maps showing sensitive public lands that are considered unsuitable for renewable energy development should be compiled, based on existing data, current land use plan decisions and current policy.
3. Early coordination among the BLM, the proponents of renewable energy projects and other interested parties is vital.

4. Policies should be developed to encourage and even provide incentives for developing solar and wind energy projects on previously disturbed sites, and on private and state lands to avoid or minimize impacts on public lands.
5. Renewable energy developments should be clustered in areas that make sense in order to avoid large-scale projects scattered throughout the BLM-administered public lands in the West.
6. Smaller scale distributed generation projects should be considered in rural communities without access to transmission facilities.
7. A Memorandum of Understanding providing a framework and guidelines for eco-regional assessments of the public lands best suited for renewable energy developments should be developed and agreed on by the Secretary of the Interior, the Secretary of Commerce, and the Secretary of Agriculture.
8. Regional EIS teams should be developed to provide for the preparation of consistent, high quality environmental documents.
9. Reclamation bonds should be required for all renewable energy development projects on public lands.

Thank you for your comment, Maxwell DeHaven.

The comment tracking number that has been assigned to your comment is SolarD10133.

Comment Date: March 21, 2011 14:43:02PM
Solar Energy Development PEIS
Comment ID: SolarD10133

First Name: Maxwell
Middle Initial: R
Last Name: DeHaven
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

whats the hold up, why are we not building these projects yet? Lets put union Ironworkers back to work. Everyone needs to come out of there tiny ass little bubbles they live in. and face reality, we need the energy now. or should we wait for lakemead to dry completely up,or waite for the bleeding hart enviramentials to have all are nuclar plants shut down.Good luck. Wake up people you dont pull energy out of your ass, it takes time to build these projects. So lets get on it. Its a win win for everyone. Isnt that whats its about? The money wheel.and who well make the most of it. your union ironworker brother Maxwell DeHaven

Thank you for your comment, Steve Steelman.

The comment tracking number that has been assigned to your comment is SolarD10134.

Comment Date: March 21, 2011 21:51:09PM
Solar Energy Development PEIS
Comment ID: SolarD10134

First Name: Steve
Middle Initial:
Last Name: Steelman
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is a great opportunity for this valley to help provide alternative sources of energy.

Solar as well as wind should be considered.

Thank you for your comment, Steve Steelman.

The comment tracking number that has been assigned to your comment is SolarD10135.

Comment Date: March 21, 2011 21:52:19PM
Solar Energy Development PEIS
Comment ID: SolarD10135

First Name: Steve
Middle Initial:
Last Name: Steelman
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is a great opportunity for this valley to help provide alternative sources of energy.

Solar as well as wind should be considered.

The valley should benefit in use of the electricity produced from these sources, as well.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10136.

Comment Date: March 22, 2011 18:55:24PM
Solar Energy Development PEIS
Comment ID: SolarD10136

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There is no way that alternative energies can supply our energy needs for many, many years. It's ludicrous to act as if alternative energies are here. It is all well and good to try to develop solar energy but not at the expense of millions of acres of public lands. In the meantime, until alternative energy is a reality, let's develop the oil and gas natural resources that we have in abundance. Why, why, why are we willing to help Brazil drill but refuse to drill in our own country????? Granted, I would much rather have drilling supported in our own hemisphere than in the middle east but it makes no sense not to support the oil and gas industry in the United States. Many thousands of jobs would be instantly created. How hypocritical on the part of this administration and extreme environmentalists!!

Thank you for your comment, steve ramirez.

The comment tracking number that has been assigned to your comment is SolarD10137.

Comment Date: March 24, 2011 21:32:42PM

Solar Energy Development PEIS

Comment ID: SolarD10137

First Name: steve

Middle Initial:

Last Name: ramirez

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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I think it is impressive that the BLM is addressing the need for renewable energy sources in the form of solar panels, but I do not agree that this step forward needs to come at the expense of the natural landscape of New Mexico, such as the Chihuahuan desert ecosystem. I attended the hearing in Las Cruces last month and I heard mentioned the fact that effort was made to exclude cultural and historical sites, as well as biologically sensitive areas, but I was by no means convinced that this effort resulted in success. The representatives who spoke to us were from Albuquerque and Washington DC, and had never set foot in the city and surrounding areas before that day. They are not familiar with the fact that every single living creature in the desert and other ecosystems throughout the state are of major cultural significance and very valuable members of our community.

One lady at the hearing made an excellent point: Why are we letting our need for energy affect the desert wildlife, which has no need for electricity? Why not instead put the solar panels inside cities, where less development and destruction of the land will occur? Has it even been proposed to the public whether they would accept and embrace the opportunity to make a positive change to the way they obtain energy? I have already witnessed many examples of people taking initiative upon themselves by installing solar panels on their rooftops, and many people would agree solutions such as these are much more friendly to the environment. There is even area along major highways throughout the state that could be considered for solar panel placement.

I am very excited and hopeful about this proposed project, I am just very concerned for the natural landscape of the southwest. This is not an objection to the solar panels, it is merely a voice for the creatures and plants in the surrounding areas that cannot speak for themselves. It is also a voice for all the members of the community who were not able to respond with their opinions because they were not informed of this solar energy project. The natural landscape of this country is truly what makes it so beautiful and magnificent, and we would all be devastated to lose it. Please consider these statements very carefully, and know that if effort was made to contain solar panels to cities and already developed areas there would be many people open and willing to help in any way possible.

Sincerely and thank you from the great southwest

Thank you for your comment, norma escobedo.

The comment tracking number that has been assigned to your comment is SolarD10138.

Comment Date: March 24, 2011 21:33:40PM

Solar Energy Development PEIS

Comment ID: SolarD10138

First Name: norma

Middle Initial:

Last Name: escobedo

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: solar comment.docx

Comment Submitted:

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Sincerely and thank you from the great southwest

Thank you for your comment, siba escobedo.

The comment tracking number that has been assigned to your comment is SolarD10139.

Comment Date: March 24, 2011 21:34:32PM

Solar Energy Development PEIS

Comment ID: SolarD10139

First Name: siba

Middle Initial:

Last Name: escobedo

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: solar comment.docx

Comment Submitted:

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Sincerely and thank you from the great southwest

Thank you for your comment, luis escobedo.

The comment tracking number that has been assigned to your comment is SolarD10140.

Comment Date: March 24, 2011 21:35:33PM

Solar Energy Development PEIS

Comment ID: SolarD10140

First Name: luis

Middle Initial: g

Last Name: escobedo

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: solar comment.docx

Comment Submitted:

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Sincerely and thank you from the great southwest

Thank you for your comment, ernie escobedo.

The comment tracking number that has been assigned to your comment is SolarD10141.

Comment Date: March 24, 2011 21:36:10PM
Solar Energy Development PEIS
Comment ID: SolarD10141

First Name: ernie
Middle Initial:
Last Name: escobedo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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Sincerely and thank you from the great southwest

Thank you for your comment, nancy harlow.

The comment tracking number that has been assigned to your comment is SolarD10142.

Comment Date: March 24, 2011 21:36:43PM

Solar Energy Development PEIS

Comment ID: SolarD10142

First Name: nancy

Middle Initial:

Last Name: harlow

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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Sincerely and thank you from the great southwest

Thank you for your comment, troy harlow.

The comment tracking number that has been assigned to your comment is SolarD10143.

Comment Date: March 24, 2011 21:37:23PM
Solar Energy Development PEIS
Comment ID: SolarD10143

First Name: troy
Middle Initial:
Last Name: harlow
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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Sincerely and thank you from the great southwest

Thank you for your comment, krysta ramirez.

The comment tracking number that has been assigned to your comment is SolarD10144.

Comment Date: March 24, 2011 21:38:06PM

Solar Energy Development PEIS

Comment ID: SolarD10144

First Name: krysta

Middle Initial:

Last Name: ramirez

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

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Sincerely and thank you from the great southwest

Thank you for your comment, rosario escobedo.

The comment tracking number that has been assigned to your comment is SolarD10145.

Comment Date: March 24, 2011 21:38:49PM

Solar Energy Development PEIS

Comment ID: SolarD10145

First Name: rosario

Middle Initial:

Last Name: escobedo

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment: solar comment.docx

Comment Submitted:

To whom it may concern:

I would like to thank you for the opportunity to provide my opinion on the solar energy project. I have very strong personal views on this matter which I hope you will consider, because I am sure there are many others that share the same beliefs.

I think it is impressive that the BLM is addressing the need for renewable energy sources in the form of solar panels, but I do not agree that this step forward needs to come at the expense of the natural landscape of New Mexico, such as the Chihuahuan desert ecosystem. I attended the hearing in Las Cruces last month and I heard mentioned the fact that effort was made to exclude cultural and historical sites, as well as biologically sensitive areas, but I was by no means convinced that this effort resulted in success. The representatives who spoke to us were from Albuquerque and Washington DC, and had never set foot in the city and surrounding areas before that day. They are not familiar with the fact that every single living creature in the desert and other ecosystems throughout the state are of major cultural significance and very valuable members of our community.

One lady at the hearing made an excellent point: Why are we letting our need for energy affect the desert wildlife, which has no need for electricity? Why not instead put the solar panels inside cities, where less development and destruction of the land will occur? Has it even been proposed to the public whether they would accept and embrace the opportunity to make a positive change to the way they obtain energy? I have already witnessed many examples of people taking initiative upon themselves by installing solar panels on their rooftops, and many people would agree solutions such as these are much more friendly to the environment. There is even area along major highways throughout the state that could be considered for solar panel placement.

I am very excited and hopeful about this proposed project, I am just very concerned for the natural landscape of the southwest. This is not an objection to the solar panels, it is merely a voice for the creatures and plants in the surrounding areas that cannot speak for themselves. It is also a voice for all the members of the community who were not able to respond with their opinions because they were not informed of this solar energy project. The natural landscape of this country is truly what makes it so beautiful and magnificent, and we would all be devastated to lose it. Please consider these statements very carefully, and know that if effort was made to contain solar panels to cities and already developed areas there would be many people open and willing to help in any way possible.

Sincerely and thank you from the great southwest

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10146.

Comment Date: March 27, 2011 18:26:55PM
Solar Energy Development PEIS
Comment ID: SolarD10146

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
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Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Greetings,

Hello. My name is Mark Burgum and I am a member of IBEW Local 477. I am commenting today on behalf of myself, not the IBEW, my local, or our membership. I am very pleased to hear of the steps forward the CEC has taken regarding solar plants in California. These critical steps that the CEC have taken gives myself lots of hope for a number of reasons. I am happy to know that our state is taking the necessary steps to produce clean energy. I am aware that the size of these projects can have a slight impact on local environments, but, as the committee concluded with the Ivanpah project, in the long run, the good that this project will produce definitely out-weighs the bad. I am happy to know that the men and women constructing these projects will be, for the most part, Californian. That means that people like myself, living in southern California, will have an opportunity to take on a long-term, good paying job, enabling us to purchase property such as homes and new vehicles. The money put into the pockets of most of the craftsmen constructing the project will also be spent here in California.

After feeling and witnessing the effects of the recession, I would like to encourage more and more companies to construct clean energy facilities, not only here in my area, but all over the country. As long as the local environments do not get devastated, projects like Ivanpah will put people to work, generating revenue in the areas in which the projects are being constructed. In the wake of energy disasters like the oil spill in the gulf, and the Nuclear crisis in Japan, I believe the time is right to get projects like Ivanpah up and running, so our way of life can continue normally, under renewable sources. A solar plant cannot cause an oil spill or spill radiation into our bodies.

I, myself, am ready and willing to show up to any solar project and give 100% effort, 100% of the time. If our local building trades can produce on a project of these magnitudes, it will only open more doors, for more approved projects, keeping men and women employed, and taking the necessary steps towards a state that is running off of renewable sources. I, like many others, will be very proud to put in a days work, for a days pay, and being a crucial part of California's economic and environmental recovery.

Thank you for your time.

Mark Burgum
Journeyman Wireman, IBEW Local 477
sicboy760@aol.com

Thank you for your comment, Julie Smiley.

The comment tracking number that has been assigned to your comment is SolarD10147.

Comment Date: March 28, 2011 18:13:57PM
Solar Energy Development PEIS
Comment ID: SolarD10147

First Name: Julie
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Last Name: Smiley
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City: Desert Center
State: CA
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Privacy Preference: Don't withhold name or address from public record
Attachment: PEIS response letter.doc

Comment Submitted:

Julie Smiley
PO BOX 473
Desert Center California
March 6, 2011

Solar Energy PEIS
Argonne National Laboratory
9700 S. Cass Avenue
EVS/240
Argonne, IL 60439

To Whom it May Concern

I was born and raised in Desert Center California which is a small unincorporated city in California's Colorado Desert. It is located between Indio and Blythe on Interstate 10. Over the years, I have witnessed numerous attempts by organizations to encroach on this small community and have just recently become aware of yet another such proposal involving the development of solar farms. This will undoubtedly disrupt the lives of residents and the fragile desert ecosystem alike. I have many concerns about such a proposal and would like to have the following accepted as my official comment for matters that I would like to see addressed and mitigated.

CONCERNS

Ecosystem Concerns- Desert Tortoise

Desert Center and the surrounding desert area is home to a host of delicate, protected, and endangered plant and animal life which will be affected by the large, utility scale solar project development suggested and approved for this area. The PEIS documents list a number of plant and animals that were considered and of those, there is the Desert Tortoise. The proposal is to relocate the tortoises as they have been in so many other instances. My concern was just how these animals fare when moved and found the following.

“ During an Evidentiary Hearing on September 20, 2010 in which the California Energy Commission sought final comment on their plan to approve the gigantic solar sprawl at Calico, CEC biologist Chris Huntley stated that, “ For the control site for a tortoise that's just handled, blood tested, and radio tagged, we placed a 5 percent mortality rate on that based on feedback from the Fish and Game. For the Tran located tortoise, the tortoise physically moved from the project site and placed in a translocation site, we

assumed a 50 percent mortality figure.”

http://faultline.org/index.php/site/item/desert_tortoise_relocation_is_desert_tortoise_eradication/

- **My question concerning the tortoises is what types of consideration have been given to minimizing or forgoing the relocation of the tortoises given this potential mortality rate?**

Ecosystem Concerns- Ironwood Trees

My understanding is that, the Midland Ironwood Forest is the largest concentration of desert ironwood trees (*Olneya tesota*) in California. The area is in the Palen-McCoy Wilderness area between the Palen Mountains and the McCoy Mountains, a few miles northwest of Blythe, California. It is my understanding the project slotted for this area has already been approved by the BLM. According to www.desertmuseum.org/programs/flora, it is believed these trees are as much or more than 800 years old and it just kills me that there would any consideration of clearing this area!! I am concerned about the Ironwood Forest in the Desert Center area as well. It may not be recognized as Wilderness area, but it is a very densely populated stand of ancient Ironwood. It would be a travesty to bulldoze these trees. The desert takes so very long to recover from grading and clearing. This is evident by the abandoned jojoba farms in the area. It has taken more than 20 years since this abandonment for even the more opportunistic shrubs to grow in the area, but you won't see Palo Verde, Ironwood or smoke trees. It will be hundreds of years before the desert looks like it did before clearing for agriculture. It just doesn't make sense to me to destroy an ecosystem to generate green energy.

In table ES.2-5 Summary-Level Assessment of Potential Environmental Impacts by Alternative it states under “Vegetation” that this project would require total removal of vegetation which could result in significant direct impacts in terms of increased invasive species introduction and habitat loss. And under the mitigation measures “invasive species control programs” and the statement “**could** significantly reduce many of these impacts” do not seem adequate in my mind. You seem to address the invasion of opportunistic vegetation but do not address the destruction of other indigenous vegetation, like the 800 year old Iron Wood Trees etc.

- **How will you mitigate for the complete destruction of the indigenous vegetation and the resulting loss of habitat culminating in the demise of entire species of plant and animal life?**

- **Given the noted decline in Ironwood, the extended maturation period, and the importance of the Ironwood tree to so much of the desert wildlife, what are plans to avoid or minimize the tree's destruction during this development? Will areas be excluded or will they all be cleared for development?**

The following comments are going to be directed specifically toward the Riverside East Project.

In the Executive Summary you mention a variety of location specific factors the PEIS will be looking at, some of those being habitat, and public sentiment. First of all let me address habitats. In Table ES.2-5 Summary-Level Assessment of Potential Environmental Impacts by Alternative under Wildlife and Aquatic Biota it is stated "Numerous wildlife species would be adversely impacted by loss of habitat, disturbance, loss of food and prey species, loss of breeding areas, effects on movement and migration, introduction of new species, habitat fragmentation, and changes in water availability." And your mitigation measures "limiting land disturbance, (you already state under vegetation"total removal of vegetation") conducting pre-disturbance surveys, controlling surface water run off" (more grading?) are inadequate when you consider the long term impact the loss of habitat will have on the area.

- **How will you determine the impact of destroying 202,000 acres of desert habitat and the effect that will have on the wildlife in that area?**
- **What can we do as citizens if the mitigation measures are not found to be adequate?**

As for public sentiment, WE ARE OPPOSED!! And I hope we make our voices loud and clear through this process.

The summary does not consider those of us residing in the area. Taken from the BLM Website concerning the PEIS

"While the lands to the north and west of the SEZ are generally undeveloped mountains, the lands to the southeast are agricultural, and there is development along I-10 just south of the SEZ, though areas south of the SEZ beyond I-10 are generally undeveloped. There are isolated ranches, homes, and associated structures located on private lands near the SEZ, as well as local roads and airstrips. Scattered tanks and other structures associated with ranching and farming are visible from the SEZ, as well as the abandoned Eagle Mountain Mine and Ironwood State Prison."

The document fails to mention parts of the Riverside East proposed SEZ sit less than 100 yards from a resort community called Lake Tamarisk which by the way houses approximately 300 people. We have a golf course, fire department, library, lake, clubhouse, schools and various small businesses. Our economy depends and is vicariously balanced upon our winter visitor population. If the areas are developed as close as they are laid out right now to this community, we will most certainly lose our economic base....our winter visitors. They come, in part, for the wide open spaces, clean air, views and ATV activity, all of which will be affected by the projects. So, YES I do believe public sentiment will be in strong opposition to the project.

If all BLM land (or even part) in and around I-10 in the Desert Center, Lake Tamarisk, Rice Road, and Eagle Mountain area are designated for Solar Projects all potential future development will have been halted. Due to the particular dynamics of that area we have lost our gas station and grocery store and many other commercial prospects. The only property left with road front access for potential development is the triangle of land between 177 and Kaiser Road, and the land down 177 and possibly the land around the Corn Springs Exit. The community is working hard to develop its Chamber of Commerce and in the development of that we are working toward a Strategic Plan. We have hopes of obtaining some of that property to be used in the development of commercial property to be used for expansion and growth.

I feel for this particular community that land would be better served for public use as such. A project on the scale of these solar initiatives this close to the population and growth corridor will most certainly cause the collapse of our community.

Please consider moving the boundaries much further from Desert Center, Lake Tamarisk, Eagle Mountain and communities on Rice Road (177). If your view is that you will bring growth to our area you are dead wrong. You have left us no where to grow.

- **My question is how will you mitigate for the negative economic impact this will have on our area?**

Final Comments

I am very concerned for the desert. It seems to me we are not taking enough time to think this through. We need every aspect of our world, it's all interconnected. Many people don't see the desert as a contributing factor, but it is. I accept the desert is a perfect place for solar farming, but it needs to be reasonable. Why isn't there more talk about putting solar on roof tops and using abandoned agriculture land first. I know it's a logistical nightmare, but the effects of destroying the desert will leave a similar or worse nightmare in the hands of a generation whose voices were unheard.

And these Solar Energy Zones, if utilized to its potential, would decimate the desert. And although people argue that just because the zone has been approved doesn't mean they will be developed, my feeling is once the infrastructure is in place; it's only a matter of time before they develop the land for solar use.

I am also concerned with the "fast tracking", it is just giving the government permission to cut corners. They have been given the incredible responsibility of preserving public lands for future generations. The following statement best sums up how I feel.

Jim Andre, Ph.D. University of California Riverside botanist, and Director of the Sweeney Granite Mountains Desert Research Institute states, "Rather than be smart from the start by utilizing ecologically degraded sites first, a reckless and scientifically unmerited decision has been made to instead race into our most pristine desert and obliterate some of the most botanically significant lands in California." With over 250 projects in application in California alone, over 2 million acres of desert would be graded if all of the projects now in application were to be approved. Dr. Andre continues, "This scale of an impact has never occurred before. When you consider the importance of these (eco) systems to provide corridors for species to move as climate changes, whether its human caused change, or just the natural course of variation in climate change, you've really done in the entire ecosystem at that scale."

Sincerely,

Julie Smiley

Desert Center, California Concerned

Thank you for your comment, Kerry Hart.

The comment tracking number that has been assigned to your comment is SolarD10148.

Comment Date: April 1, 2011 10:02:05AM
Solar Energy Development PEIS
Comment ID: SolarD10148

First Name: Kerry
Middle Initial: S
Last Name: Hart
Organization: Concerned U.S. Citizen
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Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

First, I would like to state that I am an advocate of renewable energy resource development, but renewable energy development based on well thought out and methodical scientific decision making processes, not uniformed or emotional political decisions. My recommendations are:

- 1) Utility scale solar energy development on public lands should be the last alternative considered. Utility scale solar energy development requires vast acreages of land and their construction is more destructive to landscapes, ecosystems, and negative view shed impacts than open pit mining activities.
- 2) The first alternative to be considered should be the development of utility scale solar projects on private lands or previously disturbed areas of the public domain. Siting should be first considered on private fallow or abandoned agricultural lands where the landscape aspect is usually low gradient and ideally suited for solar energy development as demonstrated by the Abengoa Solar Energy Development project adjacent to Harper Lake in California. Abandoned agricultural lands have usually been left idle due to excessive pumping and lowering of precious ground water resources in the arid southwest. Thus Concentrated Solar Power (CSP) energy plant approvals should be based on air-cooled systems, or hybrid dry-wet systems as a worst case second alternative.
- 3) As a last case alternative utility scale renewable energy projects should only be considered on public lands in close proximity to cities or large towns. This will reduce disturbance in remote public lands that will continue to fragment and damage fragile desert ecosystems and view sheds. First consideration should also be given to previously disturbed areas such as landfills and abandoned mine sites, airports, or heavily damaged areas by previous military activities such as the Nevada Test Site. Placing these plants close to existing communities on public lands will reduce transmission loss of the already tenuously economic renewable energy systems technology of today. This last resort alternative placing these large land area consuming projects close to existing communities will also reduce additional contributions of greenhouse gasses by reducing employee transportation and construction materials haulage distances and commutes.
- 4) The federal government agencies should invest greater thought and support to distributed Photovoltaic renewable energy projects and providing tax incentives to U.S. citizens instead of large and mostly foreign corporations that develop large scale utility solar projects. In the end citizens will foot the bills for higher costs of renewable energy through local tax revenue losses and higher energy costs. Distributed Photovoltaic renewable energy will better contribute to truly independent energy development, not only transmission grid-wise, but geographic electrical energy independence from local potential catastrophic electrical system failures due to earthquakes and other natural hazards.
- 5) If utility scale renewable energy projects are to be developed on public lands, rigorous NEPA and EIS processes need to be followed to the letter of the law. As recent law suits and requests for injunctions against Federal and State approved "Fast-Track" renewable energy projects in the Colorado and Mojave Deserts of California and Nevada have demonstrated, there is great dissatisfaction and disapproval of this short-circuiting process. The EIS documents concerning these fast-tracked approved projects appear hypocritical from my perspective as these are "solar" mining projects. In reality these large utility scale renewable energy projects consume the same amount of raw natural resources to manufacture the plant equipment, the consumption of precious ground water resources for cooling and collector washing, as conventional coal-fired, petroleum, or natural gas electrical generating plants. This in conjunction with the tremendously large land area footprints and ecosystem destruction that are larger than open pit gold and base metal mining operations (which are required to generate the raw materials from which to build solar energy plant equipment). From that perspective these large utility scale solar energy projects would not be approved based on the historic record and present public attitudes in general.

Thank you for considering my suggestions,
Kerry S. Hart, Geologist

Thank you for your comment, Janine Blaeloch.

The comment tracking number that has been assigned to your comment is SolarD10149.

Comment Date: April 1, 2011 15:44:33PM
Solar Energy Development PEIS
Comment ID: SolarD10149

First Name: Janine
Middle Initial:
Last Name: Blaeloch
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Privacy Preference: Don't withhold name or address from public record
Attachment: SDR PEIS LETTER FINAL 3-31.pdf

Comment Submitted:

SOLAR DONE RIGHT



March 31, 2011

Contact: Janine Blaeloch, Western Lands Project
PO Box 95545 Seattle, WA 98145

US Bureau of Land Management
Draft Solar PEIS Comments
Argonne National Laboratory
9700 S. Cass Avenue, EVS/240
Argonne, IL 60439

Submitted electronically via: <http://solareis.anl.gov/involve/comments/index.cfm>

RE: Comments of Solar Done Right on Draft Solar Programmatic Environmental Impact Statement

To whom it may concern:

On behalf of Solar Done Right, its members and associates, we submit the following comments on the Draft Solar Programmatic Environmental Impact Statement (DPEIS).

Solar Done Right is a coalition of public land activists, solar power and electrical engineering experts, biologists and renewable energy advocates who view with great concern the industry and government momentum behind siting industrial scale, centralized solar power stations on large swaths of ecologically valuable public lands.

We have come together to urge government, utilities, the mainstream environmental movement and the public to abandon this destructive path, and to work toward generating the power we need in the built environment.

Solar Done Right holds that there is a proper hierarchy of priority for strategies to end our nation's addiction to fossil fuels. We should start the switch by using the most cost-effective strategies for renewable energy production, which also happen to be the least environmentally destructive. In descending order of priority:

1. Reduce demand. According to some estimates, an aggressive program of conservation and energy efficiency using currently available technology could reduce US power consumption by nearly one third.¹
2. Generate renewable energy at or near the point of use. Distributed solar generation on homes and businesses is cost-competitive and does not incur the energy loss of distribution through transmission lines. Users can benefit through reduced utility bills

¹ <http://www.grist.org/article/2009-09-11-how-much-energy-does-the-us-waste/>

or sales of power into the grid, or both. Installation time from project conception to completion is measured in weeks rather than years.

3. Generate renewable energy on a larger scale within the built environment. Most cities possess large industrial spaces including warehouse roofs, brownfields, large parking lots, airports, and other areas that could be either converted to or augmented with renewable energy production using existing technology. Emerging technologies offer promise for additional methods to incorporate solar energy production into new residential and commercial construction.

We maintain that a mixture of these techniques can meet our electrical energy needs without sacrificing biologically valuable desert and grassland ecosystems with large scale concentrating solar power plants.

Should these common-sense methods fail to meet our society's long-term demand for renewable energy, centralized solar power plants should be sited only on available disturbed, degraded and contaminated lands that offer little carbon sequestration, wildlife habitat or other natural resource values. Renewable technologies that do not deplete scarce arid land water resources should be prioritized. In any event, prudent and responsible renewable energy development should always steer large-scale renewable energy production away from intact public and private wildlands and prime agricultural lands.

I. Background

The need to make a rapid transition to a renewable-based energy economy is urgent. Global warming threatens to unwind the relatively stable climate regime that has supported the evolution of present human and ecological systems.² At the same time, our economy has been rocked by global financial market crises that threaten to undermine our long-term economic security. It is imperative that we target the most efficient, rapid and cost-effective path to a renewable energy future that creates quality employment, revitalizes local economies, protects the environment and renews our communities.

The beauty of renewable energy is its ubiquity. Solar in particular is available globally at the point of use. Advances in renewable energy, including smart grid technologies, are revolutionizing our energy systems. Many experts agree that decentralized generation and distribution is the wave of the future. If we are to realize our full renewable energy potential, we must make a major departure from the old energy business model dependent on a constantly expanding, centralized utility system.

In the US, utility monopolies have dominated our energy sector for more than half a century. Resistance to change permeates the highest echelons of government. The adoption of Renewable Energy Portfolio Standards (RES) in many states, including the six states analyzed for solar resources in the PEIS, reflects this old energy paradigm.

Reducing CO2 emissions has been cited by the California Energy Commission as an “overriding consideration” for permitting solar projects that have otherwise failed to meet environmental standards. DOI and DOE need to review the effectiveness of RES’s in reducing emissions before pursuing a national RES policy. By mandating a market “add-on,” rather than a substitution, RES’s may be ineffective in reducing emissions or climate change. Because there is no requirement to reduce fossil-fuel-generated power by an equivalent megawattage, RES mandates are being used by Investor Owned Utilities (IOU’s) to create an artificial market above existing generation, even as efficiency and conservation reduce overall demand. In addition, utilities are playing the green card to justify lucrative new transmission infrastructure.² If left unchecked, RES policies could undermine efforts to reduce CO2 emissions, unnecessarily increase the cost of renewable energy, and delay by decades our transition to a new energy economy.

II. Business as usual

“Leading” in the wrong direction

Against this backdrop, the Administration claims to be making sweeping changes in the way we generate energy in this country, yet there is nothing new or innovative about this policy other than that it uses solar in place of traditional fossil fuel energy to power massive centralized generation stations on a scale never before seen.

Even many purported progressives have taken the approach that we must “do it all, everywhere” in order to confront the climate crisis—yet ignored in the analysis are the environmental damage and counter-productivity of siting industrial-scale solar development on carbon-sequestering, ecologically valuable intact public lands. Though allusions are frequently made to the need to site solar power plants wisely and in an “environmentally responsible” manner, serious efforts to act on these concerns are sorely lacking.

There is a severe lack of proper leadership on renewable energy policy in the US. Solar Done Right believes this leadership vacuum will endure as long as the Bureau of Land Management remains in charge of solar energy development. As long as remote, pristine and near-pristine desert in the public sphere is the centerpiece of solar development siting, the BLM remains indispensable and has no reason to relinquish its current role.

Same old energy interests

By offering up public resources, the BLM is subsidizing the same energy interests that have profited by oil and gas development on public lands and waters (BP, Chevron). Taxpayer-funded subsidies in the form of cash grants and federal loan guarantees are going to the same financial players that helped bring the country to the edge of financial meltdown (Morgan Stanley, Goldman Sachs).

²Overland, Carol A, Attorney, “Transmission: It’s all connected,” Slide 13, public presentation, January 20, 2011, Adams State College, Alamosa, Co, <http://legalelectric.org/?s=San+Luis+Valley>

By converting public lands to industrial energy factories in fragile, remote areas with massive requirements for transmission at great cost to ratepayers and the environment, our renewable energy policy is taking the least enlightened path possible, staying close to the status quo while attempting to create the illusion of change.

Fourteen solar projects on over 60,000 acres and more than 750 miles of new high-voltage transmission projects have been fast-tracked on public lands.³ The projects range from 516 to 7,840 acres, with the average power plant exceeding 4,300 acres. This scale and intensity of development on public lands is unprecedented. Massive solar power plants pose irreversible, long-term, cumulative ecosystem and species-level threats to fragile desert and grassland biomes.

In addition, expediting so many fast-tracked projects all at once has rendered public review of environmental impact studies nearly impossible.

Failure to meet environmental standards

Numerous deficiencies in meeting National Environmental Policy Act (NEPA) legal requirements have been documented by agencies and environmental groups⁴, including, but not limited to:

- Inadequate or completely lacking biological surveys
- Failure to adequately assess indirect impacts
- Failure to consider a reasonable range of project alternatives
- Narrow purpose and need statements
- Absence of baseline visual and noise resource analysis
- Inadequate cumulative impacts analysis
- Deficient underlying planning documents that never contemplated this scale of development and have no relevant guidelines that limit acceptable change
- Unresolved, deferred, and inadequate mitigation measures

The fast-track process puts enormous pressure on responsible agencies and staff to rush through evaluations of largely unknown technologies on an unprecedented scale. In acknowledgement of the serious shortcomings of the fast-track process, even otherwise compliant environmental groups issued the following “disclaimer” of the fast-track process:⁵

“We urge the BLM and the Interior Department to acknowledge publicly the deficiencies of the current [fast track] process and to commit publicly to improving it. More specifically, we urge both entities to affirm that neither the current process, nor any of the project sites, nor any of the environmental documents, establish any legal or procedural precedents for future decision-making, siting or environmental review.”

³ US Department of Interior, Bureau of Land Management, Fast-Track Renewable Energy Projects, updated: January 6, 2011: http://www.blm.gov/wo/st/en/prog/energy/renewable_energy/fast-track_renewable.html

⁴ Al Weinrub, *Community Power: Decentralized Renewable Energy in California*, November 2010, page 26: <http://www.localcleanenergy.org/Community-Power-Publication>

⁵ NRDC, Sierra Club et al, *Comments on Chevron Energy Solutions Lucerne Valley Solar Project*, May 2010.

As of this writing, Secretary Salazar has approved nine of the fourteen fast-tracked utility-scale solar developments on public land, six in the deserts of California and three in Nevada, the proposed plants' maximum generating capacity totalling approximately 3,200 MW on more than 29,000 acres.

In many cases, agency staff determined projects to have multiple, unmitigatable adverse environmental impacts. Rather than reducing the scale, redirecting projects away from sensitive habitats, or denying project approvals, agencies invoked subjective “overriding considerations” to push otherwise unwarranted approvals through. The move was based on a hypothetical assertion that reduced greenhouse gas emissions resulting from solar generation would offset negative environmental impacts. The Imperial Valley Solar Project offers a point in case:

“...Staff believes that the direct project impacts to biological resource, and soil and water resources, and visual resources, and the cumulative impacts associated with biological resources, land use, soil and water resources, and visual resources for the Imperial Valley Solar (IVS) Project will be significant. There is no feasible mitigation that would reduce the impacts to a level that is less than significant given the scale of the project, and other projects that were cumulatively considered...staff recognizes that due to a lack of information regarding the long-term performance of this new technology, it is uncertain whether the applicant’s claims regarding reliability will be met.”⁶

Agency staff nevertheless concludes:

“Notwithstanding the unmitigatable impacts...it will provide critical environmental benefits by helping the state reduce its greenhouse gas emissions, and these positive attributes must be weighed against the projects adverse impacts. It is because of these benefits and the concerns regarding the adverse impacts that global warming will have upon the state and our environment, including desert ecosystems, that staff believes it would be appropriate for the Commission to approve the project based on a finding of overriding considerations...”⁷

No scientific evidence has been presented to support the claim that these projects reduce greenhouse emissions. Indeed, recent evidence suggests that the opposite may be true. In a seven-year monitoring study, researchers at the University of Nevada, Las Vegas found that carbon sequestration rates in Mojave Desert ecosystems rival or exceed that of some forest and grassland ecosystems.⁸

More recent work at the Center for Conservation Biology, University of California, Riverside, suggests that soil disturbance from large-scale solar development may disrupt Pleistocene-era caliche deposits that release carbon to the atmosphere when exposed to the elements, thus

⁶ California Energy Commission Staff, *Staff's Comments Regarding a Possible Energy Commission Finding of Overriding Considerations – Imperial Valley Solar Project (08-AFC-5)*, July 27, 2010: http://faultline.org/images/uploads/TN_57759_07-27-10_Staffs_Comments_to_Override_Considerations.pdf

⁷ Ibid.

⁸ Richard Stone, “Have Desert Researchers Discovered a Hidden Loop in the Carbon Cycle?” *Science*, June 16, 2008: <http://www.allianceforresponsibleenergypolicy.com/CarbonCyclereport.pdf>

“negat[ing] the solar development C gains.” Allen, et al. call for more studies on groundwater depletion, landscape fragmentation, vegetation type conversion and regional carbon budgets. The researchers warn that “moving forward with industrial-scale solar developments in undeveloped desert habitats without quantifying the array of impacts...may unknowingly compromise biodiversity and ecosystem functioning.”⁹

In addition, sulfur hexafluoride (SF6), used primarily as an electrical insulator in high voltage transmission of electricity, is the most potent of the six greenhouse gases regulated by the EPA, with a global warming potential 23,900 times that of CO2. One pound of SF6 is equivalent to eleven tons of CO2, nothing sequesters it and the chemical has a half-life in the atmosphere of 3,200 years.¹⁰ The cost and effect of adding over 750 miles of new transmission infrastructure on SF6 emissions must also be factored into carbon-balance equations.

Unlike other forms of energy extraction, concentrating solar development entails use of 100 percent of the surface of a site. Environmental impacts are long-term (decades to centuries)¹¹ and the prospect of either short- and long-term reclamation remains purely speculative.

Until sound scientific research confirms the untested assumption that displacing intact, carbon sequestering desert and grassland ecosystems with solar power plants will, in fact, result in a net CO2 reduction, evocation of categorical exclusions or other environmental waivers is arbitrary and unwarranted.

Offsite mitigation and translocation of affected federally threatened and endangered species, including the desert tortoise, Mojave fringe-toed lizard, flat-tailed horned lizard, golden eagle and desert bighorn, is another severe, unresolved concern. Translocation efforts for sensitive species are still experimental.¹² Inadequately assessed and mitigated impacts from developing large swathes of desert are highly likely to undermine vital conservation and recovery efforts.¹³

It is impossible to determine how much land would be required as mitigation habitat for affected species such as the desert tortoise, because it is not known how many projects could ultimately be permitted. Further, there is little suitable habitat available on private lands in the areas most heavily targeted for industrial solar development, providing narrow opportunities to acquire whatever mitigation habitat might be needed.

The prospects for the species survival, upon which “takings” permits are based, are likely overly optimistic. The overall impact of multiple projects will be devastating to vulnerable species

⁹ Allen, Michael, F., McHughen, A, Barrows, C., *Impacts of Large-scale Solar Development on Regional Ecosystem Dynamics: Critical Research Gaps*, Desert Tortoise Council, 36th Annual Meeting and Symposium, Feb. 18-20, 2011, Las Vegas, NV, <http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

¹⁰ US EPA. SF6 Emission Reduction Partnership for Electric Power Systems: <http://www.epa.gov/electricpower-sf6/basic.html>

¹¹ Ibid.

¹² Field, Kimberleigh, Desert Tortoise Recovery Office, US Fish and Wildlife Service, Reno, NV, *Minimizing Risks When Translocating Desert Tortoises*, Desert Tortoise Council, 36th Annual Meeting and Symposium, Feb. 18-20, 2011, Las Vegas, NV, <http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

¹³ Belenky, Lisa, *Fast-Tracking the Death by a of Thousand Cuts: How Sprawling Industrial Renewable Energy Development in the Desert is Undermining Conservation of the Desert Tortoise*, Desert Tortoise Council, 36th Annual Meeting and Symposium, Feb. 18-20, 2011, Las Vegas, NV, <http://www.deserttortoise.org/abstract/2011DTCSymposiumAbstracts.pdf>

dependent on these habitats, particularly to unique populations restricted to narrow habitat conditions.

There is a broad misconception among the public (and to some extent among scientists and land managers), that scientists have completed the floristic inventory of the California desert, and that the remaining hotbeds for botanical discovery are limited to places like Indonesia and the Brazilian Amazon. Yet the California desert is, in fact, one of the remaining floristic frontiers in the United States. Using the trends from the past 50 years and extrapolating forward in time, we can expect to discover another 200 native plant species in the California deserts over the next 50 years. Thus, approximately nine percent of today's California desert plants are not yet named by science. Given the scale and rapid pace of energy development in the desert regions, we are likely to incur extinctions, and many will be species we never had the opportunity to discover and name.¹⁴

In addition, cultural resource conflicts are rife, as underscored by the concerns expressed by Native Americans and their legal challenges based on lack of consultation by the BLM on six of the nine projects permitted by DOI to date.

Public risk, private gain

Adding to the public burden are government cash grants to private, for-profit consortiums of up to 30 percent of a project's total cost. Much of the momentum behind fast tracking was to meet the December 21, 2010 deadline for solar projects to qualify for American Recovery and Reinvestment Act (ARRA) funding. Under industry pressure, Congress is considering extending recovery funds for solar development.

ARRA funds have also been allocated for loan guarantees — that is, loans by US taxpayers through the Treasury Department, guaranteed by taxpayers through the Department of Energy. Two have been issued so far — \$1.37 billion to BrightSource for three plants in the Mojave, and \$1.45 billion to Abengoa for a plant on private land in Arizona. Solar Millennium is seeking a \$1.9 billion loan/guarantee for its projects in Blythe.

The President's proposed budget also includes \$73 million to review and permit renewable energy projects on federal lands. In addition to these generous federal subsidies, states have waived millions of dollars in permit-processing fees for private utility-scale solar developers, with no provision for reimbursement.¹⁵

The Department of Interior has set as its goal "to permit at least 9,000 megawatts of new solar, wind, and geothermal electricity generation capacity on DOI-managed lands by the end of 2011." Reaching this goal before the end of the year would require fast tracking of an additional 5,800 MW on more than 70,000 acres. Whether or not there are more fast-track proposals, it is clear that the Administration is strongly committed to the current, expedited policy.

¹⁴ Andre, Jim Email communication to Solar Done Right, February 17, 2011.

¹⁵ Jessica Cejnar, "County could establish position on green energy projects," *Desert Dispatch*, April 2010: <http://www.desertdispatch.com/news/board-8265-position-energy.html>

Staying the wrong course

Six of the nine fast-tracked projects are currently under litigation in response to inadequate, expedited reviews and potentially unwarranted approvals. In addition, some fast tracked projects depend on approvals of new long-distance transmission lines that are, themselves, under litigation. Rather than expediting solar energy generation, the “fast track” process has complicated and delayed our country’s progress on renewable energy. Agency deference to entrenched, old energy interests and business models have created policy mire that could be decades or longer to resolve before these projects ever go online.

In an October 2010 conference call to which environmental representatives were invited, Secretary Salazar expressed ambivalence regarding the previous fast-tracked projects, admitting that the “process had not been perfect.” The Secretary rationalized project approval on the basis that there had been no renewable energy program before he came in. He alluded to setting aside 1,000 square miles (640,000 acres) for solar—about the amount of land in the Solar Study Areas mapped out prior to issuance of the Draft PEIS.

We expected the problems identified in the course of the fast-track process to be remedied through the Solar PEIS, which DOI and DOE began in 2008, to “establish environmental policies and mitigation strategies (e.g., best management practices and siting criteria) related to solar energy development.” Maps of the solar study areas (SSAs), encompassing 676,000 acres, were offered for public review.

Late in 2010, as the release of the draft PEIS approached, in the wake of the Secretary’s approval of several fast-track projects, we looked ahead to the PEIS for what we hoped would be a more rational and acutely focused analysis. This would in turn result in a legally and biologically defensible program. It was widely assumed, and regularly reinforced through statements from Interior, that the PEIS would begin with the 676,000 acres of SSAs and work from there to narrow appropriate lands for solar development, in the six states.

Thus, the public was unprepared for the choice of a Preferred Alternative that would keep 22 million acres of public land—about 33 times as much acreage as the SSAs—open to lease applications.

The Preferred Alternative is directly counter to the intent of the PEIS, which was to introduce some limits and predictability on how development of solar on public lands was to proceed. Caving into industry demands,¹⁶ Interior has essentially said, “We do not wish to establish any meaningful limits on what is available to industry.”

¹⁶ Paul, Hastings, Janofsky & Walker, LLP, *Comments of Large-scale Solar Association (LSA), the Solar Energy Industry Association (SEIA), and the Center for Energy Efficiency and Renewable Technologies (CEERT)*, Solar Energy PEIS Scoping letter submitted to BLM, September 14, 2009.

III. Applicable Federal Orders and Inapplicable “Mandates”

The myth of the mandate

By pledging to put a “bulls-eye” on public land for solar development and calling on Congress to make a long-term commitment to billions of dollars in public loan guarantees and grants to large-scale solar developers, Interior Department Secretary Salazar is in keeping with a time-honored tradition of offering up federal land as a dumping ground for yet another single-use, environmentally damaging form of energy exploitation.

Much of the drive behind solar development on public lands has been predicated on what is often referred to as a “mandate” in the 2005 Energy Policy Act (PL 109-58). Policymakers, agencies, industry, the press, and environmentalists all make reference to it. Yet the short provision regarding renewable energy on public lands in the legislation (Section 211), establishes an aspiration, not a mandate:

"It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on the public lands with a generation capacity of at least 10,000 megawatts of electricity."¹⁷

A Sense of Congress resolution has no force of law. The fact that this provision does not establish a mandate does not render it irrelevant, but it does mean that the Secretary of the Interior is not required to promote and sign off on permitting for utility-scale solar power plants. To do so is a policy choice, not a legally binding Congressional mandate.

Amended Federal Order 3285A1, issued by DOI Secretary Salazar on February 22, 2010, is also cited as the basis for using public lands for solar development. The Order takes its authority from the Energy Policy Act of 2005 (Section 3) and therefore also constitutes a DOI policy choice, rather than a legally binding Order. Nevertheless, the Order states that “as the steward of more than one-fifth of our Nation’s lands,” the department has a significant role in coordinating and ensuring environmentally responsible renewable energy production... [Emphasis added].” The Order clearly states that the department should pursue solar leasing “while protecting and enhancing the Nation’s water, wildlife, and other natural resources.”

Given the significant impacts from large-scale concentrating solar that cannot be mitigated, the goal of “protecting and enhancing the Nation’s water, wildlife, and other natural resources” while implementing large scale “environmentally responsible” solar development, cannot be met through any of the alternatives being analyzed in the DPEIS.

When considering the big picture of renewable energy development, technology and market trends, we believe that the discretionary targeting of intact public lands for industrial solar development is a grave mistake in need of reversal.

¹⁷ PL 109-58, Section 211.

IV. Scope, purpose, need and alternatives

Narrow, industry-driven alternatives

The National Environmental Policy Act (NEPA) requires agencies to "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. § 1502.14. The courts have found that "The `existence of a viable but unexamined alternative renders an environmental impact statement inadequate.'" And that the "touchstone for our inquiry is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation."

As currently defined, the BLM's scope to analyze "use of multiple solar energy technologies at utility-scale over the next 20 years on lands within six southwestern states," and DPEIS purpose and need, "to respond to the high interest in siting utility-scale solar energy development on public lands," reflect the priorities of the solar industry to gain maximum access to public lands for industrial-scale development,¹⁸ rather than the public interest in identifying the wisest approach to renewable energy development that preserves the long-term value of public lands.

According to the BLM NEPA Handbook H-1790-1 (Section 6.2) and reiterated in Instructional Memorandum No. 2011-059, "The purpose and need statement for an externally generated action must describe the BLM purpose and need, not an applicant's interests and objectives or external proponent's purpose and need (40 CFR 1502.13) (emphasis added), but rather "the problem or opportunity to which the BLM is responding and what the BLM hopes to accomplish by the action."¹⁹

The foregone conclusion of all of the alternatives analyzed in the DPEIS is the sacrifice of huge swaths of public lands for another wave of energy exploitation. The DPEIS fails to consider whether siting large-scale solar on public lands is the highest and best use of those lands, nor does it explore alternatives to public lands solar.

Siting industrial scale solar power plants on high-value, intact public lands has come under increasing scrutiny as the public becomes aware of viable alternatives such as large-scale solar "roof-top" PV in the built environment, or siting solar development on the nation's millions of acres of disturbed, degraded and contaminated lands.

Distributed generation

While the DPEIS acknowledges that "[distributed generation] will be an important component of future electricity supplies," it rejects the analysis of a distributed generation alternative based on outdated and incorrect assumptions.

¹⁸ Paul, Hastings, Janofsky & Walker, *op. cit.*

¹⁹ US Department of Interior, BLM, Instructional Memorandum No. 2011-059, *National Environmental Policy Act Compliance for Utility-Scale Renewable Energy Right-of-Way Authorizations*, Expires: 09-30/2012. 10

The DPEIS conclusion that only “23% of required of required electricity supplies could be met with roof-top PV systems” is refuted by numerous studies. For example, a 2007 Navigant study prepared for the California Energy Commission (CEC) estimated the combined solar PV capacity potential of residential and commercial rooftops in California to be 50,255 megawatts in 2010 and 67,889 megawatts in 2016.²⁰

A 2009 Black & Veatch and Energy and Environmental Economics, Inc. (E3) report to the CPUC, found 11,543 megawatts of large (greater than 1/3 acre) urban rooftop capacity and 27,000 megawatts of ground-mounted capacity near existing substations.²¹

A June 2010 update of the study found that California has a capacity of 55,000 megawatts of decentralized solar PV (over 100,000 GWh/year).²² This is more than enough to meet the estimated 40,000 to 56,000 GWh/year net short in the state. The potential for DG goes well beyond the numbers cited in these studies that only account for the most accessible commercial sites.

It is common knowledge that solar PV prices have fallen dramatically in the past two years. In a recent filing to the state’s PUC, Southern California Edison asked for approval of 20 solar PV projects worth 250 MW – all of which are expected to generation 567 gigawatt-hours of electricity for less than the price of natural gas.²³ Five years ago, solar PV and concentrated solar power were comparable in price, but solar PV is now indisputably cheaper than concentrated solar power.²⁴

Solar PV with battery storage has a lower levelized cost than concentrating solar with storage,²⁵ and many small installations spread widely over a larger geographic area, are far less vulnerable than large central-station solar generation that can be entirely shut down by a single cloud.

Advocates of utility-scale solar commonly omit from their calculations avoided costs of new transmission, and the 7.5–15 percent losses from moving solar-generated electricity hundreds of miles to urban demand centers when comparing the cost of centralized vs. distributed solar generation.

²⁰ Navigant Consulting, California Energy Commission, *California Rooftop Photovoltaic (PV) Resource Assessment and Growth Potential by County*, September 2007, Table B.1:

http://www.navigantconsulting.com/downloads/knowledge_center/CECReport-500-2007-048.pdf

²¹ Black & Veatch, *Summary of PV Potential Assessment in RETI and the 33% Implementation Analysis*, December 2009: <http://www.cpuc.ca.gov/NR/rdonlyres/FBB0837D-5FFF-4101-9014-AF92228B9497/0/ReDECWorkshopPresentation1ExistingAnalyses.ppt>.

²² Ryan Pletka, Black & Veatch, LTPP Solar PV Performance and Cost Estimates, prepared for CPUC as input to Long-Term Procurement Proceeding, June 18, 2010, slide 37: [http://www.cpuc.ca.gov/NR/rdonlyres/A0CBE958-E2C4-4AC7-9D56-3-AB4D14D723D/\)/BVE3PVAAssessment.ppt](http://www.cpuc.ca.gov/NR/rdonlyres/A0CBE958-E2C4-4AC7-9D56-3-AB4D14D723D/)/BVE3PVAAssessment.ppt).

²³ Stephen Lacey, “Solar PV Becoming Cheaper than Gas in California?,” *Renewable Energy World*, February 8, 2011, <http://www.renewableenergyworld.com/rea/news/article/2011/02/solar-pv-becoming-cheaper-than-gas-in-california>

²⁴ John Farrell, “Busting 4 myths about solar PV vs. concentrating solar,” *Grist*, February 17, 2011, <http://www.grist.org/article/2011-02-15-busting-4-myths-about-solar-pv-v.-concentrating-solar>

²⁵ Ibid

In cloudy Germany, 8,000 MW of distributed PV were installed in 2010 alone,²⁶ more than 80 percent of it on rooftops.

A strategy focused primarily on distributed PV would be the most cost-effective approach to rapidly expanding solar power production in the United States. Germany has demonstrated that a spectacularly high, distributed PV installation rate is sustainable when an appropriate contract structure, the feed-in tariff, is utilized.

Approximately 17,000 megawatts of PV were installed worldwide by the end of 2009. Only 664 megawatts of the global total solar was concentrating solar thermal. Ironically, most of this solar thermal capacity was built in California in the 1980s and early 1990s.²⁷

In a recent publication, "Federal Government Betting on the Wrong Solar , "Horse," engineer and PV expert Bill Powers points out:

The United States is wasting billions of dollars of American Recovery and Reinvestment Act (ARRA) cash grants and loan guarantees on very large, high-cost, high-environmental-impact, transmission-dependent desert solar thermal power plants that will be obsolete before they generate a single kilowatt-hour of electricity...

The Department of Energy (DOE) is in the process of completing a potentially landmark study, the Solar Vision Study (SVS). It maps out a strategy to provide the United States with 10 to 20 percent of its electric energy from solar power by 2030. The document appears to be intended to serve as technical support for a national strategic commitment to solar thermal development....

...The SVS proposes that half of the nation's solar power will come from solar thermal installations, based on a low and unsupported cost-of-energy forecast for solar thermal plants. The SVS also presumes that the Southwest will be the hub from which this solar power is generated and transmitted to other parts of the country, while estimating an almost trivial transmission expense to make this happen.

... A revised and corrected SVS would envision a solar future that is effectively 100 percent solar PV. This PV future would also be predominantly smaller-scale PV connected at the distribution level, to avoid the expense of transmission. Otherwise, enormous costs for the new transmission capacity would be necessary to move remote Southwest solar power to demand centers around the country.²⁸

²⁶ Kirshbaum, Erik, "Germany to add record 8 GW of solar power in 2010," *Reuters*, December 6, 2010, <http://www.reuters.com/article/2010/12/06/us-germany-solar-idUSTRE6B53L220101206>

²⁷ Powers, Bill. Federal government betting on the wrong solar horse, *Natural Gas & Electricity Journal*, December 2010: http://solar.ehclients.com/images/uploads/01-dec-10_Nat_Gas_Elec_Journal_Powers_federal_government_bets_on_wrong_solar_horse-1.pdf

²⁸ Powers, Bill, "Federal Government Betting on the Wrong Solar Horse," *Natural Gas & Electricity*, December 2010, <http://www.google.com/search?client=firefox-a&rls=org.mozilla%3Aen-US%3Aofficial&channel=s&hl=en&source=hp&biw=856&bih=797&q=Federal+Government+Betting+on+the+Wrong+Solar+Horse&btnG=Google+Search>

Generally speaking, “rooftop” solar is shorthand for solar PV installed on commercial and residential rooftops, parking lots, highway easements, and virtually any site in the built environment that has suitable space for distributed generation. When all costs are factored in—including new transmission infrastructure and transmission line losses—local, distributed solar PV is comparable in efficiency, faster to bring online, and more cost-effective than remote utility-scale solar thermal power or remote utility-scale PV plants.²⁹

Local installations such as rooftop or parking lot solar PV reduce peak load at the source of demand and thus reduce or eliminate the need for additional conventional generation and transmission infrastructure. Yet, because investor-owned utilities are guaranteed a high rate of return for transmission and new generation infrastructure, they oppose large-scale deployment of rooftop solar³⁰ and thus work to perpetrate the myths surrounding point-of-use solar.³¹

Environmental Protection Agency – RE-Powering America

The Environmental Protection Agency (EPA), which is obligated to review all environmental impact statements, stated strongly in its scoping comments on the PEIS that the BLM should include a DG alternative in its analysis. In addition, the EPA “strongly [encouraged] BLM, DOE, and other interested parties to pursue siting renewable energy projects on disturbed, degraded, and contaminated sites, before considering large tracts of undisturbed public lands.”³²

The EPA’s Office of Solid Waste and Emergency Response has been identifying abandoned mine lands, brownfields, Resource Conservation and Recover (RCRA) sites, and federal and non-federal Superfund sites that may be suitable for solar and other non-fossil-fuel energy projects.³³

In its original scoping letter on the Programmatic EIS, EPA identified hundreds of thousands of acres of contaminated sites around the country. Following the same methods used by the National Renewable Energy Lab to identify suitable concentrating solar generation sites, EPA identified a “technical potential” of 920,000 MW of solar generation.³⁴

In April 2009, several environmental organizations issued draft recommendations for solar energy development study areas consistent with their own siting criteria. These areas, just in California,

²⁹ Powers, Bill, and Sheila Bowers, Solar Done Right Coalition. Distributed Solar PV – Why It Should Be The Centerpiece of US. Solar Energy Policy,

http://solaradonright.org/index.php/briefings/post/distributed_solar_pv_why_it_should_be_the_centerpiece_of_u.s._solar_energy/

³⁰ Haugen, Dan, “Why Isn’t the U.S. Embracing Feed-in Tariffs?,” *Solve Climate News*, March 24, 2009,

<http://solveclimateneeds.com/news/20090324/why-isnt-us-embracing-feed-tariffs>

³¹ Philips, Matthew. *Newsweek*, Taking a Dim View of Solar Energy, Who could possibly be against homeowners using solar panels to power their homes? Utility Companies, August 25, 2009. <http://www.newsweek.com/2009/08/24/taking-a-dim-view-of-solar-energy.html>

³² Scoping letter from EPA Region IX dated September 8, 2009, signed by Ann McPherson, Environmental Review Office.

³³ http://www.epa.gov/renewableenergyland/docs/repower_contaminated_land_factsheet.pdf

³⁴ http://www.epa.gov/renewableenergyland/docs/repower_technologies_solar.pdf. Technical potential is defined as “Potential that is technically possible, without consideration of cost or practical feasibility.” Given the hidden financial and externalized environmental costs of the current policy led by the Interior just to site 10,000 MW, we believe it is credible to use the EPA’s optimistic estimate for comparison purposes.

comprised 53,400 acres of BLM-managed public land and 242,200 acres of adjacent private lands.³⁵

In its Environmental Impact Reviews for fast-track solar projects, the California Energy Commission also identified disturbed public and private land sites as suitable alternatives to some of the proposed undisturbed public land sites. In a compilation of the CEC's comments on these sites and some of his own research, engineer Bill Powers shows yet more alternative sites for several of the projects.³⁶

Westland's Solar Park in California's central valley includes approximately 30,000 acres of disturbed land targeted for renewable energy development within the Westland's Water District, where agricultural land has been rendered unusable by salt buildup from long-term, intensive irrigation. The project is believed to be suitable for up to 5 GW of solar power generation.³⁷

None of the examples above offers the entire solution, but they do demonstrate the lack of imagination and innovation that is currently guiding site selection. This primitive approach—using public land as the “easy call” for siting renewable energy—is not necessary. There are alternative for siting both large- and small-scale renewables.

Failure to take a “hard look”

Billions have been invested in cash grant and loan guarantees to prop up proposals using 1980s- and 1990s-era technologies in remote, intact desert landscapes, when a push for widespread deployment of DG on pavement and rooftops would serve the public interest far better.

Thus we have an exploitive, outmoded approach to siting mired in 19th Century attitudes toward public land, coupled with financially- and environmentally-subsidized, outmoded technology that will fail to achieve a responsible energy future.

There is vast potential to get outmoded and environmentally damaging solar off public lands by prioritizing distributed generation from solar PV installations in the built environment.

The purpose and need for the PEIS fails to take a hard look at distributed generation and siting alternatives that “minimize adverse impacts or enhance the quality of the human environment” in order to inform decision-makers and the public, as required by NEPA.

³⁵ California Desert & Renewable Energy Working Group, *Recommendations to Secretary of the Interior Ken Salazar on Ways to Improve Planning and Permitting for the Next Generation of Solar Energy Projects on BLM Land in the California Desert*, December 22, 2010, <http://>

³⁶ http://solardoneright.org/images/uploads/31-jan-1_BLM_fast_track_projects_list_of_preferred_disturbed_land_alternatives1.pdf

³⁷ Woody, Todd, “Recycling land for green energy ideas,” *New York Times*, August 10, 2010, <http://www.nytimes.com/2010/08/11/business/energy-environment/11solar.html> and http://westlandssolarpark.com/Westlands_Solar_Park/Project_Overview_and_General_Information.html

Instructional Memorandum No. 2011-059³⁸ issued by the Director of the BLM acknowledges that in limited circumstances the agency may choose to evaluate a non-federal land alternative or different technology alternative raised through scoping, “to the extent necessary to support a decision regarding the pending application.” The BLM’s dismissive stance regarding alternatives to its own narrow proposals, however, suggests that this would be used exclusively to point up the (false) superiority of the public-land, remote, concentrated solar projects it favors. To comply with NEPA, the BLM must analyze these sites and technologies as the legitimate alternatives they are.

The DC Circuit Court of Appeals has found an EIS inadequate for failing to consider eliminating oil import quotas as an alternative to the sale of oil leases on the Outer Continental Shelf, even though the alternative was outside the jurisdiction of Interior. No PEIS was prepared in that instance, but here there is an even stronger case to consider broader alternatives, as a PEIS is meant to address broader policy decisions rather than a specific proposed action.

As the Council on Environmental Quality has stated,

“Section 1502.14 [of the NEPA regulations] requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is “reasonable” rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.”

And,

“An alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered. Section 1506.2(d). Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a)[emphasis added].”³⁹

V. Conclusion

In addition to turning to degraded, contaminated sites, there is vast potential to get outmoded, environmentally damaging solar off public lands in the alternative of distributed generation through solar PV installations in the built environment.

The PEIS dismisses alternatives such as Distributed Generation, restricting solar development to populated areas, or conservation and demand-side management, on the basis of defining the

³⁸ Ibid.

³⁹ <http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm>

purpose and need as “[responding] in a more efficient and effective manner to the high interest in siting utility-scale solar energy development on public lands.” This, in turn, the agency relates to “the requirements for facilitating solar energy development on BLM-administered lands established by the Energy Policy Act...”

This approach renders the Draft Solar PEIS fundamentally flawed. The DOI, DOE and BLM are required to consider a far broader range of alternatives. While the Energy Policy Act—upon which Interior leans—expressed Congress’ “sense” that Interior “should seek to have approved” a stated amount of non-hydropower renewable energy on public land, it did not establish a mandate. Interior is not required to establish this footprint on public lands, and in light of the evidence regarding the environmental damage it would cause, has the discretion to, and must, change course.

Sincerely,



Janine Blaeloch, Western Lands Project

On behalf of Solar Done Right co-founders, and affiliates:

Terry Weiner, Desert Protective Council

Ceal Smith, San Luis Valley Renewable Communities Alliance

Bill Powers, Powers Engineering

Laura Cunningham, Basin & Range Watch

Kevin Emmerich, Basin & Range Watch

Jim Andre, Sweeney Granite Mountains Desert Research Center, UC Natural Reserve System

Chris Clarke

Sheila Bowers

Thank you for your comment, Linda Taunt.

The comment tracking number that has been assigned to your comment is SolarD10150.

Comment Date: April 4, 2011 10:50:21AM
Solar Energy Development PEIS
Comment ID: SolarD10150

First Name: Linda
Middle Initial:
Last Name: Taunt
Organization: Arizona Department of Environmental Quality
Address: Water Quality Division
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Address 3:
City: Phoenix
State: AZ
Zip: 85007
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: BLM PEIS.pdf

Comment Submitted:

Comment letter attached.



Janice K. Brewer
Governor

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Henry R. Darwin
Director

April 1, 2011

Solar Energy Draft Programmatic EIS
Argonne National Laboratory
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Argonne, IL 60439

SENT VIA E-MAIL: <http://solareis.anl.gov/involve/comments/index.cfm>

Re: Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States

We received notice regarding the availability of the Draft Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States. Under the new Solar Energy Program, the Bureau of Land Management (BLM) would establish administration and authorization policies and required design features to replace certain elements of its existing Solar Energy Policies, including:

- Excluding certain categories of land that are known or believed to be unsuitable for utility-scale solar development;
- Identify a number of solar energy zones (SEZs) which are areas with few impediments to utility-scale production of solar energy where BLM would prioritize solar energy and associated transmission infrastructure development;
- Establish comprehensive program administration and authorization policies and design features to be applied to all utility-scale solar energy projects on BLM-administered lands; and
- Establish additional SEZ-specific design features that would represent the most widely accepted methods to avoid and/or minimize potential impacts from the types of activities associated with solar energy development and to successfully administer solar energy development on public lands.

The Arizona Department of Environmental Quality, Water Quality Division (ADEQ) is responsible for ensuring the delivery of safe drinking water to customers of regulated public water systems under the Safe Drinking Water Act, permits for proposed discharges to surface waters of the United States under the federal Clean Water Act (CWA), permits under the State aquifer protection program, and water quality certifications of certain federal licenses and permits. ADEQ has no comments directly related to the Draft PEIS and supports the preferred alternative of the Solar Energy Development Program and the location of the three SEZs in Arizona. ADEQ's comments relate to water quality issues would likely need to be considered by the future project developers.

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1. Clean Water Act Permits

As of December 5, 2002, Arizona has authorization from the U.S. Environmental Protection Agency (EPA) to operate the National Pollutant Discharge Elimination System (NPDES) Permit Program (Section 402 of the CWA) on the state level. The NPDES program, and the surface water permits issued, are referred to as the Arizona Pollutant Discharge Elimination System (AZPDES) Permit Program. The program includes individual permits as well as general permits for construction, de minimis discharges, and municipal and industrial stormwater (Multi-Sector General Permit) discharges.

Under A.R.S. § 49-255.01, any point source discharge to waters of the U.S. (including ephemeral washes and their tributaries) requires AZPDES permit coverage. Discharges from industrial facilities, such as the parabolic trough facilities to produce electricity using a steam turbine generator described in Chapter 3, would likely require an individual AZPDES permit if the discharges were to a water of the U.S.

The Draft PEIS is correct that stormwater discharges associated with activities, such as clearing, grading, or excavating, that disturb one acre or more must obtain permit coverage under the AZPDES Construction General Permit. Permit coverage also is required for construction activities that will disturb less than one acre of land but the project is part of a larger common plan of development or sale and the entire project will ultimately disturb one or more acres. As part of permit coverage, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented before ground disturbance begins.

The Draft PEIS is correct that if project activities occur inside the Ordinary High Water Mark of any water of the U.S., then a CWA section 404 permit (a.k.a. dredge and fill) from the U.S. Army Corps of Engineers may be required. If a 404 permit (or any other federal permit) is required for the project, a state-issued CWA section 401 certification of the permit may be required to ensure that the permitted activities will not result in a violation of Arizona's surface water quality standards.

Certain activities described in Chapter 3, such as cleaning mirrors or photovoltaic panels, subterranean dewatering, and well development, that create discharges that have potential to reach waters of the U.S may require AZPDES permit coverage. ADEQ issued a De Minimis General Permit (DMGP), which is designed to cover specified types of discharges that meet the applicable Surface Water Quality Standards, are generally of limited flow and/or frequency, are managed using appropriate best management practices, and do not last continuously for longer than 30 days unless otherwise approved in advance by ADEQ.

Chapter 3 also mentions that pesticides and herbicides could be used for vegetation and insect control. ADEQ is developing an AZPDES general permit for discharges from the application of pesticides on and near waters of the U. S.. ADEQ's permit is based on EPA's draft general permit. ADEQ expects to issue its AZPDES pesticides general permit sometime in late 2011. ADEQ is developing this general permit under authority of the CWA and A.R.S. § 49-255.01. The Pesticide Contamination Prevention (A.R.S. § 49-301 et seq) cited in Appendix H requires that any pesticide used in Arizona also be approved through an Arizona review.

2. Drinking Water

The Draft EIS mentions the use of drinking water to support the workforce. A water system that has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year must comply with state drinking water regulations. As part of the regulatory requirements, an applicant for a new drinking water system, or modifying an existing system, must submit plans for review and approval before construction begins. Future drinking water systems may require that ADEQ approve the source water as a drinking water source. Also, ADEQ may need to evaluate and approve an Elementary Business Plan to ensure that the water system has and can maintain adequate technical, managerial, and financial capabilities to consistently provide safe drinking water.

ADEQ has delegated permitting and enforcement responsibilities of state rules for drinking water systems to some counties, meaning the owner of the public water system contacts the county where the project is located for drinking water approvals, except when a government entity is the owner or applicant. Maricopa County Environmental Services Department (MCESD) is delegated permitting and enforcement responsibilities for drinking water systems, except for ADEQ's evaluation and approval of an Elementary Business Plan. Yavapai County is delegated permitting and enforcement responsibilities only for installing line extensions for existing drinking water systems. La Paz County does not have delegated authority related to drinking water systems.

3. Aquifer Protection Program

Facilities that discharge, meaning add a pollutant either directly to an aquifer, to the land surface or the vadose zone in such a manner that there is a reasonable probability that the pollutant will reach an aquifer, generally must obtain an Aquifer Protection Permit (APP). Arizona Revised Statutes Section 49-241(B) establishes types of facilities that are considered to be discharging facilities, and therefore require an APP. Chapter 3 of the Draft EIS mentions discharging facilities that may require an APP, such as blowdown cooling towers and evaporation ponds. ADEQ offers individual and general permits. If a facility cannot meet the rule requirements for a general permit, then an individual APP is required. Also, both the individual and general APPs establish specified closure requirements.

Wastewater treatment facilities, including on-site treatment facilities, require an APP. A general APP is available for most sewage collection systems and on-site systems (septic) that have a design flow less than 24,000 gallons per day. ADEQ has delegated permitting and enforcement responsibilities for general permits regarding septic/wastewater and wastewater treatment facilities to Arizona counties, meaning the owner of the wastewater treatment facility contacts the county where the project is located for approvals, except when a government entity is the owner or applicant. La Paz County does not have delegated authority related to all types of general permits for on-site wastewater systems, particularly systems requiring alternative treatments. Any on-site system that cannot qualify for a general APP will require an individual APP, which can be issued only by ADEQ.

ADEQ supports the preferred alternative of the Solar Energy Development Program and the location of the three SEZs in Arizona. We appreciate the opportunity to review and provide comments. If you need further information, please contact Wendy LeStarge of my staff at (602)

771-4836 or via e-mail at w11@azdeq.gov, or myself at (602) 771-4416 or via e-mail at lc1@azdeq.gov.

Sincerely,

A handwritten signature in cursive script that reads "Linda Taunt".

Linda Taunt, Deputy Director
Water Quality Division

Thank you for your comment, Michael Fitzgerral.

The comment tracking number that has been assigned to your comment is SolarD10151.

Comment Date: April 5, 2011 13:06:42PM
Solar Energy Development PEIS
Comment ID: SolarD10151

First Name: Michael
Middle Initial:
Last Name: Fitzgerral
Organization: Sherwood Valley Rancheria
Address: 190 Sherwood Hill Drive
Address 2:
Address 3:
City: Willits
State: CA
Zip: 95490
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Non-THP_NTMP.doc

Comment Submitted:



SHERWOOD VALLEY RANCHERIA

April 5, 2011

Solar Energy Draft PEIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne IL 60439

RE: Comment on the Draft PEIS

To Whom It May Concern:

This letter is in response to your February 22, 2011 correspondence regarding Programmatic Environmental Impact Statement – Department Of Energy (DOE)/Bureau of Land Management (BLM). Extensive and aggressive natural resources extraction activities have occurred throughout the aboriginal territories of many tribes for the last 150 years, leaving many ancestral villages, sacred sites, places of worship, and burial places desecrated.

The area of potential effect is not located on/near the aboriginal territory boundaries of the Sherwood Valley Rancheria (Tribe). However, some properties of the BLM are located near the Tribe i.e. Cow Mountain, Mendocino County, and the Tribe would like to be notified and involved with any activity occurring on these properties.

I apologize for such a late response. We appreciate your efforts in contacting our Tribe. If you have any further questions or additional comments, please contact Misty Cook, Cultural Resource Manager by phone (707) 459-9690 or by email sherwoodvalleyCRM@gmail.com, or Hillary Renick, Sherwood Valley Tribal Historic Preservation Officer via email at chishkinmen@gmail.com.

Sincerely,

Michael Fitzgerrall
Tribal Chairperson

cc: Sherwood Valley Cultural Committee
Sherwood Valley Tribal Council
Misty Cook, Cultural Resource Manager

file

Thank you for your comment, Jennifer Hall.

The comment tracking number that has been assigned to your comment is SolarD10152.

Comment Date: April 5, 2011 14:43:53PM
Solar Energy Development PEIS
Comment ID: SolarD10152

First Name: Jennifer
Middle Initial: M
Last Name: Hall
Organization:
Address: 4018 S. Sherman St.
Address 2:
Address 3:
City: Spokane
State: WA
Zip: 99203
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

BLM & Dept. of Interior,

I strongly protest the development of public BLM lands for solar development of any kind. While I am pro-solar, and have panels on my own home, I do not consider wide open landscape and habitat an ethical or ecological way to honor our Nation's vision and ability to preserve open space.

Installations should definitely be made at BLM buildings, to cover their needs and add back to the grid, but I do not support development of land-based solar.

The resources should be redirected to urban environments, bringing some benefit to the areas that have already been covered with development.

If this is a mute point, and the conversation is just about which option, I begrudgingly favor the SEZ version of action.

Thank you for your time and consideration.
Jennifer M. Hall

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10153.

Comment Date: April 6, 2011 21:03:53PM
Solar Energy Development PEIS
Comment ID: SolarD10153

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Selling out public lands is irresponsible and all at the helm that let it happen do not care about posterity and will pay for their sellout. The solution is to build a village. Use rooftops with virtually no transmission lines, no roads, no vehicles maintaining the monstrosity that will forever scar our land. This ridiculous, unnecessary infrastructure spoils, and steals our public lands. I know why you're doing it, to cowtow to the utility companies that fear the village and their loss of control. But you will go the usual way of government and that is "follow the money." Be careful because the short term move will cost you in the long run in more ways than you know. This is your moment of truth to fight the insanity of remote energy plants and the burden it will place on the world. Go Village or Go Home!

Thank you for your comment, BRIAN HIRES.

The comment tracking number that has been assigned to your comment is SolarD10154.

Comment Date: April 7, 2011 12:48:25PM
Solar Energy Development PEIS
Comment ID: SolarD10154

First Name: BRIAN
Middle Initial:
Last Name: HIRES
Organization:
Address: 2530 10th Street
Address 2: 104
Address 3:
City: Boulder
State: CO
Zip: 80304
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm writing to express my support for Solar PEIS Solar Energy Zones alternative, and concerns regarding other alternatives.

Although I am a vocal advocate for renewable energy as a way of growing American energy independence and sustainability, the devil is always in the details.

When it comes to renewable energy projects, such as utility scale solar projects on public lands, siting them within Solar Energy Zones (SEZs) is the most reasonable and sustainable option. As your plan states, not only does this option minimize red tape for developers and streamline the environmental review processes, it will simplify the required transmission infrastructure. But perhaps most importantly, siting projects in SEZs will help protect our treasured open space and natural resources in the West.

If Secretary Salazar directly oversees the SEZ processes, he clearly has an opportunity to make history, in launching a robust solar energy plan while balancing important protects for the public lands and multiple uses we all enjoy in the West. For this to happen, utility-scale projects must be clustered within SEZs, provide the criteria for adding, modifying, or eliminating zones based on feedback from local communities.

Thank you for your leadership and attention to this critical issue!

Thank you for your comment, Martin Neunzert.

The comment tracking number that has been assigned to your comment is SolarD10155.

Comment Date: April 7, 2011 18:55:38PM
Solar Energy Development PEIS
Comment ID: SolarD10155

First Name: Martin
Middle Initial:
Last Name: Neunzert
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It's not quite possible to absorb all the information in the Draft Solar PEIS, but one thing I'm sure of is that the BLM has once again done a truly outstanding job of understanding the issues, investigating the details and proposing reasonable strategies.

I have always believed the BLM has not done enough to expand alternative energy on federal land. More land should be proposed for development, and the approval process should be streamlined so that expansion can proceed more efficiently.

For background, I spend a considerable amount of time traveling in the western U.S., exploring, photographing, skiing, hiking, cycling and canoeing. I certainly understand the value of select lands, and I would be the first one to advocate the conservation of wilderness areas. But as an engineer and scientist, I am convinced there is a desperate need to work toward energy independence. Let's move forward!

Thank you for your comment, Jared Fuller.

The comment tracking number that has been assigned to your comment is SolarD10156.

Comment Date: April 7, 2011 20:24:04PM
Solar Energy Development PEIS
Comment ID: SolarD10156

First Name: Jared
Middle Initial: G
Last Name: Fuller
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Several SEZ study areas are extremely large and development of less than 80% of these areas would effect a major conversion of landscape character in the regions in which they are located. These most prominently include Riverside East, Iron Mountain, Dry Lake Valley North, Afton, and Amargosa Valley.

Less than 80% development in all the SEZs, particularly the largest ones, could also lead to substantial negative impacts for both known and undiscovered sensitive species. This will especially be so if the PEIS does not mandate thorough biological surveys for these areas and if individual projects are allowed to proceed with abbreviated environmental analysis. The SEZs in California, in particular, probably contain large numbers of desert tortoises and rare plants.

At most locations where solar facilities may possibly be built, re-establishment of native vegetation is often very slow as a result of aridity and interactions with invasive weeds. To aid in partial ecological and biodiversity restoration after temporary disturbance and project decommissioning, the use of supplemental irrigation from available groundwater developed in association with individual projects could be required. Irrigation (including agriculture sprinkling systems) could help re-establish seeded or transplanted late successional species such as succulents that are slow growing, as well as primary successional species. Application of water only two or three times a year at any one location for two to three years could be of benefit. Any such action would be guided by research on effective methods of restoration using irrigation in conjunction with weed suppression.

Jared Fuller
Provo, Utah

Thank you for your comment, Edward Waldheim.

The comment tracking number that has been assigned to your comment is SolarD10157.

Comment Date: April 8, 2011 13:12:37PM
Solar Energy Development PEIS
Comment ID: SolarD10157

First Name: Edward
Middle Initial: h
Last Name: Waldheim
Organization: California Trail User Coalition
Address: 3550 Foothill blvd
Address 2:
Address 3:
City: Glendale
State: CA
Zip: 91214
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This process has not taken into account the mitigation component of projects. If you make a decision what can and what cannot have Solar, you failed to even consider that the mitigation consequences would be and where would they come from. Public lands have been spoken for over and over and over. Recreation is who uses these public lands and federal government shamelessly continues to give away the access for the public to recreate in what ever form they wish, Key here is access. With your plan, you must identify where you will mitigate if at all, but it must be identified and NEPA has to provide the consequences of any take of public land for mitigation. Please make sure you have a clear understanding of this and follow NEPA, failure to do this would be a flawed plan.

Thank you for your comment, Bill Harper.

The comment tracking number that has been assigned to your comment is SolarD10158.

Comment Date: April 8, 2011 14:57:55PM

Solar Energy Development PEIS

Comment ID: SolarD10158

First Name: Bill

Middle Initial:

Last Name: Harper

Organization: Friends of Old Growth Ironwoods

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold address from public record

Attachment: Attachment A.Michael Allen paper.pdf

Comment Submitted:

This is an attachment A to my other comments

DESERT DEVELOPMENT ISSUES

Solar Power in the Desert: Are the current large-scale solar developments really improving California's environment?

Gaps in Desert Research

**Michael F. Allen, Director
Professor of Biology, and Plant Pathology and Microbiology**

**Alan McHughen, Cooperative Extension Specialist
Department of Botany and Plant Sciences**

California deserts are faced with unprecedented anthropogenic change. Impact factors range from expanding urban centers and military bases, to potential significant habitat loss from solar and thermal power expansions (including ground water exploitation and depletion beyond recovery, land stripping for power generation units, and fragmentation from power and associated transportation corridors), and climate change. Together these factors threaten remaining suitable habitat for endangered and for other endemic desert species. Other individuals and studies have commented on the use of out-moded technologies employed in the current American Recovery and Reinvestment Act of 2009 (ARRA) projects, and the economic subsidies that are enabling individual site development and the creation of new transmission corridors in remote, previously undisturbed, areas rather than focusing on existing degraded lands and power corridors. We want to be clear that although we question the current project implementation in this article, we strongly support a transition from a fossil-fuel based energy system to one that will not further exacerbate our current trajectories of anthropogenic climate change, as well as providing energy independence and economic stimulus for our country.

Our goal here is to outline the scope of environmental changes that are underway, and to outline research needs necessary to provide long-term sustainability of federally- and state-listed species and their habitats, ensuring that energy developments are also fully compliant with the letter and intent of state and federal resource protection statutes. We identified several topic areas that are of concern to land managers and project developers in the California deserts. These represent topic areas badly in need of research using state-of-the-art techniques coupled with known expertise, tailored to the desert areas to be impacted by the proposed developments. These include the following issues and their interactions:

- Climate change and shifts in endangered species habitat location and migration potential
- Sources, recharge, and loss of groundwater from large-scale solar steam generator systems
- Persistence of endangered, threatened, and unlisted endemic species in current protected areas, and in new areas where habitat suitability is altered from climate and anthropogenic land-use change
- Exotic invasive species migration pathways, competitive abilities and productivity
- Interactions among vegetation composition, production, fire, pollution and climate change
- Carbon budgets and net carbon loss or sequestration.

Unfortunately, many federal and state agencies, as well as several non-government organizations, whose goal is to protect habitats appear to have overlooked previous results suggesting unacceptable levels of “take” for endangered species, and overlooked existing literature addressing net carbon fluxes that would be affected by the proposed solar developments. Nor have they employed state-of-the art research tools capable of integrating new ecosystem and habitat modeling approaches coupled with carefully-collected spatial and temporal data.

Most of the large-scale solar power projects utilize large quantities of water as steam power generators. The largest of these plants are steam-based thermal plants, using up to 2.9 to 3m³/MWh (US DOE 2006). Assuming 12h/day of active use, a 1,000MW would drain 35,280m³/day, or 28.6 acre-feet of water per day, or 10,435 acre-feet/year. One groundwater basin, such as the Palo Verde Mesa Groundwater Basin recharges only 800 acre-feet per year, largely from recharge by underflow from the Chuckwalla Valley (Department of Water Resources 2003). Even with a low water system, with less energy efficiency, the water use may still likely be well more than the recharge rates. The use of water affects agriculture, existing housing and businesses, the mining industry, military training grounds, and wildlife habitats. Plant species, such as the *Amargosa niterwort* (Hasselquist & Allen 2009), and animals including the desert pupfish populations in Ash Meadows (Deacon et al. 2007, Martin 2010) that are dependent upon surface waters and a high groundwater level are once again threatened this time by solar development. Despite the Department of Interior’s call that conservation is a high priority, this is not apparent for these developments.

While researchers in the region, including UC Riverside scientists, have been addressing factors that challenge the ability of desert ecosystems to sustain themselves with state-of-the-art analyses, many state and federal agencies have continued to employ outdated models and decision tools (e.g., see “Harness sun wisely” Riverside Press-Enterprise 12/26/2010, and “energy developers need better tortoise counts, officials say” Riverside Press-Enterprise 11/4/10).

Federally-listed species such as the desert tortoise and those of concern like the Mojave fringe-toed lizard (Fig 1) are already impacted by new energy developments (e.g., the Ivanpah bulldozing of prime tortoise habitat), roads and urbanization, invasive plants, and changes in military base activities. Relocating species like the tortoises to unoccupied habitats, even those postulated “suitable” by experts, is conceptually flawed. Over 50 percent mortality is reported in short-term experiments (Desert Tortoise Council 2010). If environmental factors like climate change is included, the potential habitat in the desert is reduced even further (Fig 2).



Figure 1. Species that are directly impacted by the current and proposed developments in the California deserts, include the desert tortoise (a federally-listed endangered species) and the Mojave fringe-toed lizard (local populations are of concern to ecologists) (photographs by Cameron Barrows).

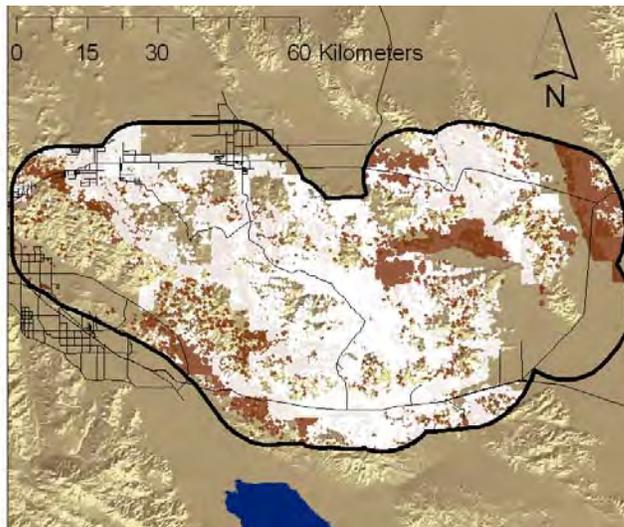


Figure 2. Potential response of desert tortoise to projected climate change at Joshua Tree National Park (C. Barrows). The white plus brown areas represents current habitat. White is the area lost with a 1°C increase in temperature, and a 75mm drop in precipitation, with the brown showing the remaining habitat. Transplanting animals, such as the desert tortoise is conceptually suspect, and the data presented to date suggest that this is not a viable approach. Even if accepted, “unoccupied” habitats are both currently suspect, and certainly have not been vetted against future climate change.

Solar development is essential to reduce carbon inputs to the atmosphere and global warming. But solar development needs to incorporate the best available science into planning and production efforts. The proposed large scale solar developments in California will impact dramatically current habitat and potential habitat of species of concern. We already understand that development patterns can dramatically affect current and potential habitat, as published for the Coachella Valley fringe-toed

lizard (Barrows et al. 2010). Coupling climate change and development impacts could easily lead to local extinction for many populations of these species, and even extinction in some cases (Barrows et al. 2010).

Infrastructure and transportation associated with urban expansion and energy development is likely to impact significantly desert environmental quality. Almost all areas outside of the National Parks, and the existing military bases are among areas potentially subject to these developments (Fig 3). A decade ago, we demonstrated that in developed areas, such as along highway 62, nitrogen in the

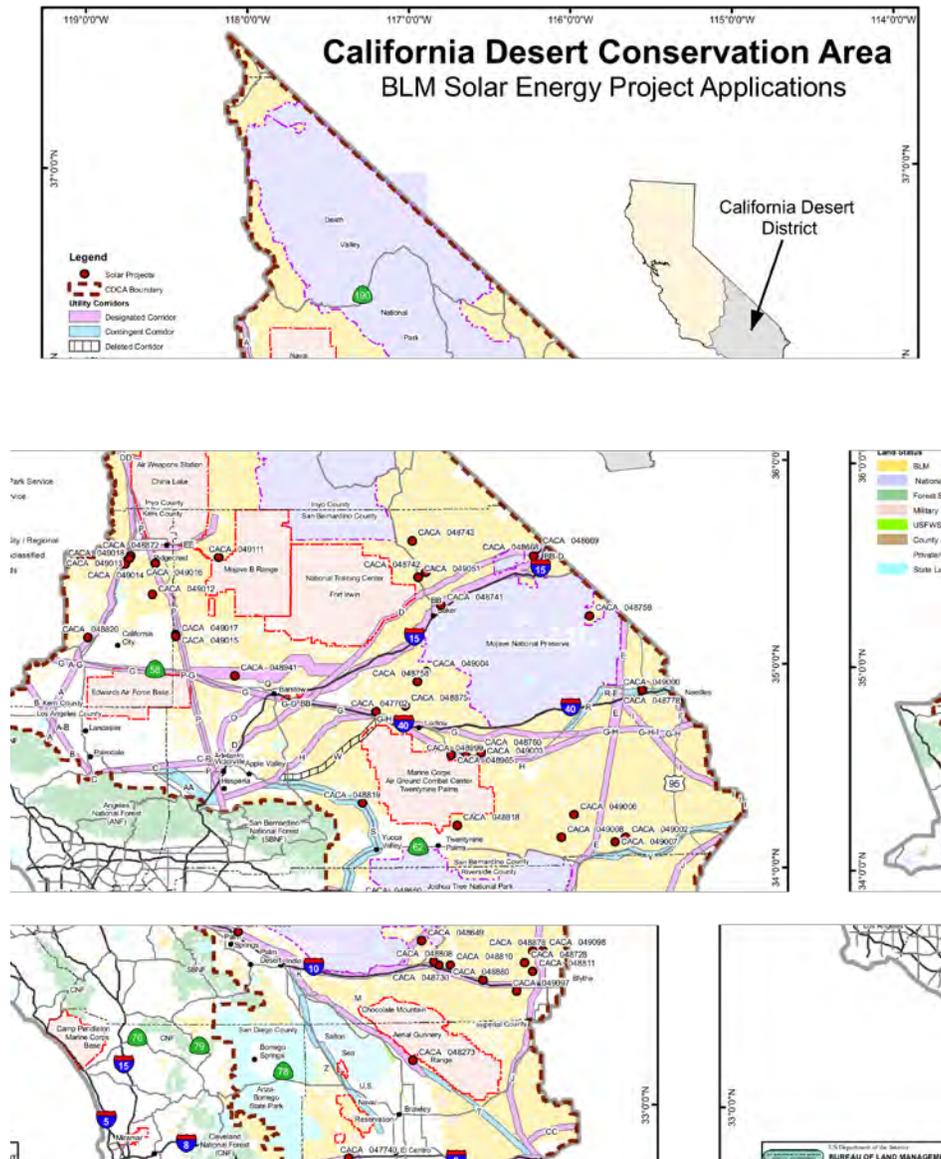


Figure 3. Proposed large-scale energy projects (http://www.energy.ca.gov/siting/solar/cdd_energy_points_8_5x11_solar.pdf). These areas will be subject to increased habitat fragmentation, vehicular traffic and development resulting in significantly increased air pollution, and N deposition.

soil accumulated during the dry season from vehicular-derived air pollution (Fig 4, M. Allen unpublished data). These soil depositions functioned as fertilizer and were subsequently leached and absorbed by vegetation during the wet season, contributing to the massive increase in exotic grass production, to a level capable of carrying fire (Rao et al. 2010). Regional nitrogen deposition models (Fig 5) show that the military bases and solar developments are in locations undergoing increasing air pollution, threatening endangered species and land management protocols. Continued disregard of these changes likely will have dramatic impacts on the natural resource management issues of the region.

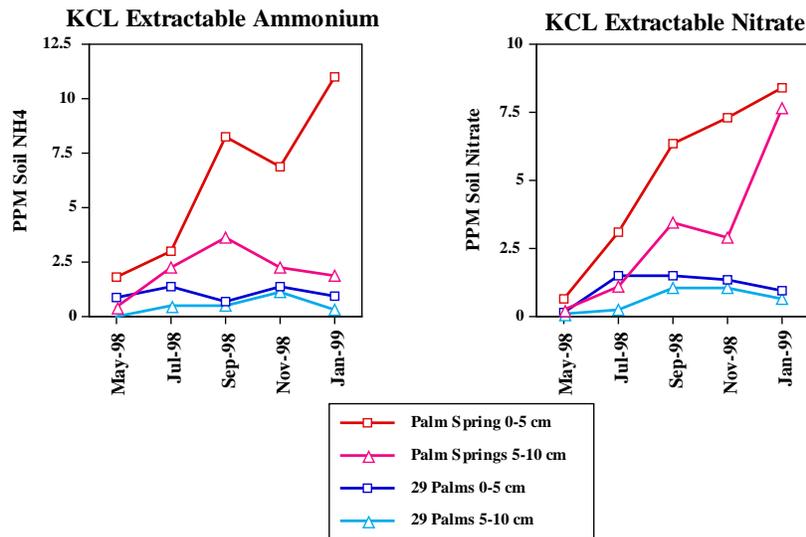


Figure 4. N changes in soil in response to development activity (M Allen unpublished data) showing seasonal increase in N in a developed area (near Palm Desert) versus a remote site (29 Palms Marine Corps base) in 1998. As the Yucca Valley and other desert regions continue to develop, and new energy developments are placed, the potential for more problems with N deposition, fire, and invasive species continues to grow.

Many of the areas that are proposed to be developed for the solar development include Microphyll woodlands (Fig 6). The dominant plants (legume trees) have deep roots capable of reaching groundwater (several meters). When desert plants grow, they absorb carbon dioxide (CO₂). The carbon (C), as sugars, moves into roots and soil organisms. Carbon dioxide is respired back into the soil, part of which reacts with calcium (Ca) in the soil to form calcium carbonate. This is how our deserts sequester large amounts of C and thus function to reduce atmospheric CO₂. ***The magnitude of this carbon storage process is still a crucial research question and remains unknown for our California deserts.*** However, values of up to 100g/m²/y of C-fixation are reported for deserts in Baja and Nevada (Serrano-Ortiz et al. 2010). After vegetation is removed to make

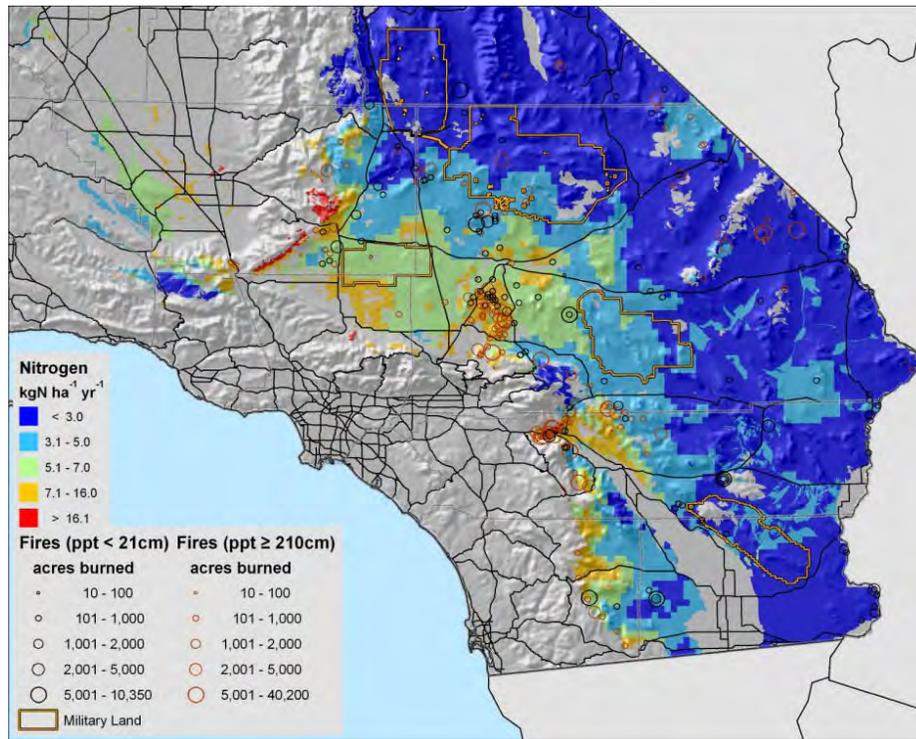


Figure 5. Fire in the desert and nitrogen deposition (from CCB, R. Johnson and E. Allen). Research in the Mojave desert (Rao et al. 2010) shows that in these regions, N deposition (largely from transportation and suburban development) above 3-9 kg/ha/y is above the “critical load” that facilitates exotic grass production, can result in fire and permanent ecosystem degradation. As development increases surrounding these areas, the potential for invasive species, land degradation, and risk of fire increases as it has in other developing areas.



Figure 6. Microphyll woodlands are among the most productive ecosystems that will be affected by solar power facilities. There are no data documenting the amount of carbon sequestration that will be lost with the loss of these stands. However, because these stands access groundwater, they are among the most productive of desert ecosystems.

way for solar arrays, carbon dioxide will be left to return to the atmosphere that ordinarily would have been used to form soil organic matter buried up to several meters deep, or released by roots and soil microbes as soil CO₂, which in turn, binds with soil Ca to form caliche.

Our deserts have large amounts of CO₂, stored as caliche (CaCO₃). The amount of C in caliche, when accounted globally, may be equal to the entire C as CO₂ in the atmosphere. This caliche is formed from weathering of Ca in desert soils binding to carbonates that originate in large part from respiration of roots and soil organisms. Most of the caliche in our deserts was formed during the ice ages, when vegetation was more dense and more productive. These deposits likely have been stable since (Schlesinger 1985). Being stable, though, means that inputs equal exports. Carbon in caliche may in fact be released, especially when vegetation and soils are disturbed. Mielnick et al. (2005) reported losses of up to 145g C/m²/y. Additional research is needed to understand and quantify these exchanges (Schlesinger et al. 2009, Serrano-Ortiz et al. 2010), as there are C exchanges in desert ecosystems that we do not understand. This loss may be especially critical following removal of the vegetation for thermal solar power units. The net C loss due to a loss of native desert vegetation could be as high as 50g C/m²/y plus weathering and dissolution of carbon dioxide from caliche up to 150g/m²/y for an area of 7,000 acres (a common size for solar plants of 1,000MW). This translates to an annual loss of nearly 6,000 metric tons of C released by caliche, or retained in the atmosphere due to the loss of vegetation. This does not include the land disturbed by transmission corridors and maintenance roads through desert lands.

Solar power units that generate 1,000MW would save nearly 560,000 metric tons of C per year. However, we do not know the life-span of these solar power units. This net loss of caliche could continue or even increase as temperatures warm for centuries or more, given the incredibly large amount stored in our California desert valleys and vegetation recovery following disturbance for developing desert lands can also take a century or more (Fig 7). If we include the C savings from an active use of photovoltaic cells in the locations where demand is heavy (see Warmann and Jenerette 2010), then the entire regional C balance becomes even less weighted toward the large desert thermal developments.

Finally, what is the life-expectancy of a thermal solar energy development? A common presumption is that these extend indefinitely into the future. But water quality is a crucial issue for solar development, because water from both the Colorado River and the groundwater basins of the regions are highly corrosive to the project plumbing. This means additional land disturbance from maintenance and replacement activities, and a reduced lifespan of these solar projects. Given changes in government subsidies, the over-exploitation of groundwater supplies, and the heavy replacement and maintenance costs associated with the corrosive water quality, this may not be a reasonable assumption. Even when plant re-establishment occurs, disturbed lands will be dominated by annual grasses and

forbs with shallow roots instead of deep-rooted shrubs, potentially for a century or more. Soil organic C likely will rapidly cycle back to the atmosphere. We do not know how soil inorganic C behaves. Understanding the lifespans of the solar plants, compared with this long-term slow C balance is a critical need for determining if these solar developments represent a net long-term reduction in greenhouse gases. Does calcium carbonate then weather back into CO₂ with no plants to replenish the soil CO₂? Could large-scale solar developments in our deserts actually increase atmospheric greenhouse gas levels over the next centuries?



Figure 7. Overlook from Desert Center, CA, looking eastward across lands designated for solar power development. The combination of developments has the potential to fragment populations of desert species, degrade soils, and reduce carbon sequestration potential of these arid lands.

The areas of the California deserts where the mega- solar projects are to be built are mainly in areas where water is the limiting factor for production and organism survival. Precipitation is highly variable in space and time, and hydrology is not well documented. The basins are interconnected. Yet we know little about the rates or even directions of the subsurface flows and small transient perched water pockets created by earthquake fault lines that support plants whose roots must reach the groundwater, such as palms, ironwood and mesquite. Water extraction at large scales could have critical impacts on desert ecosystems, including animal species like deer, bighorn sheep, and mountain lions, more than just tortoises. Microphyll woodlands and mesquite stands support various endangered species and species of concern, both directly as habitat and food, and indirectly by supporting annual forbs that serve as food sources as the soil dries out. We do not know how or where water is connected between basins, nor if the water used for individual projects is continually recharged, or comprised of water laid down in the Pleistocene.

Concluding Remarks

These development impacts are particularly questionable given the incredible surface area located in regions with high solar radiation such as southern California. Warmann and Jenerette (2010) estimated that 10 percent of the rooftop areas suitable for solar photovoltaic systems could supply 80 percent of the annual energy requirements for the region. Given the large acreages of private, already disturbed lands scattered across the California deserts, use of more pristine habitat of endangered species like the desert tortoise and the *Amargosa niterwort* seems counterproductive.

Again, we are not objecting to renewable energy development in the California deserts. Indeed, we have worked for decades with military installations and with energy companies to enhance environmental management and restoration. We can do the same with renewable energy projects. However, without careful planning and management, massive detrimental impacts over extremely large areas could result from the current energy development proposals. For society to benefit from solar energy while preserving our desert ecosystems, we must obtain and use sound existing scientific methods, and fund credible new science based on accepted review and award principles, as practiced by agencies with experience in peer-reviewed funding such as National Science Foundation or National Institute of Health. We must apply principles as judged by published peer-reviewed literature in top journals, and defensible, innovative ideas judged by scientific experts without conflicts of interest.

If the construction of poorly placed solar arrays in California leads to the loss of endangered species, destruction of plant and animal habitat, increased environmental contaminants, diversion of water and increased global warming due to more carbon dioxide in the atmosphere, then any justification for placing solar arrays in our deserts is seriously undermined.

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Thank you for your comment, Bill Harper.

The comment tracking number that has been assigned to your comment is SolarD10159.

Comment Date: April 8, 2011 15:14:05PM
Solar Energy Development PEIS
Comment ID: SolarD10159

First Name: Bill
Middle Initial:
Last Name: Harper
Organization: Friends of Old Growth Ironwoods
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment: Final PEIS commenword doc.doc

Comment Submitted:

Here are my main comment attachment A was submitted as SEDD10158

I will attemp a small pdf file which is attachment B

Subject: Final PEIS comments
Date: Friday, April 08, 2011 11:52 AM

Bill Harper

bharper@pacific.net

Communications Director for Friends Of Old Growth Ironwoods

Member of Desert Survivors

My comments in bold

Introduction to PEIS comments.

Friends of Old Growth Ironwoods is not against solar power. We are for distributed solar in the right places. Several members have rooftop solar at home.

The symptoms of the energy situation in the United States are stated often throughout the Solar PEIS however the cause is not. That is; profit for few, with massive subsidies passing the costs onto the environment and the public.

We have created the situation today, with profit foremost, sources far from the need and bottleneck transmission between. The subsidies and environment costs have been put on all citizens and governments. The Solar Peis does the same; passes the costs off to citizens, local governments and health providers, the current and future desert recreations and some of the most intact environments in the United States. It is these subsidies that make it viable, otherwise they would not be built there.

Every move we make from now on will matter factorally, because there are so many needs, there is so little intact natural systems left and costs are rising as fast as we can make decisions. Natural systems including the ancient Ironwood forest are fixing carbon at no costs with no inputs from us. They are sustaining the desert tortoise, migrating birds and many yet to be identified, little understood animals and processes without costly and dubious mitigations (Attachment A).

Leasing of public lands does nothing to help the local governments financially deal with the impacts. The costs of the transporting construction workers and supplies on county and state maintained roads are not addressed.

The PEIS does not address the considerable risk of Valley Fever, which is especially high for construction work in previously undisturbed land. In this setting, Valley Fever can affect 5 - 10% of exposure construction workers.

Impact on emergency services not addressed. First responders are often volunteers in rural areas.

These are excerpts from the Rice solar EIS:

RSEP EIS: In two letters from the RCFD (Riverside 2010b and 2010e), Captain Neuman of the RCFD has stated that the RSEP would have an impact on RCFD's ability to respond to

fire, hazmat, and EMS emergencies at the RSEP.

" Although the initial response time for a fire would be approximately one hour and 45 minutes from Station # 49 and approximately two hours from Station # 43, both those stations would only be able to send out one engine each with three firefighters each (Riverside 2010e). "

RSEP EIS: 6.14-22 "While staff summarized records readily available from the existing solar plans, ..."

The available records did not include documentation of a major fire at the SEGS 8 facility in January of 1990 that required a large regional force four different fire districts including the San Bernardino County, California Department of Forestry and Fire Protection (CDF), and the Kern County Fire Departments, Edwards Air Force Base . This fire is the largest incident that has occurred at a solar thermal plant in California and demonstrates the amount of resources that can be required to respond to a fire at a large thermal solar facility."

Specific Comments

VOL. 1 Chap. 1

1.3.6.1. The PEIS evaluates the potential environmental, social, and economic effects of

establishing broad solar energy program elements and strategies across the six-state study area.

The programmatic analysis will provide the basis for future utility-scale solar energy

development decisions. Because the proposed program involves environmental effects over a

broad geographic and time horizon, the depth and detail of the impact analysis is fairly general,

focusing on major impacts in a qualitative manner.

The PEIS does not assess site-specific issues associated with any future individual solar

energy development projects. A variety of location-specific factors (e.g., soil type, watershed,

groundwater availability and presence of jurisdictional waters, habitat, vegetation, viewshed,

public sentiment, the presence of threatened and endangered species, and the presence of cultural

resources) would vary considerably from site to site, especially over a six-state region. In

addition, the variations in technology and project size and design would greatly determine the

magnitude of the impacts from given projects. The effects of these location-specific and project

specific factors typically cannot be fully anticipated or addressed in a programmatic analysis;

such effects must be evaluated at the project level. This PEIS identifies the range of potential

impacts and identifies relevant mitigation requirements applicable to utility-scale solar energy

development in general. Site-specific and species-specific issues would be addressed during

individual project reviews, where resolution of these issues is more readily achievable. NEPA

analyses for site-specific solar energy proposals would tier to the Solar PEIS (see Section 1.3.8,

BLM Requirements for Further Environmental Analysis).

The above statement is in direct conflict with this statement, note the use of "in depth":

1.3.6.2. In addition to the programmatic analysis described above, the Solar PEIS also provides

in-depth environmental analysis to inform the identification of the BLM's proposed SEZs within

the six-state study area as those locations that are best suited for utility-scale solar energy

development (i.e., high resource value and low [or limited] resource and/or environmental

conflicts).

It is not "in-depth" if it ignores the natural gas components unsustainable and atmospheric carbon input. Why is this very significant fossil fuel environmental impacts not evaluated? Is so we can pretend it is sustainable? It is clearly a lack of information.

App. F-4:

For informational purposes, the potential array of fossil fuel and

10 parabolic trough or power tower hybrid systems is discussed in Section F.2.4.5, although the

11 environmental impacts of the fossil fuel-fired portions of such combinations are not evaluated in

12 this PEIS.

1.3.8 BLM Requirements for Further Environmental Analysis

As discussed previously, the Solar PEIS will not eliminate the need for site-specific

environmental review for future individual utility-scale solar energy development proposals

(see Section 1.3.6.1, Programmatic Scope). The BLM will make separate decisions whether or

not to authorize individual solar energy projects in conformance with the existing land use

plan(s) as amended by the Solar PEIS. Site-specific environmental reviews for utility-scale solar

energy projects commenced after the ROD for the Solar PEIS is signed will be tiered to the

Solar PEIS. All site-specific environmental reviews will include a requirement for additional

project-specific public involvement. The BLM retains the discretion to reject solar ROW

applications based on site-specific issues and concerns, even in those areas available or open for

application in the existing land use plan.

In cases where a broad policy, plan, program, or project will later be translated into site

specific projects, subsequent analyses are referred to as "tiered" analyses. Tiering refers to the

coverage of general matters in a broader EIS (such as national program or policy statements)

with subsequent narrower EISs or environmental assessments (EAs) (such as regional program

statements or ultimately site-specific statements) incorporating by reference the general

discussions and concentrating solely on the issues specific to the EIS or EA subsequently

prepared (40 CFR 1508.28).

How does this simplify things?

On the danger of fires: App. F:

Finally, although the choice of both HTF and TES media is based primarily on performance, the selection also involves cost, safety, and environmental considerations. Large,

utility-scale CSP facilities with long-term TES capability can be expected to have substantial

quantities of HTF and/or TES material present in their respective systems (hundreds of

thousands of gallons or more). Consequently, failures of those systems can lead to accidental

releases or fires.

The fire can produce Benzene further threatening the health of firefighters.

App. F-11

The material that has been used exclusively to date is a formulation of synthetic organic

oils, sold commercially as Dowtherm A®, manufactured by Dow Chemical, or Therminol® VP1,

distributed by Solutia, Inc. Both products are mixtures of diphenyl oxide (~73.5%) and biphenyl

(~26.5%). Both formulations have been used successfully in CSP plants for many years. The

mixture is ideal for CSP applications in regions with high insolation. However, over time

(i.e., within the typical facility's 30- to 40-year design basis lifetime), the material has been

shown to thermally decompose to produce hydrogen and other organic species such as benzene

and dibenzofuran (Moens and Blake 2008). The hydrogen that forms has also been shown to

permeate the stainless steel tube containing the HTF and move into the evacuated annular space

between the stainless steel tube and the glass outer tube, thus reducing the thermal efficiency of

11 the HCE. Consequently, it is necessary to either capture the hydrogen in special chemical

12 sponges placed in the annular space or provide for the venting of hydrogen from the HTF as it

13 is formed. Venting is typically selected as the simplest strategy for preserving the performance

14 of the HCE and the HTF over the long term. Experience suggests that the extent of thermal

15 decomposition of the HTF is minimal, and replacing the entire volume of HTF within the

16 operating lifetime of a facility is not expected to be necessary.

Venting a Vacuum? Venting can be also called releasing these toxins to the environment.

As to Tortoises:

Vol. 3 part 1

9.2-156:

13 The overall impact on the desert tortoise from construction, operation, and

14 decommissioning of utility-scale solar energy facilities within the Iron Mountain SEZ is

15 considered moderate, because the amount of potentially suitable habitat for this species in the

16 area of direct effects represents between 1% and 10% of potentially suitable habitat in the SEZ

17 region. The implementation of programmatic design features alone is unlikely to substantially

18 reduce these impacts. Avoidance of all potentially suitable habitats for this species is not a

19 feasible means of mitigating impacts, because these habitats (desert scrub) are widespread

20 throughout the area of direct effects.

If it can't be mitigated because there is so much of it in the way then is clearly the wrong place to do it. The choice of "desert scrub", the most loaded, dismissive term for a misunderstood habitat reflects a prejudice built into the document.

32 There are inherent dangers to tortoises associated with their capture, handling, and

33 translocation from the SEZ. These actions, if done improperly, can result in injury or death.

34 To minimize these risks (and as stated above), the desert tortoise translocation plan should be

35 developed in consultation with the USFWS and the CDFG and follow the Guidelines for

36 Handling Desert Tortoises During Construction Projects (Desert Tortoise Council 1994) and

37 other current translocation guidance provided by the USFWS and CDFG. Consultation will

38 identify potentially suitable recipient locations, density thresholds for tortoise populations in

39 recipient locations, procedures for pre-disturbance clearance surveys and tortoise handling, as

40 well as disease testing and post-translocation monitoring and reporting requirements. Despite

41 some risk of mortality or decreased fitness, translocation is widely accepted as a useful strategy

42 for the conservation of the desert tortoise (Field et al. 2007).

Admittedly ineffective mitigation is not mitigation but a paperwork sham. It is "acceptable" because no one is monitoring the results.

9.2.12.3 SEZ-Specific Design Features and Design Feature Effectiveness

13 The implementation of required programmatic design features described in Appendix A,

14 Section A.2.2, would greatly reduce or eliminate the potential for effects of utility-scale solar

15 energy development on special status species. While some SEZ-specific design features are best

16 established when project details are being considered, some design features can be identified at

17 this time, including the following:

9.4.16.2 Impacts

20 Indirect impacts on paleontological resources outside of the SEZ, such as through looting

21 or vandalism, are unknown but unlikely because any such resources would be below the surface

22 and not readily accessed. Programmatic design features for controlling water runoff and

23 sedimentation would prevent erosion-related impacts on buried deposits outside of the SEZ.

In the west the primary soil movement is erosion by wind. This leaves artifacts exposed where they are in most cases. excavation for concrete pedestals also makes that statement a gross oversimplification. I personally have seen pottery and tools in sight of the proposed SEZ's scattered on top of the ground surface. More intrusion means more collecting not less.

Vol. 8 app. I

1 I.1.22 Sonoran Basin and Range

2

3 The Sonoran Basin and Range ecoregion occurs in Arizona, California, and New Mexico.

4 Within the six-state study area analyzed in the PEIS, this ecoregion is approximately

5 28,875,100 acres (116,854 km²), and the elevation ranges from -243 to 6,569 ft (-74 to

6 2,002 m). This ecoregion includes the Sonoran Desert and scattered low mountains. The climate

7 is slightly hotter than the Mojave Desert to the north. The potential natural vegetation of this arid

8 ecoregion is predominantly creosotebush-bur sage with large areas of palo verde-cactus shrub

9 and giant saguaro cactus. Land uses include grazing, agriculture, mining, and recreation. The

10 development program alternative includes 3,140,682 acres (12,709.9 km²) of this ecoregion; the

11 SEZ program alternative includes 324,127 acres (1,311.70 km²).

No mention of ironwoods.

The BLM proposes to exclude many categories of lands from utility-scale solar energy development. These categories, listed in Chapter 2, Table 2.2-2, include a number of resources and resource uses for which GIS data are not consistently available across the six-state study area. Examples include areas designated in land use plans for seasonal restrictions, Visual Resource Management Classes I and II, and areas with important cultural or archaeological resources. As a result, the maps and acreage estimates showing lands that would be available for ROW application include some areas that would be excluded from development. The BLM intends that all categories of lands listed in Table 2.2-2 would be excluded, and exclusions that could not be mapped in the Draft PEIS would be identified during the ROW application process. The BLM proposes to exclude many categories of lands from utility-scale solar energy development. These categories, listed in Chapter 2, Table 2.2-2, include a number of resources and resource uses for which GIS data are not consistently available across the six-state study area. Examples include areas designated in land use plans for seasonal restrictions, Visual Resource Management Classes I and II, and areas with important cultural or archaeological resources. As a result, the maps and acreage estimates showing lands that would be available for ROW application include some areas that would be excluded from development. The BLM intends that all categories of lands listed in Table 2.2-2 would be excluded, and exclusions that could not be mapped in the Draft PEIS would be identified during the ROW application process.

Table 2.2.2 item 24 lists Old Growth Forest yet nearly all of Riverside East is old growth Ironwoods.

20 Although the impact analysis for specially designated areas focused on areas within a

21 25-mi (40-km) radius of the individual SEZs, in a few instances, more distant areas were

22 considered if there was some unique reason to do so (on the basis of professional judgment).

23 Several factors were considered in identifying areas that could be affected by solar development

24 within the SEZs. These included the proximity of the SEZs to the specially designated areas,

25 the view from the areas of potential development within an SEZ, and the nature of the resources

26 and resource uses that were identified as the reason(s) for the special designations. In general,

27 depending on the resources and resource values present, the closer a SEZ is to a specially

28 designated area, the more likely the area and its resource values would be adversely affected

29 by solar development. While there is an inherent subjectivity in this type of analysis, impact

30 assessments of these special areas draw heavily on the visual analysis completed and recorded in

31 the Visual Resource sections in this PEIS and on the professional judgment of the analysis team

32 with respect to the potential sensitivity of the area to the presence of solar energy development.

33

34 Key sources of information supporting this analysis were the project-specific GIS system,

35 SEZ-specific visual resource analysis, and Google Earth visualizations. In many cases it was not

36 possible to make a determination of potential effects, but generally, where solar development

37 would be within 5 mi (8 km) of a specially designated area, the impacts of development on areas

38 with high visual sensitivity were considered to be "large." There were also instances in which

39 specially designated areas might be farther than 5 mi (8 km) from an SEZ, but because of the

40 potential for extensive and continuous solar energy development over a large percentage of the

41 viewshed of a specially designated area, this would also be classified as a large level of impact.

42 For areas located farther than 5 mi (8 km) from the SEZ and/or where the viewshed would be

43 dominated to a lesser degree by development in the SEZ, impacts could range from negligible to

44 moderate

The SEZ's are all visible from wilderness areas with very little else in viewshed.

One of the very significant assets of desert wilderness is that 40 to 65 mile views are common. There is also "linked" views with the unique property of being able to see and travel to the next wilderness. That is what makes them irreplaceably unique.

Maps in App. N. are deceiving by not showing wilderness boundaries are right against the SEZ. Placing only the name without boundaries obfuscates the impacts to these wilderness.

A very deceiving map of Iron Mountain and Riverside East SEZs occurs because both SEZs are on the map but only the impact of one is shown. The BLM is proposing both SEZs. The impacts of both should be shown on one map. The maps' brown zone where direct line of sight is would cover vastly more land when even with the limited and incorrect assumptions of desert viewshed size. This would radically change the maps for even the lowest height assumptions such as App. N. 3.2-1; 24 ft.

The following appears to make excuses for not covering the important details the irreplaceability of ancient desert pavement, cyptobiotic soil, sand flow, and carbon fixing all interconnected to unique desert soils:

15 M.7.3 Soil Resources Impacts Assessment

16

17 The impacts assessment for soil resources relied on field observations, reviews by and

18 consultations with BLM field office personnel, and academic and professional literature reviews

19 to characterize site-specific soil conditions. No soil boring samples were collected, and no field

20 or laboratory tests for soil properties were conducted at any of the proposed SEZs as part of this

21 assessment. At this time, only general project locations (as delineated by the site boundaries for

22 each proposed SEZ) are known; footprints of specific solar projects to be developed within the

23 proposed SEZs are not yet available. As a result, impacts on soil resources are discussed in this

24 PEIS only in relative terms by project phase and technology type and size (these are presented in

25 Sections 5.7.1 and 5.7.2). Site-specific impacts are identified in the impacts section for each of

26 the proposed SEZs.

28 The main elements in assessing relative impacts on soil resources at the proposed SEZs

29 are the geographic location and temporal/spatial extent of ground-disturbing activities during

30 all project phases. Activities resulting in ground disturbance include vegetation clearing and

31 grubbing, excavation and backfilling, construction of project structures (met towers, solar

32 collectors, cooling systems) and ancillary facilities, trenching, drilling, stockpiling of soils,

33 construction of road beds, drainage and wetland crossings, heavy truck and equipment traffic,

34 and increased foot traffic (Section 5.7.1). Because the footprints of specific solar projects to be

35 developed within the proposed SEZs are not currently known, the temporal/spatial extent of

36 these ground-disturbing activities and soil-related impacts cannot be quantified in this PEIS.

Not very "in-depth", pun intended. The Ivanpah solar site resembles strip mine from the air. Once you strip off the vegetation and restructure the drainage it is a strip mine no matter how deep you go.

The following incorrect generalizing leaves out readily visible 30 foot tall ironwood and palo verde trees in the SEZ's I have been to in California. One can only assume that habitats in other states has been incorrectly identified also.

23 Areas granted ROWs for solar project development would typically be located in

24 shrubland, shrub steppe, or grassland habitat types. The actual extent of ! land clearing within the

25 ROW footprint of any solar facility would be specified in a detailed facility development plan

26 that would likely avoid development in difficult areas (severe slopes, natural drainage courses,

27 environmentally sensitive areas, rocky outcroppings, unstable

What is the basis of assumption? I have never heard of the following mitigation and seems absurd that trees can be nursured for 25 years and returned.

M-21:

It was assumed that Joshua trees (*Yucca brevifolia*), other *Yucca* species, and most cactus

41 species would be salvaged prior to clearing and transplanted (as directed by the local BLM field

42 office), held for use in revegetating temporarily disturbed areas, or otherwise protected as

43 prescribed by state or local BLM requirements. It was further assumed that facility operators

44 would maintain all ground surfaces within and adjacent to the solar array, the power block, and

45 any electrical substations or switchyards or other support structures (buildings, roads, and

M 22:

18 Immediately following the decommissioning of a solar energy facility, it was assumed

19 land surfaces would be returned to predevelopment contours to the greatest extent feasible. The

20 operator would subsequently reestablish vegetation on the ROW area, including those areas

21 previously replanted and subsequently disturbed during decommissioning. As identified in the

22 design features, revegetation efforts would be guided by the implementation of a restoration plan

23 that would focus on the establishment of native plant communities similar to those present in the

24 vicinity of the project site. The plan would be designed to expedite the reestablishment of

25 vegetation and require restoration ! to be completed as soon as practicable. To ensure rapid and

26 successful reestablishment efforts, the plan would specify success criteria, including target dates,

27 that would be developed in coordination with the BLM and that would be required to be met by

28 the operator. Vegetation reestablishment efforts would continue until all success criteria were

29 met. Bonding to cover the full cost of vegetation reestablishment would be required as a design

30 feature. Species used for vegetation reestablishment would consist of native species dominant

31 within the plant communities existing in adjacent areas having similar soil conditions. The plan

32 would require the use of weed-free seed mixes of native shrubs, grasses, and forbs. In areas

33 where suitable native species were unavailable, other plant species approved by the BLM would

34 be used. The cover, species composition, and diversity of the reestablished plant community

35 would be similar to those in the vicinity of the site.

Our major point that connecting remote solar is a waste of resources is stated in the first parts of this App. G. First there is this on Page G-2:

10 Proximity to transmission lines is an important factor because costs are typically high

11 for spanning significant distances with new transmission ROWs and new lines. Capacity is

12 important because even if a solar development area is in close proximity to existing lines,

13 adequate capacity must exist on those lines to transmit the solar-generated power to load areas.

14 Timing is important in cases where planned additions of new lines or augmentations of existing

15 lines may provide adequate transmission services for future dates of operation.

Why it is not working now:

25 Because of geographic characteristics, load topography, and the way grid systems have

26 evolved, transmission systems in the western United States tend to be characterized by greater

27 "radial" connectivity, like spokes of a wheel, as compared with more "networked" connectivity

28 (higher connectivity between all supply and demand points) that typifies systems in the eastern

29 half of the United States. Networked grids offer reliability advantages over radial systems, and

30 areas in the west are planning additional lines to improve reliability and reduce congestion

31 issues.

As stated below in Page G-2: the goal is "marketable" electricity. Not reliable, not sustainable, not affordable not environmentally sound.

33 A quote from NERC's 2009 Long-Term Reliability Assessment is representative of

34 current objectives in the entire area: "The goal ... is to collaborate in the planning, coordination,

35 and implementation of a robust transmission system between Arizona, southern Nevada, Mexico,

36 and southern California that is capable of supporting a competitive, efficient, and seamless

37 west-wide wholesale electricity market while meeting established reliability standards"

38 (NERC 2009). To accomplish this goal, planning efforts are looking to add significant numbers

39 of new transmission links to existing grids.

For 1 the Arizona-New Mexico-Southern Nevada area, proposed lines represent a total

2 of more than 3,000 new circuit miles. About 1,400 of these circuit miles are relatively firm

3 planned additions; the other 1,600 are at the "conceptual" stage of planning. The conceptual

4 stage indicates that a project is less advanced in terms of permitting, land acquisition, and other

5 required steps leading up to construction and service. However, conceptual plans represent

6 serious intentions for new transmission capabilities, and these plans are submitted to NERC

7 from each electrical planning region.

8

9 For California, proposed lines represent nearly 4,700 circuit miles of additional

10 transmission capabilities. Conceptual planned additions represent approximately 3,300 circuit

11 miles of the total, and about 1,400 circuit miles are more advanced in the planning and

12 implementation process.

13

14 Utah is located in an area where 30% of the planned additions are relatively firm, and

15 70% are at the conceptual stage. Colorado is in a region where virtually all of the planned

16 additions are relatively firm (i.e., almost no additions in "conceptual" category

The smallest transmission lines cost a million dollars per mile on level flat ground. For California alone, 4000 miles of new transmission line would cost more than four billion dollars. That would pay for a billion watts of distributed photovoltaic that would meet those reliability standards. The very lucrative transmission lines do not produce any power.

Summary

The Solar PEIS contradicts itself about how it will streamline the process. Phrases such as assumed, should, likely, may etc. seem more like wishful thinking than actual planning or protection. What exactly occurs when one "refers to the tiered document"? Tiering is not in my spellchecker.

There could be good locations for SEZ sites on public land but these are not. Furthermore the PEIS downplays the environmental damage by omitting the very large unrennewable inputs of gas and water, misidentifying the plant communities and suggesting imaginary or admittedly ineffective mitigations. These subsidies to inappropriate technologies will saddle ratepayers with costs far above what photovoltaic can produce and may even cause the plants to be abandoned.

Using water in desert to produce any kind of energy is obviously unsustainable yet still being approved. Many communities are facing a decline in good water and farmland even those not in deserts. Any conversion of agricultural water or lands. including public grazing lands, to energy development will be counterproductive in the long run. Even abandoned or currently not profitable agricultural lands converted to industrial solar would be lost to future innovations or more appropriate crops.

Solar facilities uses gas and water are not sustainable and cannot be considered to accomplish any of the goals stated in the PEIS. The history of the West is over estimation of available water then depletion followed by abandonment.

Much of the proposed area is "limited use" designation. Despite the name this actually includes every kind of public use; hunter, hiker, equestrian and trail atv riding. No other plan ever presented proposes to take this amount of land from all these folks.

There is a viable alternative. Distributed power generation from brownfields, commercial and private and local sources where the need is. Attachment B., shows wildlife interacting with my home solar disarray during remodeling.

The alternative of no large scale solar on public lands must be an option.

Thank you for your comment, Shaun Gonzales.

The comment tracking number that has been assigned to your comment is SolarD10160.

Comment Date: April 8, 2011 22:45:29PM

Solar Energy Development PEIS

Comment ID: SolarD10160

First Name: Shaun

Middle Initial:

Last Name: Gonzales

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold address from public record

Attachment: Draft Solar PEIS comments-Shaun Gonzales.doc

Comment Submitted:

2 April 2011

Department of Interior and Department of Energy
Washington, D.C.

Re: Draft Solar Programmatic EIS

Please consider the following comments in response to the draft Solar Programmatic Environmental Impact Statement (PEIS).

Summary:

I strongly support the Federal Government's efforts to increase generation of renewable energy and reduce greenhouse gas emissions. However, the Draft PEIS only proposes the most destructive and irresponsible means of increasing solar generation, refusing to examine or acknowledge far more efficient alternatives that would allow the Departments of Interior and Energy (DOI and DOE) to spare our public lands from destruction.

The Draft PEIS proposes an unnecessarily destructive solar energy policy as its preferred alternative, misrepresents the direct impacts, provides an inadequate forecast of cumulative impacts, and refuses to analyze alternatives outside of the DOI and DOE's jurisdiction. The Draft PEIS should be re-written to bring forward a policy alternative that maximizes use of disturbed lands (such as those identified in the EPA's RE-powering America's Land program) and distributed generation. The Draft PEIS should also be re-written to include a harder look at the cumulative and direct impacts of solar energy development on public lands, especially at the scale proposed under the No Action, Solar Energy Development, and Solar Energy Zone alternatives. The Draft PEIS must acknowledge up front the landscape-scale ecological destruction, including the likely extinction of special status species, that will occur if either the No Action, Solar Energy Development, or Solar Energy Zone alternatives is selected.

BLM Purpose and Need:

The PEIS' purpose and need statement (1.3.1) appears to be constructed in a way that responds to private interests, and not the DOI's own need to act as a steward of public land. As stated, the DOI identifies "a need to respond in a more efficient and effective manner to the high interest in siting utility-scale solar energy development on public lands." Although components of the PEIS attempt to address efficient and effective review of solar energy projects, the most substantial portions of the PEIS (RFDS, No Action, Solar Energy Development program, and Solar Energy Zones alternatives) are geared toward identifying public lands for private development based on criteria explicitly designed to meet energy companies' needs.

According to Chapter 6 (Pg. 6-3, and Section 6.1.4) of the Draft PEIS, alternatives were evaluated in part for the ability to provide industry a "great degree of

flexibility” to choose sites for industrial development. Not only is this a violation of BLM regulations, but none of the 5 Federal or Congressional documents used to justify the policy considerations set forth a need to provide “maximum flexibility” to industry (Section 1.1, Applicable Federal Orders and Mandates). None of the documents sets forth a “mandate” to expand renewable energy generation on public land, since the Energy Policy Act of 2005 is sense of Congress and not a requirement. In fact, some of the documents underscore the need to expand energy generation in an environmentally responsible way. The Draft PEIS should more closely consider how renewable energy generation could be achieved without sacrificing our treasured public lands.

Alternative Analysis:

The Draft PEIS fails to take a hard look at the range of alternatives available to the Departments of Interior and Energy to increase renewable energy generation. Although the Department of Interior issued an instructional memorandum that excuses the Department from evaluating distributed generation (No. 2011-059), this runs contrary to prior judicial review of an EIS in which the court ruled that a Federal agency should consider alternatives outside of an agency’s jurisdiction. Furthermore, the Draft PEIS is a joint effort between the DOI and DOE. The DOE should take a more prominent role in addressing what should be the underlying purpose—which is to increase renewable energy generation, and not simply to give up public land. There is no reason for the Draft PEIS to take such a narrow approach, especially considering the broad nature of the Applicable Federal Orders and Mandates cited in the PEIS (Section 1.1).

The Draft EIS does acknowledge the need for distributed generation as a critical component among energy policy. However, the Draft EIS proceeds to make false statements regarding the viability of distributed generation as an alternative and its comparative utility. According to Section 2.5.1, the level of renewable energy development *recommended* by the Energy Policy Act of 2005 (10,000MW) cannot be achieved by distributed generation. This is false. California’s distributed energy programs alone will likely contribute approximately 6,000MW by 2016, according to the California Solar Initiative. Programs in other southwestern states could plausibly bring this number above 10,000MW. The statement that distributed generation cannot achieve generation suggested by Congress should be stricken from the Draft EIS.

Furthermore, the same section (2.5.1) suggests that the current transmission grid cannot accommodate distributed generation. This is also misleading. According to testimony by energy expert Bill Powers during a 14 January 2010 California Energy Commission hearing regarding one of BLM’ fast-tracked solar power projects, the grid in California could accommodate ample distributed generation.

The DOI and DOE should include a full evaluation of distributed generation in the Draft PEIS, including the need for Federal policies and programs that can be modified to encourage solar energy at the point of use. The evaluation could

consider the potential for distributed generation in urban areas (rooftop capacity, grid compatibility, etc), and how programs such as the Treasury Grant Program and DOE research projects could support advances in this sector.

The Draft PEIS should also evaluate the potential to redirect ROW applicants to the EPA's RE-powering America's Land program, which has identified thousands of acres of disturbed land that is already suitable for solar energy development. Working with the EPA, the DOI could provide procedural and policy incentives to encourage companies to utilize already-disturbed lands, thereby increasing solar energy generation while maintaining public lands for other less destructive uses.

Reasonably Foreseeable Development Scenario (RFDS)

The RFDS is further evidence of the Draft PEIS' narrow focus on alternatives that respond to the demands of the energy industry, rather than to the goals of DOI and DOE. The RFDS projections do not account for distributed generation potential in the southwestern energy markets, and assumes a disproportionate need for development on public lands. Consequently, the Draft PEIS seeks to accommodate the entire projected demand of the energy industry on public lands (accommodating the higher limit of projected demand), despite the clear omission of distributed generation. The RFDS should be adjusted to compensate for distributed generation potential. Proper land stewardship, not the RFDS projections, should guide DOI's alternative analysis and designation of suitable lands.

Preferred Alternative: Solar Energy Development Program

The Draft PEIS identifies the Solar Energy Development Program as its preferred alternative. Making over 22 million acres available to the energy industry for Right-of-Way (ROW) applications is not an improvement over the current policy, and is likely to encourage the same degree of misguided ROW applications for unsuitable land, consuming time and money during review. The PEIS even acknowledges (page 6-33) that much of the land available under the Solar Energy Development Program is probably not suitable for development.

Solar Energy Zones

I offer the following comments regarding the proposed solar energy zones of which I am familiar. The absence of comments here on other proposed zones is not an endorsement of the zones.

The proposed Pisgah Solar Energy Zone (SEZ) is unsuitable for solar energy development. BLM and California Energy Commission evaluation of the land for the Calico Solar power project discovered relatively high concentrations of endangered desert tortoises, and the rare white-margined beardtongue, which only exists in a few other locations. The lower elevations also host threatened Mojave fringe-toed lizards, and much of the area can be considered foraging habitat for Nelson's bighorn sheep. Furthermore, energy development on this land would require transmission line upgrades that would cause even more disturbance. The

requirement for transmission line upgrades must also be evaluated in the Draft PEIS since this would be a connected action.

The proposed Riverside East Solar Energy Zone is also unsuitable for solar energy development, since it would destroy desert tortoise habitat adjacent to Joshua Tree National Park, and Mojave fringe-toed lizard habitat throughout much of the proposed zone along Interstate 10, as noted in environmental assessments for the Desert Sunlight solar power project, Palen Solar power project, Genesis Solar power project, and Blythe Solar power project. The Zone would also have tremendous cumulative impacts on this important ecological zone, a transition between the Mojave and Sonoran deserts, and cut off wildlife movement corridors that provide necessary genetic connectivity for multiple species.

Potential Mitigation Measures; Policy and Design Features:

The Draft PEIS lays out an admirable effort to offset the destructive effects of utility-scale solar on public lands, and the Solar Energy Program sets forth design features that attempt to mitigate environmental damage. The Solar Energy Program's proposed pre-screening of applications and identification of criteria for evaluating a project's potential environmental damage should be strengthened. Current policies probably would not give a BLM authorized officer's recommendation to reconsider siting much weight (as proposed in Appendix A, pg 26). The pre-screening process should be given a greater capacity to reject or redirect ROW proposals to avoid lands of ecological value. For example, ROW proposals for land that is known to hold pristine desert habitat and special status species, or that are important for habitat connectivity should simply be rejected. Energy companies should be required to demonstrate the financial capability not only to build the project, but also to fund compensatory habitat requirements without Federal assistance. BLM rental rates could also be higher for land of greater ecological or cultural concern.

The design features proposed (appendix A) appear to be set forth as suggestions or best practices rather than requirements, leaving no assurance that projects will in fact be required to adhere to such considerations. The language should be clarified and strengthened to ensure that BLM authorized officers and project proponents understand the requirement for such design features.

In conjunction with Appendix A, Chapter 5 also misrepresents that impacts on plant and wildlife, suggesting many impacts would be "moderate" with mitigation measures. These assessments should be revisited since the impacts and cumulative impacts almost certainly are "large" or significant in many cases. For example, the BrightSource Energy Ivanpah Solar power project approved by DOI last year is now estimated to displace or kill up to 140 endangered desert tortoises. The 2008 Desert Tortoise Recovery Plan notes that the species is in decline throughout its range, and its population distribution and connectivity must be maintained with no net habitat loss to bring the species back into recovery. The PEIS' proposal to destroy dozens of square miles in the tortoise's range will surely introduce a range of additional stresses to remaining populations, in addition to the habitat loss.

Language in the PEIS regarding specific mitigation measures should be appropriately caveated to convey the likelihood that many of the mitigation measures will only have partial benefits, at best, to the species in question. For example, the translocation of plant or wildlife is dubious, and the PEIS should acknowledge the un-studied nature of these techniques. The translocation of desert tortoises from land acquired by the Department of the Army for Fort Irwin resulted in at least half of the translocated tortoises dying. Furthermore, the PEIS fails to identify adequate translocation receptor sites, and does not address the availability of compensatory habitat (private land of suitable habitat quality).

The design features in Appendix A, section A.2.2.11.1 “Siting and Design” suggest that “projects shall be sited on previously disturbed lands” and “...avoid and minimize impacts on remote, undisturbed lands,” to the “extent practicable.” I agree with this design feature and think it should be strengthened. Siting solar energy on previously disturbed land close to the point of use is extremely practicable, negating the need for solar on remote and undisturbed land. Even as stated, this language contradicts the rationale behind many of the “Solar Energy Zones” proposed in the same PEIS, which are on primarily remote and undisturbed lands, such as the Iron Mountain SEZ, Pisgah SEZ, and much of the Riverside East SEZ.

Tiering Environmental Review

The Programmatic EIS evaluation of biological and cultural resources available under the Solar Energy Development program and the Solar Energy Zones is not detailed enough to permit tiering of environmental reviews. Future solar energy projects on lands identified and evaluated by the PEIS should necessitate environmental impact statements, rather than environmental assessments.

Conclusion:

The Draft PEIS proposes an unnecessarily destructive solar energy policy, misrepresents the potential impacts, provides an inadequate forecast of cumulative impacts, and refuses to analyze alternatives outside of the DOI and DOE’s jurisdiction. The Draft PEIS should be re-written to bring forward a policy alternative that maximizes use of disturbed lands (such as those identified in the EPA’s RE-powering America’s Land program) and distributed generation. The Draft PEIS should also be re-written to include a harder look at the cumulative and direct impacts of solar energy development on public lands, especially at the scale proposed under the No Action, Solar Energy Development, and Solar Energy Zone alternatives.

Sincerely,
Shaun Gonzales

Thank you for your comment, JERRY ANGUS.

The comment tracking number that has been assigned to your comment is SolarD10162.

Comment Date: April 11, 2011 12:10:59PM
Solar Energy Development PEIS
Comment ID: SolarD10162

First Name: JERRY
Middle Initial: W
Last Name: ANGUS
Organization: 388 RANGE SQUADRON
Address: 6066 CEDAR LANE, BLDG 1274, SUITE 6B
Address 2:
Address 3:
City: HILL AFB
State: UT
Zip: 840565218
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The land area under the Utah Test and Training Range (UTTR) and Sevier Military Operating Area maybe deem non-supportable for solar energy development because of the ocular and reflective hazards to low flying aircraft in this area and the military training routes. Specific responses will be made on individual projects.

Thank you for your comment, Joshua Hart.

The comment tracking number that has been assigned to your comment is SolarD10163.

Comment Date: April 11, 2011 16:25:09PM
Solar Energy Development PEIS
Comment ID: SolarD10163

First Name: Joshua
Middle Initial: J
Last Name: Hart
Organization: Inyo County
Address: 168 North Edwards
Address 2:
Address 3:
City: Independence
State: CA
Zip: 93526
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: InyoCountyCommentsDPEISSolar.pdf

Comment Submitted:

Attached is correspondence from the Inyo
County Board of Supervisors. A hard copy will be mailed.



BOARD OF SUPERVISORS COUNTY OF INYO

P. O. BOX N • INDEPENDENCE, CALIFORNIA 93526
TELEPHONE (760) 878-0373 • FAX (760) 878-2241
e-mail: pgunsolley@inyocounty.us

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RICHARD CERVANTES

KEVIN D. CARUNCHIO
Clerk of the Board

PATRICIA GUNSOLLEY
Assistant Clerk of the Board

March 29, 2011

Draft Solar Energy Programmatic EIS
Argonne National Laboratory
9700 S. Cass Avenue – EVS/240
Argonne, IL 60439

RE: Draft Solar PEIS

To Whom It May Concern:

Inyo County has reviewed the Draft Solar Programmatic Environmental Impact Statement (PEIS) and is supportive of this effort by Bureau of Land Management (BLM) and Department of Energy (DOE) to encourage and streamline solar energy development in California and the southwest.

Inyo County is particularly supportive of statements within the PEIS, such as found in Chapter 2, which note that additions to the proposed Solar Energy Study Areas/Solar Energy Zones (SEZ) are likely to be considered at a future date. Since becoming involved in the PEIS process in July of 2009, Inyo County has consistently requested that the County be included as a site for such Solar Energy Study Areas/SEZs.

As noted in our comment letter of July 28, 2009, there are PEIS-proposed Solar Energy Study Areas immediately adjacent to Inyo County across the California state line in Nevada. The County requests that the extensive BLM lands within its own borders – which contain the same excellent solar development potential as the adjacent Nevada BLM lands – be identified and targeted as Solar Energy Study Areas/SEZs in future planning.

Significantly, while BLM's preferred alternative is the Solar Development Program rather than the SEZ Program, the County notes that this action alternative also excludes lands the County has identified as appropriate for renewable energy development (refer to attached). The County's General Plan encourages the sound development of energy resources on federal lands within the County, and maintaining and expanding access to federal lands for those purposes (Policy Gov 10-1). The County notes that, not only are areas identified by the County as highly appropriate for solar energy development not included as SEZs in the PEIS, but some of those areas are specifically excluded from consideration for solar energy development. At this time, the PEIS is not consistent with the County's plans and policies.

Accordingly, Inyo County requests additional and intensified coordination with the BLM to address and resolve the inconsistencies between the PEIS and the Inyo County General Plan and approved policies. In accordance with 43 C.F.R. 1610.3-1(f), Inyo County hereby informs the BLM of the specific inconsistencies between Inyo County plans and policies and the PEIS. The County requests staff-to-staff meetings to address these inconsistencies and, ideally, to resolve them. It is the County's position that the draft PEIS does not adequately identify and address these inconsistencies and the possible resolution of them.

Draft Solar Energy Programmatic EIS
Argonne National Laboratory
March 29, 2011
Page TWO

Thank you for your attention. Please contact the County's Administrative Officer, Kevin Carunchio, at (760) 878-0292 at your earliest convenience to arrange for coordination.

Sincerely,



Susan Cash, Chairperson
Inyo County Board of Supervisors

Attachment: Map Comparing PEIS alternatives to Inyo County Renewable Energy General Plan Amendment
Overlay

cc: Board of Supervisors, Inyo County
Kevin Carunchio, County CAO
Randy Keller, County Counsel
Joshua Hart, Inyo County Planning Director
Bob Abbey, BLM
Jim Abbot, BLM
Ashley Conrad-Saydah, BLM
Sara Quinn, BLM
Greg Miller, BLM
Linda Resseguie, BLM
Clare Laufenberg Gallardo, California Energy Commission
Regional Council of Rural Counties
California State Association of Counties
National Association of Counties

DRAFT Renewable Energy General Plan Overlay

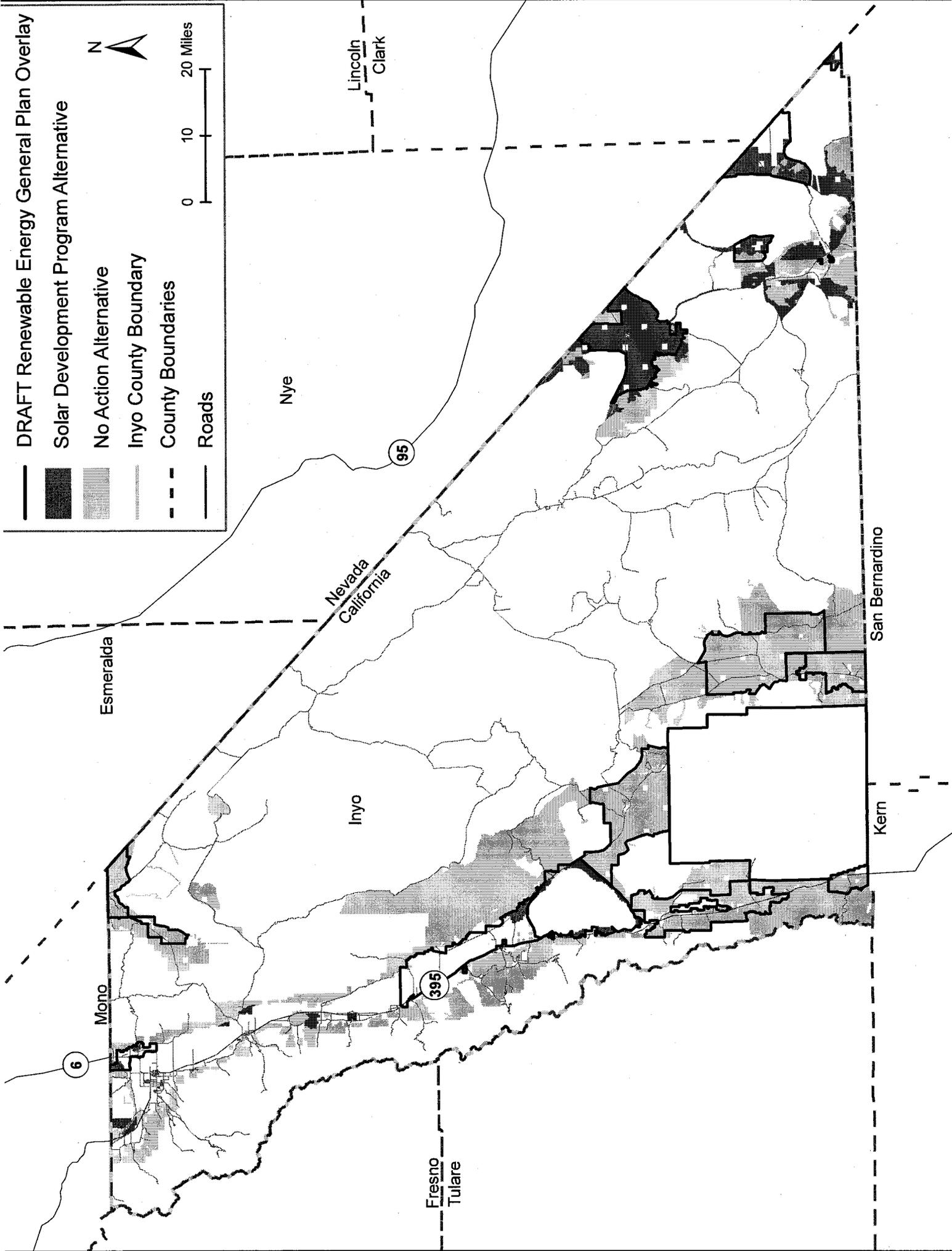
Solar Development Program Alternative

No Action Alternative

Inyo County Boundary

County Boundaries

Roads



Thank you for your comment, Dorothy Sturges.

The comment tracking number that has been assigned to your comment is SolarD10164.

Comment Date: April 12, 2011 12:56:25PM
Solar Energy Development PEIS
Comment ID: SolarD10164

First Name: Dorothy
Middle Initial:
Last Name: Sturges
Organization:
Address: P.O.Box 282
Address 2:
Address 3:
City: Sonoita
State: AZ
Zip: 85637
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's a no-brainer! Solar energy is the only way to go. It's clean and it's not dangerous.

Thank you for your comment, Laura Herndon.

The comment tracking number that has been assigned to your comment is SolarD10165.

Comment Date: April 12, 2011 12:56:33PM
Solar Energy Development PEIS
Comment ID: SolarD10165

First Name: Laura
Middle Initial:
Last Name: Herndon
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Doug Shohan.

The comment tracking number that has been assigned to your comment is SolarD10166.

Comment Date: April 12, 2011 12:57:04PM
Solar Energy Development PEIS
Comment ID: SolarD10166

First Name: Doug
Middle Initial:
Last Name: Shohan
Organization:
Address: 95 Via Maria
Address 2:
Address 3:
City: Lee
State: MA
Zip: 01238
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
 - The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
 - The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
 - Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
- Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Emily Doutre.

The comment tracking number that has been assigned to your comment is SolarD10167.

Comment Date: April 12, 2011 12:57:39PM
Solar Energy Development PEIS
Comment ID: SolarD10167

First Name: Emily
Middle Initial:
Last Name: Doutre
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sheryl Bottner.

The comment tracking number that has been assigned to your comment is SolarD10168.

Comment Date: April 12, 2011 12:57:42PM
Solar Energy Development PEIS
Comment ID: SolarD10168

First Name: Sheryl
Middle Initial:
Last Name: Bottner
Organization:
Address:
Address 2:
Address 3:
City:
State: VA
Zip: 20109
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Nancy Oliver.

The comment tracking number that has been assigned to your comment is SolarD10169.

Comment Date: April 12, 2011 12:58:04PM
Solar Energy Development PEIS
Comment ID: SolarD10169

First Name: Nancy
Middle Initial:
Last Name: Oliver
Organization:
Address: 2254 Moreno Dr.
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90039
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Aliza Keddem.

The comment tracking number that has been assigned to your comment is SolarD10170.

Comment Date: April 12, 2011 12:58:12PM
Solar Energy Development PEIS
Comment ID: SolarD10170

First Name: Aliza
Middle Initial:
Last Name: Keddem
Organization:
Address: 36 NE 76 Avenue
Address 2:
Address 3: 36 NE 76 Avenue
City: Portland
State: OR
Zip: 97213
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is a most sensible source and must be pursued vigorously.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10171.

Comment Date: April 12, 2011 12:58:18PM
Solar Energy Development PEIS
Comment ID: SolarD10171

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Roberta Eisenberg.

The comment tracking number that has been assigned to your comment is SolarD10172.

Comment Date: April 12, 2011 12:58:21PM
Solar Energy Development PEIS
Comment ID: SolarD10172

First Name: Roberta
Middle Initial: M
Last Name: Eisenberg
Organization:
Address: 4340 247 St
Address 2:
Address 3:
City: Douglaston
State: NY
Zip: 113631643
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10173.

Comment Date: April 12, 2011 12:58:26PM
Solar Energy Development PEIS
Comment ID: SolarD10173

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Please, Please protect the few pristine and healthy environments we still have. Thank you.

Thank you for your comment, Denise Bell.

The comment tracking number that has been assigned to your comment is SolarD10174.

Comment Date: April 12, 2011 12:58:32PM
Solar Energy Development PEIS
Comment ID: SolarD10174

First Name: Denise
Middle Initial: C
Last Name: Bell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Only if amended, I strongly support the Solar Energy Zone alternative:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, S Logan.

The comment tracking number that has been assigned to your comment is SolarD10175.

Comment Date: April 12, 2011 12:58:47PM
Solar Energy Development PEIS
Comment ID: SolarD10175

First Name: S
Middle Initial:
Last Name: Logan
Organization:
Address: 1001 Brickelll Bay Dr
Address 2:
Address 3:
City: Miami
State: FL
Zip: 33131
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Carol Morrison.

The comment tracking number that has been assigned to your comment is SolarD10176.

Comment Date: April 12, 2011 12:58:48PM
Solar Energy Development PEIS
Comment ID: SolarD10176

First Name: Carol
Middle Initial:
Last Name: Morrison
Organization:
Address:
Address 2:
Address 3:
City:
State: VT
Zip: 05346
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, terry king.

The comment tracking number that has been assigned to your comment is SolarD10177.

Comment Date: April 12, 2011 12:58:56PM

Solar Energy Development PEIS

Comment ID: SolarD10177

First Name: terry

Middle Initial:

Last Name: king

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold address from public record

Attachment:

Comment Submitted:

We must develop renewable energy technologies. We cannot wait. We hold future generations back if we do not act decisively and immediately.

Dr T King

Thank you for your comment, Stephen Santangelo.

The comment tracking number that has been assigned to your comment is SolarD10178.

Comment Date: April 12, 2011 12:59:01PM
Solar Energy Development PEIS
Comment ID: SolarD10178

First Name: Stephen
Middle Initial: R
Last Name: Santangelo
Organization:
Address: 7135 comanche canyon
Address 2:
Address 3:
City: las vegas
State: NV
Zip: 89113
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is desperately needed!

Thank you for your comment, Melissa Cicetti.

The comment tracking number that has been assigned to your comment is SolarD10179.

Comment Date: April 12, 2011 12:59:16PM
Solar Energy Development PEIS
Comment ID: SolarD10179

First Name: Melissa
Middle Initial:
Last Name: Cicetti
Organization:
Address: 172 Beard Street
Address 2:
Address 3:
City: Brooklyn
State: NY
Zip: 11231
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is the way to go -- let's learn our lessons from Chernobyl and Fukushima!

Thank you for your comment, Harriet Cohen.

The comment tracking number that has been assigned to your comment is SolarD10180.

Comment Date: April 12, 2011 12:59:34PM
Solar Energy Development PEIS
Comment ID: SolarD10180

First Name: Harriet
Middle Initial: E
Last Name: Cohen
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Susan LoFurno.

The comment tracking number that has been assigned to your comment is SolarD10181.

Comment Date: April 12, 2011 12:59:42PM
Solar Energy Development PEIS
Comment ID: SolarD10181

First Name: Susan
Middle Initial: K
Last Name: LoFurno
Organization:
Address: 1340 Klem Road
Address 2:
Address 3:
City: Webster
State: NY
Zip: 14580
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Susan LoFurno

Thank you for your comment, Kathleen Peters.

The comment tracking number that has been assigned to your comment is SolarD10182.

Comment Date: April 12, 2011 12:59:49PM
Solar Energy Development PEIS
Comment ID: SolarD10182

First Name: Kathleen
Middle Initial: A
Last Name: Peters
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Loren jONES.

The comment tracking number that has been assigned to your comment is SolarD10183.

Comment Date: April 12, 2011 12:59:50PM
Solar Energy Development PEIS
Comment ID: SolarD10183

First Name: Loren
Middle Initial: R
Last Name: jONES
Organization:
Address: 2231 Shattuck Ave
Address 2: #328
Address 3:
City: Berkeley
State: CA
Zip: 947041415
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is the sustainable way to go in the future. Please support it and keep our earth healthy.

Loren Jones

Thank you for your comment, Donna Varner-Sheaves.

The comment tracking number that has been assigned to your comment is SolarD10184.

Comment Date: April 12, 2011 12:59:54PM
Solar Energy Development PEIS
Comment ID: SolarD10184

First Name: Donna
Middle Initial: L
Last Name: Varner-Sheaves
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Developing Solar Energy should not compromise other Environmental issues.

Thank you for your comment, Mark Reback.

The comment tracking number that has been assigned to your comment is SolarD10185.

Comment Date: April 12, 2011 12:59:58PM
Solar Energy Development PEIS
Comment ID: SolarD10185

First Name: Mark
Middle Initial:
Last Name: Reback
Organization:
Address: 1606 N. Avenue 55
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 900421107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

If amended, I would support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) that threaten our national parks are:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Edwin Aiken.

The comment tracking number that has been assigned to your comment is SolarD10186.

Comment Date: April 12, 2011 13:00:03PM
Solar Energy Development PEIS
Comment ID: SolarD10186

First Name: Edwin
Middle Initial:
Last Name: Aiken
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Saab Lofton.

The comment tracking number that has been assigned to your comment is SolarD10187.

Comment Date: April 12, 2011 13:00:03PM
Solar Energy Development PEIS
Comment ID: SolarD10187

First Name: Saab
Middle Initial: D
Last Name: Lofton
Organization: Share the Wealth Productions
Address: 619 Third Avenue
Address 2:
Address 3:
City: Seattle
State: WA
Zip: 98104
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's beyond obvious: The majority of America's solar power panels should be in the desert, duh! If putting them there means that some elitist has to go without an MTV Cribs mansion, then so be it!

Thank you for your comment, Amy Marquis.

The comment tracking number that has been assigned to your comment is SolarD10188.

Comment Date: April 12, 2011 13:00:06PM
Solar Energy Development PEIS
Comment ID: SolarD10188

First Name: Amy
Middle Initial:
Last Name: Marquis
Organization:
Address: 2715 Elm Ave
Address 2:
Address 3:
City: Boulder
State: CO
Zip: 803053331
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I'm thrilled to hear that the federal government is looking into solar development-- that's fantastic!! But there's a right way and a wrong way to build these facilities. PLEASE read this article to help guide your decisions-- because it'd be such a shame to cancel out all the good that solar does with poor development decisions.

<http://www.npca.org/magazine/2009/winter/solar-rush.html>

Thanks for your time,
Amy Marquis

Thank you for your comment, Sandra Walters.

The comment tracking number that has been assigned to your comment is SolarD10189.

Comment Date: April 12, 2011 13:00:08PM
Solar Energy Development PEIS
Comment ID: SolarD10189

First Name: Sandra
Middle Initial: F
Last Name: Walters
Organization:
Address: 345 N. Stateline Rd.
Address 2:
Address 3:
City: Driggs
State: ID
Zip: 83422
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support pursuit of a solar energy policy, but not at the expense or degradation of wildlife areas, migration corridors, or national parks, refuges or monuments. By "expense or degradation," I refer to diminishing lands or reducing their natural or cultural value.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10190.

Comment Date: April 12, 2011 13:00:09PM
Solar Energy Development PEIS
Comment ID: SolarD10190

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to consider responsible solar development that protects our national parks. Your thoughtful action will help make a difference!

Thank you for your comment, Robert Janusko.

The comment tracking number that has been assigned to your comment is SolarD10191.

Comment Date: April 12, 2011 13:00:12PM
Solar Energy Development PEIS
Comment ID: SolarD10191

First Name: Robert
Middle Initial:
Last Name: Janusko
Organization:
Address: 1329 Eaton Ave
Address 2:
Address 3:
City: Bethlehem
State: PA
Zip: 18018
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Matthew Swyers.

The comment tracking number that has been assigned to your comment is SolarD10192.

Comment Date: April 12, 2011 13:00:12PM
Solar Energy Development PEIS
Comment ID: SolarD10192

First Name: Matthew
Middle Initial:
Last Name: Swyers
Organization:
Address: 1020 Dolores St #28
Address 2:
Address 3:
City: Livermore
State: CA
Zip: 945504770
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Joan Winchell.

The comment tracking number that has been assigned to your comment is SolarD10193.

Comment Date: April 12, 2011 13:00:13PM
Solar Energy Development PEIS
Comment ID: SolarD10193

First Name: Joan
Middle Initial:
Last Name: Winchell
Organization:
Address: 12947 via esperia
Address 2:
Address 3:
City: Del Mar
State: CA
Zip: 920143722
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

please do all that is possible to protect our environment

Thank you for your comment, Jake Wolfhart.

The comment tracking number that has been assigned to your comment is SolarD10194.

Comment Date: April 12, 2011 13:00:14PM
Solar Energy Development PEIS
Comment ID: SolarD10194

First Name: Jake
Middle Initial: C
Last Name: Wolfhart
Organization: Peace works
Address: P.O. Box 1193
Address 2:
Address 3:
City: capitan
State: NM
Zip: 88316
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

go solar live life greatly Jake

Thank you for your comment, Edmund Jones.

The comment tracking number that has been assigned to your comment is SolarD10195.

Comment Date: April 12, 2011 13:00:25PM
Solar Energy Development PEIS
Comment ID: SolarD10195

First Name: Edmund
Middle Initial:
Last Name: Jones
Organization:
Address:
Address 2:
Address 3:
City: San Jose
State: CA
Zip: 951292918
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, William Caine.

The comment tracking number that has been assigned to your comment is SolarD10196.

Comment Date: April 12, 2011 13:00:35PM
Solar Energy Development PEIS
Comment ID: SolarD10196

First Name: William
Middle Initial: C
Last Name: Caine
Organization:
Address: 1341 E. 2nd Ave
Address 2:
Address 3: 1341 E. 2nd Ave
City: Mount Dora
State: FL
Zip: 327575813
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Put those PV cells on the roofs of the millions of houses that have already been built, then give the homeowners a cut of the profits (if any). I'd volunteer my roof.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10197.

Comment Date: April 12, 2011 13:00:46PM
Solar Energy Development PEIS
Comment ID: SolarD10197

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Do it wisely without impacting the wildlife and environment. Maybe don't use park land, maybe use existing buildings where nothing lives or grows on! There's millions of those.

Thank you for your comment, Toni Lee.

The comment tracking number that has been assigned to your comment is SolarD10198.

Comment Date: April 12, 2011 13:00:53PM
Solar Energy Development PEIS
Comment ID: SolarD10198

First Name: Toni
Middle Initial:
Last Name: Lee
Organization:
Address: 1024 E. California Blvd #302
Address 2:
Address 3:
City: Pasadena
State: CA
Zip: 91106
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Building giant solar facilities on wilderness will undermine the very reason for building them in the first place, to ensure that future generations inherit natural resources in the same or better condition in which we received them.

Thank you for your comment, Robin Schaefer.

The comment tracking number that has been assigned to your comment is SolarD10199.

Comment Date: April 12, 2011 13:00:54PM
Solar Energy Development PEIS
Comment ID: SolarD10199

First Name: Robin
Middle Initial: G
Last Name: Schaefer
Organization:
Address: 12158 State Highway 198
Address 2:
Address 3:
City: Guys Mills
State: PA
Zip: 16327
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Heide Doss.

The comment tracking number that has been assigned to your comment is SolarD10200.

Comment Date: April 12, 2011 13:00:55PM
Solar Energy Development PEIS
Comment ID: SolarD10200

First Name: Heide
Middle Initial: M
Last Name: Doss
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I think that many people would allow their rooftops to be used for harnessing solar energy, and it's already connected to the grid!
Why not have energy companies invest in solar farms in existing neighborhoods than in open land?

Thank you for your comment, Rob Grace.

The comment tracking number that has been assigned to your comment is SolarD10201.

Comment Date: April 12, 2011 13:00:57PM
Solar Energy Development PEIS
Comment ID: SolarD10201

First Name: Rob
Middle Initial:
Last Name: Grace
Organization:
Address: 16755 Vista Del Valle Ct
Address 2:
Address 3:
City: Morgan Hill,
State: CA
Zip: 95037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Hello -

We need to initiate a solar energy program as soon as possible. Although there are many opinions on the "how" and the "where" - we must work together without delay to not only discuss & reach agreement on a mutual solution program. We must end our dependency of oil both for economic reasons but also environmental reason. Please reach out to any and all that are willing to work on this effort. Thanks, Rob

Thank you for your comment, Estelle Epstein.

The comment tracking number that has been assigned to your comment is SolarD10202.

Comment Date: April 12, 2011 13:00:57PM
Solar Energy Development PEIS
Comment ID: SolarD10202

First Name: Estelle
Middle Initial: M
Last Name: Epstein
Organization:
Address: 289 Maitland Ave.
Address 2:
Address 3:
City: Teaneck
State: NJ
Zip: 07666
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology, but with some ammendment.

Four of the proposed Solar Energy Zones (SEZ) threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elisa Molina.

The comment tracking number that has been assigned to your comment is SolarD10203.

Comment Date: April 12, 2011 13:01:15PM
Solar Energy Development PEIS
Comment ID: SolarD10203

First Name: Elisa
Middle Initial:
Last Name: Molina
Organization:
Address: 1591 Regent St #2
Address 2:
Address 3:
City: Redwood City
State: CA
Zip: 94061
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am totally up for solar energy! I'm glad this movement is finally taking place. Just take the right steps to ensure it is done right by not jeopardizing our wilderness and our water.

Thank you for your comment, Melodie Paulsen.

The comment tracking number that has been assigned to your comment is SolarD10204.

Comment Date: April 12, 2011 13:01:15PM
Solar Energy Development PEIS
Comment ID: SolarD10204

First Name: Melodie
Middle Initial: L
Last Name: Paulsen
Organization:
Address: 5414 229th Av NE
Address 2:
Address 3:
City: Bethel
State: MN
Zip: 550059722
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, David Stetler.

The comment tracking number that has been assigned to your comment is SolarD10205.

Comment Date: April 12, 2011 13:01:22PM
Solar Energy Development PEIS
Comment ID: SolarD10205

First Name: David
Middle Initial:
Last Name: Stetler
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please don't let solar installations degrade wildlife protections or the enjoyment of our National Parks.

Thank you for your comment, David Greene.

The comment tracking number that has been assigned to your comment is SolarD10206.

Comment Date: April 12, 2011 13:01:29PM
Solar Energy Development PEIS
Comment ID: SolarD10206

First Name: David
Middle Initial:
Last Name: Greene
Organization:
Address: 806 Francis Av
Address 2:
Address 3:
City: Columbus
State: OH
Zip: 43209
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I want more solar and clean energy for the entire country. The U.S. government should be promoting all forms of clean energy for federal buildings and national property and parks. We should be using electric cars for federal and state cars and delivery.

Thank you for your comment, Leona Klerer.

The comment tracking number that has been assigned to your comment is SolarD10207.

Comment Date: April 12, 2011 13:01:36PM
Solar Energy Development PEIS
Comment ID: SolarD10207

First Name: Leona
Middle Initial:
Last Name: Klerer
Organization:
Address: Straw Hill Ave
Address 2:
Address 3:
City: Stamford
State:
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Locate solar energy areas so as not to impinge on national parks.
Thanks

Thank you for your comment, Aaron Fumarola.

The comment tracking number that has been assigned to your comment is SolarD10208.

Comment Date: April 12, 2011 13:01:40PM
Solar Energy Development PEIS
Comment ID: SolarD10208

First Name: Aaron
Middle Initial:
Last Name: Fumarola
Organization:
Address: 907 Alfred Lane
Address 2:
Address 3: 907 Alfred Lane
City: Homer
State: NY
Zip: 13077
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, JoEllen Young .

The comment tracking number that has been assigned to your comment is SolarD10209.

Comment Date: April 12, 2011 13:01:43PM
Solar Energy Development PEIS
Comment ID: SolarD10209

First Name: JoEllen
Middle Initial:
Last Name: Young
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Arlene Aughey.

The comment tracking number that has been assigned to your comment is SolarD10210.

Comment Date: April 12, 2011 13:01:46PM
Solar Energy Development PEIS
Comment ID: SolarD10210

First Name: Arlene
Middle Initial:
Last Name: Aughey
Organization:
Address: 137 Lincoln Ave.
Address 2:
Address 3:
City: Saddle Brook
State: NJ
Zip: 07663
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is a great idea, but placement should be considered very carefully, so as not to disturb our national heritage in these parks. Too many times, the ones implementing energy "solutions" do not consider environmental impact enough or at all. (just look at Japan at the moment).

Thank you for your comment, Stephen Matera.

The comment tracking number that has been assigned to your comment is SolarD10211.

Comment Date: April 12, 2011 13:01:56PM
Solar Energy Development PEIS
Comment ID: SolarD10211

First Name: Stephen
Middle Initial:
Last Name: Matera
Organization:
Address:
Address 2:
Address 3:
City: Seattle
State: WA
Zip: 98107
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, anita simons.

The comment tracking number that has been assigned to your comment is SolarD10212.

Comment Date: April 12, 2011 13:01:58PM
Solar Energy Development PEIS
Comment ID: SolarD10212

First Name: anita
Middle Initial:
Last Name: simons
Organization:
Address: 2217 caminito preciosa sur
Address 2:
Address 3:
City: la jolla
State: CA
Zip: 92037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Rutkowski.

The comment tracking number that has been assigned to your comment is SolarD10213.

Comment Date: April 12, 2011 13:01:59PM
Solar Energy Development PEIS
Comment ID: SolarD10213

First Name: Robert
Middle Initial:
Last Name: Rutkowski
Organization:
Address: 2527 Faxon Ct.
Address 2:
Address 3:
City: Topeka
State: KS
Zip: 66605
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To: Solar Energy Development Programmatic EIS
E: <http://solareis.anl.gov/involve/comments/index.cfm>

Re: Comments on Solar Energy Zone alternative

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to bring these remarks to your attention.

Yours sincerely,
Robert E. Rutkowski

cc: House Minority Leadership

2527 Faxon Court
Topeka, Kansas 66605-2086
P/F: 1 785 379-9671
E-mail: r_e_rutkowski@att.net

Thank you for your comment, Tracy Leinbaugh.

The comment tracking number that has been assigned to your comment is SolarD10214.

Comment Date: April 12, 2011 13:02:01PM
Solar Energy Development PEIS
Comment ID: SolarD10214

First Name: Tracy
Middle Initial: C
Last Name: Leinbaugh
Organization:
Address: 10855 Peach Ridge Road
Address 2:
Address 3:
City: Athens
State: OH
Zip: 45701
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As our country moves to develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security, we have an opportunity to ensure that solar facilities are installed responsibly without harming our national parks.

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I would like to add that I am middle-class, income under \$100,000 a year, and have a 4.48 kw solar system which supplies my electricity and permits me to sell some to AEP, my provider. Individual systems are a much more environmentally responsible way to go.

Thank you for your comment, Marc Marchioli.

The comment tracking number that has been assigned to your comment is SolarD10215.

Comment Date: April 12, 2011 13:02:05PM
Solar Energy Development PEIS
Comment ID: SolarD10215

First Name: Marc
Middle Initial: E
Last Name: Marchioli
Organization:
Address: 2617 Grandview Ave
Address 2:
Address 3: 2617 Grandview Ave
City: Pittsburgh
State: PA
Zip: 152352708
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

When land can no longer support wildlife, the most intelligent mammal of them all will perish - the human!

Are we so lazy and self serving as to prefer luxury and lust over protecting our natural resources and parks?

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10216.

Comment Date: April 12, 2011 13:02:12PM

Solar Energy Development PEIS

Comment ID: SolarD10216

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Solar energy should not be explored at the cost of destroying our national parks. Find a way that works for both groups.

Thank you for your comment, Robert Snyder.

The comment tracking number that has been assigned to your comment is SolarD10217.

Comment Date: April 12, 2011 13:02:17PM
Solar Energy Development PEIS
Comment ID: SolarD10217

First Name: Robert
Middle Initial:
Last Name: Snyder
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I realize the necessity of getting solar energy solutions up and running as quickly as possible but let's make sure we take the time to select areas for development carefully to ensure we do this right!

Thank you for your comment, Michael Adler.

The comment tracking number that has been assigned to your comment is SolarD10218.

Comment Date: April 12, 2011 13:02:28PM
Solar Energy Development PEIS
Comment ID: SolarD10218

First Name: Michael
Middle Initial:
Last Name: Adler
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support large solar power projects on public lands. I think some of the vast dry lake beds seem as though divinely provided for this exact purpose. I don't know much about the solar anergy zone thing, but it sounds mostly like a good thing, especially if all the environmentla impact study can take place for the whole zone, in order to expedite individual projects.

Some areas, however, are not appropriate for solar or any form of development, and I have conerns that some of the zones may need some adjustment, as per an email I received from the National Parks Conservation Association.

Four proposed Solar Energy Zones (SEZ) threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for any form of development.

Thank you for your comment, Donna Henes.

The comment tracking number that has been assigned to your comment is SolarD10219.

Comment Date: April 12, 2011 13:02:32PM
Solar Energy Development PEIS
Comment ID: SolarD10219

First Name: Donna
Middle Initial:
Last Name: Henes
Organization:
Address: 279 Sterling Place #4A
Address 2:
Address 3:
City: Brooklyn
State: NY
Zip: 112384444
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The sun is a source of never ending energy. We have the technology. It is high time that we used it. For our sake, the future of our children and for the planet.

Thank you for your comment, William Smith.

The comment tracking number that has been assigned to your comment is SolarD10220.

Comment Date: April 12, 2011 13:02:47PM
Solar Energy Development PEIS
Comment ID: SolarD10220

First Name: William
Middle Initial:
Last Name: Smith
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you

William Smith
Cincinnati, Ohio

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10221.

Comment Date: April 12, 2011 13:03:11PM
Solar Energy Development PEIS
Comment ID: SolarD10221

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jessica Young.

The comment tracking number that has been assigned to your comment is SolarD10222.

Comment Date: April 12, 2011 13:03:15PM
Solar Energy Development PEIS
Comment ID: SolarD10222

First Name: Jessica
Middle Initial:
Last Name: Young
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's essential to implement renewable energy programs, but solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10223.

Comment Date: April 12, 2011 13:03:29PM
Solar Energy Development PEIS
Comment ID: SolarD10223

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am writing to support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) that threaten our national parks.

1. The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your attention to these important issues. I hope you will work to preserve all wilderness areas.

Thank you for your comment, Anthony Albert.

The comment tracking number that has been assigned to your comment is SolarD10224.

Comment Date: April 12, 2011 13:03:36PM
Solar Energy Development PEIS
Comment ID: SolarD10224

First Name: Anthony
Middle Initial: D
Last Name: Albert
Organization:
Address: 664 NW 18th Street
Address 2:
Address 3:
City: Corvallis
State: OR
Zip: 97330
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, E. INGRAHAM.

The comment tracking number that has been assigned to your comment is SolarD10225.

Comment Date: April 12, 2011 13:03:55PM
Solar Energy Development PEIS
Comment ID: SolarD10225

First Name: E.
Middle Initial:
Last Name: INGRAHAM
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

PLEASE be cognizant of environmental issues.

Thank you for your comment, Anna Becker.

The comment tracking number that has been assigned to your comment is SolarD10226.

Comment Date: April 12, 2011 13:04:15PM
Solar Energy Development PEIS
Comment ID: SolarD10226

First Name: Anna
Middle Initial: K
Last Name: Becker
Organization:
Address: 14199 N.W. Logie Trail
Address 2:
Address 3:
City: Hillsboro
State: OR
Zip: 97124
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please DO NOT place such energy systems in our National Parks--we MUST preserve the natural wonders of our National Parks in all circumstances!

Thank you for your comment, Ramsay Kieffer.

The comment tracking number that has been assigned to your comment is SolarD10227.

Comment Date: April 12, 2011 13:04:15PM
Solar Energy Development PEIS
Comment ID: SolarD10227

First Name: Ramsay
Middle Initial: C
Last Name: Kieffer
Organization: National Park Conservation
Address: 622 Adams Drive
Address 2:
Address 3:
City: Milford
State: DE
Zip: 19963
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Edith Coleman.

The comment tracking number that has been assigned to your comment is SolarD10228.

Comment Date: April 12, 2011 13:04:24PM
Solar Energy Development PEIS
Comment ID: SolarD10228

First Name: Edith
Middle Initial: G
Last Name: Coleman
Organization:
Address: 2600 Frederick Avenue
Address 2:
Address 3:
City: Wilmington
State: DE
Zip: 19805
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado.

But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Yvonne Korshak.

The comment tracking number that has been assigned to your comment is SolarD10229.

Comment Date: April 12, 2011 13:04:32PM
Solar Energy Development PEIS
Comment ID: SolarD10229

First Name: Yvonne
Middle Initial:
Last Name: Korshak
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am writing to urge that the best science and attention to environmental issues be used in working out solar energy installations. Solar energy should be developed only in solar energy zones where they won't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you.
Sincerely,
Yvonne Korshak

Thank you for your comment, Dan Delaney.

The comment tracking number that has been assigned to your comment is SolarD10230.

Comment Date: April 12, 2011 13:04:34PM
Solar Energy Development PEIS
Comment ID: SolarD10230

First Name: Dan
Middle Initial:
Last Name: Delaney
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rosamund Downing.

The comment tracking number that has been assigned to your comment is SolarD10231.

Comment Date: April 12, 2011 13:05:20PM
Solar Energy Development PEIS
Comment ID: SolarD10231

First Name: Rosamund
Middle Initial:
Last Name: Downing
Organization:
Address: 39 Moss St.
Address 2:
Address 3:
City: Pawcatuck
State: CT
Zip: 06379
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Deart Sir/Madam:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you.

Thank you for your comment, Rachel Toker.

The comment tracking number that has been assigned to your comment is SolarD10232.

Comment Date: April 12, 2011 13:05:31PM
Solar Energy Development PEIS
Comment ID: SolarD10232

First Name: Rachel
Middle Initial:
Last Name: Toker
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support renewable energy projects, but they must be designed carefully to protect our natural areas and wildlife. Please ensure this is a key feature of your designs and plans. Specifically:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Evelyn Fraser.

The comment tracking number that has been assigned to your comment is SolarD10233.

Comment Date: April 12, 2011 13:05:32PM
Solar Energy Development PEIS
Comment ID: SolarD10233

First Name: Evelyn
Middle Initial: S
Last Name: Fraser
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

To Whom It May Concern,

-Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Sincerely,
Evelyn Fraser

Thank you for your comment, Cornelia Hoskin.

The comment tracking number that has been assigned to your comment is SolarD10234.

Comment Date: April 12, 2011 13:05:46PM
Solar Energy Development PEIS
Comment ID: SolarD10234

First Name: Cornelia
Middle Initial:
Last Name: Hoskin
Organization:
Address: 16 Meehan St. #1
Address 2:
Address 3:
City: Jamaica Plain
State: MA
Zip: 02130
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Catherine Melina.

The comment tracking number that has been assigned to your comment is SolarD10235.

Comment Date: April 12, 2011 13:05:48PM
Solar Energy Development PEIS
Comment ID: SolarD10235

First Name: Catherine
Middle Initial:
Last Name: Melina
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Paul Burks.

The comment tracking number that has been assigned to your comment is SolarD10236.

Comment Date: April 12, 2011 13:05:52PM
Solar Energy Development PEIS
Comment ID: SolarD10236

First Name: Paul
Middle Initial: D
Last Name: Burks
Organization: EarthLight Magazine
Address: 574 Woodbine Drive
Address 2:
Address 3:
City: San Rafael
State: CA
Zip: 94903
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Having scanned the plan content and process, it sounds fine to me and I certainly support and encourage the development of solar power production sites as proposed (with the exclusion which are very important, too). Keep me posted as this EIS progresses.

Thank you for your comment, Carol Collins.

The comment tracking number that has been assigned to your comment is SolarD10237.

Comment Date: April 12, 2011 13:06:02PM
Solar Energy Development PEIS
Comment ID: SolarD10237

First Name: Carol
Middle Initial: L
Last Name: Collins
Organization:
Address: 1935 Nault Road
Address 2:
Address 3:
City: Dover
State: DE
Zip: 19904
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for allowing me to speak up for responsible solar development that protects our national parks.

Thank you for your comment, AISHA FARHOUD.

The comment tracking number that has been assigned to your comment is SolarD10238.

Comment Date: April 12, 2011 13:06:04PM
Solar Energy Development PEIS
Comment ID: SolarD10238

First Name: AISHA
Middle Initial:
Last Name: FARHOUD
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Ritchey.

The comment tracking number that has been assigned to your comment is SolarD10239.

Comment Date: April 12, 2011 13:06:07PM
Solar Energy Development PEIS
Comment ID: SolarD10239

First Name: Robert
Middle Initial:
Last Name: Ritchey
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Mark and Judy Harvey.

The comment tracking number that has been assigned to your comment is SolarD10240.

Comment Date: April 12, 2011 13:06:18PM
Solar Energy Development PEIS
Comment ID: SolarD10240

First Name: Mark and Judy
Middle Initial:
Last Name: Harvey
Organization: National Parks' member
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Francis Schilling.

The comment tracking number that has been assigned to your comment is SolarD10241.

Comment Date: April 12, 2011 13:06:22PM
Solar Energy Development PEIS
Comment ID: SolarD10241

First Name: Francis
Middle Initial: X
Last Name: Schilling
Organization:
Address: 11651 S Lava Peak Avenue
Address 2:
Address 3:
City: Vail
State: AZ
Zip: 85641
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While I cannot express my support for the expanded development of solar generation facilities in strong enough terms. it is imperative that we respect the environments in which those facilities will be placed. Given the vast amount of available space in the West, I do not believe that this imposes much if any limits on deployment. One of the shortcomings of previous energy strategies was the ad hoc placement of generation plants without sufficient regard for the surroundings in which they were placed. Convenience is only one of many factors in siting and should be secondary to good environmental sense.

Thank you for your comment, Kathy Rapp.

The comment tracking number that has been assigned to your comment is SolarD10242.

Comment Date: April 12, 2011 13:06:24PM
Solar Energy Development PEIS
Comment ID: SolarD10242

First Name: Kathy
Middle Initial:
Last Name: Rapp
Organization:
Address: 814 Pershing
Address 2:
Address 3:
City: Willard
State: MO
Zip: 65781
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy areas that don't hurt or endanger national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy.

Thank you for your comment, David LaVerne.

The comment tracking number that has been assigned to your comment is SolarD10243.

Comment Date: April 12, 2011 13:06:24PM

Solar Energy Development PEIS

Comment ID: SolarD10243

First Name: David

Middle Initial:

Last Name: LaVerne

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Solar is good but mar the views at National Parks or endanger it's wildlife

Thank you for your comment, danielle charney.

The comment tracking number that has been assigned to your comment is SolarD10244.

Comment Date: April 12, 2011 13:06:38PM
Solar Energy Development PEIS
Comment ID: SolarD10244

First Name: danielle
Middle Initial: r
Last Name: charney
Organization: n/a
Address: 2505 4th St
Address 2: apt 214
Address 3:
City: santa monica
State: CA
Zip: 90405
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The sun is all we need- and we are fools to not accept it's gift

Thank you for your comment, Craig Barrington.

The comment tracking number that has been assigned to your comment is SolarD10245.

Comment Date: April 12, 2011 13:06:40PM
Solar Energy Development PEIS
Comment ID: SolarD10245

First Name: Craig
Middle Initial: A
Last Name: Barrington
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your comment, Tennyson Wellman.

The comment tracking number that has been assigned to your comment is SolarD10246.

Comment Date: April 12, 2011 13:06:48PM
Solar Energy Development PEIS
Comment ID: SolarD10246

First Name: Tennyson
Middle Initial: J
Last Name: Wellman
Organization:
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I would really like to see this move forward without damaging national park lands.

Thank you for your comment, Kaz Thea.

The comment tracking number that has been assigned to your comment is SolarD10247.

Comment Date: April 12, 2011 13:06:57PM
Solar Energy Development PEIS
Comment ID: SolarD10247

First Name: Kaz
Middle Initial:
Last Name: Thea
Organization:
Address: 1630 Heroic Road
Address 2:
Address 3:
City: Hailey
State: ID
Zip: 83333
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Indeed, America must work toward a renewable energy future to buffer us from climate change, help us kick our reliance on foreign oil. But we must do it right and in an informed way by understanding the issues. Solar energy should be developed in areas that don't compromise our national parks. America should develop renewable energy resources in a smart, ecologically sound manner that protects our national treasures and important wildlife habitat.

The initiation of the Solar Programmatic Environmental Impact Statement (Solar PEIS) process to identify where solar energy development should occur on federal lands is a positive step and identifying solar energy zones where renewable energy companies can build their facilities is sensible.

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

We need a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

I strongly believe that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Please reconsider these boundaries to be protect these important resources.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10248.

Comment Date: April 12, 2011 13:06:58PM
Solar Energy Development PEIS
Comment ID: SolarD10248

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

However, there are four proposed Solar Energy Zones (SEZs) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Richard Van Aken.

The comment tracking number that has been assigned to your comment is SolarD10249.

Comment Date: April 12, 2011 13:07:04PM
Solar Energy Development PEIS
Comment ID: SolarD10249

First Name: Richard
Middle Initial: S
Last Name: Van Aken
Organization: NPCA
Address: 68 Murray Rd.
Address 2:
Address 3:
City: Holland
State: PA
Zip: 189661740
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Getting off on the right foot as we begin our efforts to develop environmentally friendly energy is imperative. All the I's should be dotted and all the proverbial T's crossed before we launch our efforts to reduce fossil fuel usage. I urge you to move forward as rapidly as possible with plans in place to do it the right way regarding citing of facilities and their impacts on flora and fauna.

Thank you for your comment, Michelle Ognjanovic.

The comment tracking number that has been assigned to your comment is SolarD10250.

Comment Date: April 12, 2011 13:07:10PM
Solar Energy Development PEIS
Comment ID: SolarD10250

First Name: Michelle
Middle Initial:
Last Name: Ognjanovic
Organization:
Address: 7 W. 104 St
Address 2:
Address 3:
City: New York
State: NY
Zip: 100254319
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Even as I support renewable energy we must ensure that solar facilities are installed responsibly without harming our national parks.

Solar development will likely occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado, but it should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, or night sky viewing.

--Once AMENDED, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you and please help us protect America's parks as we support solar energy simultaneously.

Michelle Ognjanovic

Thank you for your comment, George Sherman.

The comment tracking number that has been assigned to your comment is SolarD10251.

Comment Date: April 12, 2011 13:07:10PM
Solar Energy Development PEIS
Comment ID: SolarD10251

First Name: George
Middle Initial:
Last Name: Sherman
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thierry Deshayes.

The comment tracking number that has been assigned to your comment is SolarD10252.

Comment Date: April 12, 2011 13:07:17PM
Solar Energy Development PEIS
Comment ID: SolarD10252

First Name: Thierry
Middle Initial:
Last Name: Deshayes
Organization:
Address: Scottsdale Unified #48
Address 2:
Address 3:
City: Scottsdale
State: AZ
Zip: 85251
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, jeff mchenry.

The comment tracking number that has been assigned to your comment is SolarD10253.

Comment Date: April 12, 2011 13:07:31PM
Solar Energy Development PEIS
Comment ID: SolarD10253

First Name: jeff
Middle Initial:
Last Name: mchenry
Organization:
Address: 18662 santa irene
Address 2: FOUNTAIN VALLEY
Address 3:
City: FOUNTAIN VALLEY
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Please be sensitive to the following areas

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.
--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Virginia Bennett.

The comment tracking number that has been assigned to your comment is SolarD10254.

Comment Date: April 12, 2011 13:07:33PM
Solar Energy Development PEIS
Comment ID: SolarD10254

First Name: Virginia
Middle Initial: H
Last Name: Bennett
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Any incursion of humankind into wilderness areas must be carefully studied prior to any undertakings and carefully monitored thereafter.

Thank you for your comment, Leonard Marraffino.

The comment tracking number that has been assigned to your comment is SolarD10255.

Comment Date: April 12, 2011 13:07:41PM

Solar Energy Development PEIS

Comment ID: SolarD10255

First Name: Leonard

Middle Initial: S

Last Name: Marraffino

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Don't withhold name or address from public record

Attachment:

Comment Submitted:

Renewable energy must be the way of the future, but in pursuing such a noble goal let us not harm those things in our environment that are so very precious.

Thank you for your comment, Kelly Rasmussen.

The comment tracking number that has been assigned to your comment is SolarD10256.

Comment Date: April 12, 2011 13:07:41PM
Solar Energy Development PEIS
Comment ID: SolarD10256

First Name: Kelly
Middle Initial:
Last Name: Rasmussen
Organization:
Address: 93550 Territorial Hwy
Address 2:
Address 3:
City: Junction City
State: OR
Zip: 97448
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please consult with the Park Service before installing any facilities in or near our national parks. The eco system is worth preserving in all circumstances.

Thank you for your comment, Carol Mitchell.

The comment tracking number that has been assigned to your comment is SolarD10257.

Comment Date: April 12, 2011 13:07:46PM
Solar Energy Development PEIS
Comment ID: SolarD10257

First Name: Carol
Middle Initial:
Last Name: Mitchell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We have a one time chance to do this right from the beginning.

Thank you for your comment, Jeff Deal.

The comment tracking number that has been assigned to your comment is SolarD10258.

Comment Date: April 12, 2011 13:07:50PM
Solar Energy Development PEIS
Comment ID: SolarD10258

First Name: Jeff
Middle Initial:
Last Name: Deal
Organization:
Address: 247 Old Bristol Road
Address 2:
Address 3:
City: Boone
State: NC
Zip: 286073428
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We should GREATLY hasten our development of US Solar energy resources.

Thank you for your comment, Adam Savett.

The comment tracking number that has been assigned to your comment is SolarD10259.

Comment Date: April 12, 2011 13:07:55PM
Solar Energy Development PEIS
Comment ID: SolarD10259

First Name: Adam
Middle Initial:
Last Name: Savett
Organization:
Address: 31760 Woodsdale Lane
Address 2:
Address 3:
City: Solon
State: OH
Zip: 441391325
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-- Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

-- There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

-- Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration and the opportunity to comment.

Thank you for your comment, Carolyn Knoll.

The comment tracking number that has been assigned to your comment is SolarD10260.

Comment Date: April 12, 2011 13:08:00PM
Solar Energy Development PEIS
Comment ID: SolarD10260

First Name: Carolyn
Middle Initial: L
Last Name: Knoll
Organization:
Address: 44-133 Puuohalai Place
Address 2:
Address 3:
City: Kaneohe
State: HI
Zip: 96744
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Lynn Shauinger.

The comment tracking number that has been assigned to your comment is SolarD10261.

Comment Date: April 12, 2011 13:08:01PM
Solar Energy Development PEIS
Comment ID: SolarD10261

First Name: Lynn
Middle Initial: H
Last Name: Shauinger
Organization:
Address: 941 Oak ST
Address 2:
Address 3:
City: San Francisco
State: CA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solor is the answer.....

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10262.

Comment Date: April 12, 2011 13:08:07PM
Solar Energy Development PEIS
Comment ID: SolarD10262

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization: The Green Chalet
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I have read and strongly support the following excerpt copied & pasted from NPCA's take action page:

I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten the national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, James Monroe.

The comment tracking number that has been assigned to your comment is SolarD10263.

Comment Date: April 12, 2011 13:08:10PM
Solar Energy Development PEIS
Comment ID: SolarD10263

First Name: James
Middle Initial: R
Last Name: Monroe
Organization: Monroe Science Educational Services
Address: 5521 Michigan Blvd.
Address 2:
Address 3:
City: Concord
State: CA
Zip: 945214041
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Support sound science! Please convert energy from fossil fuels to renewable. Please do not undermine the EPA and Endangered Species Act. Every American, human and animal deserve clean air and clean water.

Thank you for your comment, Barbara Delph.

The comment tracking number that has been assigned to your comment is SolarD10264.

Comment Date: April 12, 2011 13:08:15PM
Solar Energy Development PEIS
Comment ID: SolarD10264

First Name: Barbara
Middle Initial:
Last Name: Delph
Organization:
Address: 7364 Quail Springs Rd
Address 2:
Address 3:
City: Joshua Tree
State: CA
Zip: 92252
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

As a resident of a community with a national park, I would hope that you would not just select sites for solar farms because we are in the southwest and have open lands. These open lands harbor much wildlife; some that is endangered. You must show restraint when it comes to where you allow solar farms. With today's technology solar farms can also be selected in the midwest, or even the northeast. The climate does not have to be that of a desert. It is unfair to build these farms on the backs of the people who reside in the deserts of the southwest! Of course we are willing to compromise...just don't run over us!!!

Thank you for your comment, Luan Le.

The comment tracking number that has been assigned to your comment is SolarD10265.

Comment Date: April 12, 2011 13:08:19PM
Solar Energy Development PEIS
Comment ID: SolarD10265

First Name: Luan
Middle Initial: V
Last Name: Le
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Young Kim.

The comment tracking number that has been assigned to your comment is SolarD10266.

Comment Date: April 12, 2011 13:08:22PM
Solar Energy Development PEIS
Comment ID: SolarD10266

First Name: Young
Middle Initial: Y
Last Name: Kim
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please exclude national parks from any consideration of potential sites for solar development. Solar energy should be developed only in solar energy zones that don't compromise the ecology of national parks.

Thank you for your comment, Carol Atkins.

The comment tracking number that has been assigned to your comment is SolarD10267.

Comment Date: April 12, 2011 13:08:31PM
Solar Energy Development PEIS
Comment ID: SolarD10267

First Name: Carol
Middle Initial: L
Last Name: Atkins
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

There are at present four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

The Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Thank you for your comment, Barbara Fitzpatrick.

The comment tracking number that has been assigned to your comment is SolarD10268.

Comment Date: April 12, 2011 13:08:31PM
Solar Energy Development PEIS
Comment ID: SolarD10268

First Name: Barbara
Middle Initial:
Last Name: Fitzpatrick
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar is next best thing to imperative for America's future - but it needs to be placed on already disturbed lands and not the incredibly few pristine areas we have left (like Joshua Tree and Death Valley). That's for solar thermal applications. Photovoltaics should be mounted on every south-facing roof both public and private.

Thank you for your comment, Andrea Chisari.

The comment tracking number that has been assigned to your comment is SolarD10269.

Comment Date: April 12, 2011 13:08:51PM
Solar Energy Development PEIS
Comment ID: SolarD10269

First Name: Andrea
Middle Initial:
Last Name: Chisari
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Where should solar development occur on public lands?

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you.

Thank you for your comment, Geraldine Pritchard.

The comment tracking number that has been assigned to your comment is SolarD10270.

Comment Date: April 12, 2011 13:08:56PM
Solar Energy Development PEIS
Comment ID: SolarD10270

First Name: Geraldine
Middle Initial:
Last Name: Pritchard
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support solar energy development only within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, .Marvin George.

The comment tracking number that has been assigned to your comment is SolarD10271.

Comment Date: April 12, 2011 13:09:01PM
Solar Energy Development PEIS
Comment ID: SolarD10271

First Name: .Marvin
Middle Initial: I
Last Name: George
Organization:
Address: 1233 Katherine Dr
Address 2:
Address 3:
City: Sierra Vista
State: AZ
Zip: 85635
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

-Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rita Sammons.

The comment tracking number that has been assigned to your comment is SolarD10272.

Comment Date: April 12, 2011 13:09:05PM
Solar Energy Development PEIS
Comment ID: SolarD10272

First Name: Rita
Middle Initial:
Last Name: Sammons
Organization:
Address: 602SE 17th St
Address 2:
Address 3:
City: Cape Coral
State: FL
Zip: 33990
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I've been wanting solar power for a long time. I hope our Government takes action to bring this to us.``

Thank you for your comment, Timothy Sanford.

The comment tracking number that has been assigned to your comment is SolarD10273.

Comment Date: April 12, 2011 13:09:05PM
Solar Energy Development PEIS
Comment ID: SolarD10273

First Name: Timothy
Middle Initial: R
Last Name: Sanford
Organization:
Address: 4115 Cobblestone Place
Address 2:
Address 3:
City: Durham
State: NC
Zip: 27707
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is great and I applaud attempts to expand our capabilities in that area. However, we have enough empty land for solar sites that we should avoid placing any solar collection facility near a natural park or other natural wonder. We can expand our use of solar energy without ruining the grand vistas and wild areas with which this country is blessed.

Thank you for your comment, Deb Brown.

The comment tracking number that has been assigned to your comment is SolarD10274.

Comment Date: April 12, 2011 13:09:32PM
Solar Energy Development PEIS
Comment ID: SolarD10274

First Name: Deb
Middle Initial:
Last Name: Brown
Organization:
Address: PO Box 98964
Address 2:
Address 3:
City: Raleigh
State: NC
Zip: 276248964
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

* The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you!

Thank you for your comment, Robert Kaiser.

The comment tracking number that has been assigned to your comment is SolarD10275.

Comment Date: April 12, 2011 13:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10275

First Name: Robert
Middle Initial:
Last Name: Kaiser
Organization:
Address:
Address 2:
Address 3:
City: Whitefish
State: MT
Zip: 59937
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Jacqueline Latendresse.

The comment tracking number that has been assigned to your comment is SolarD10276.

Comment Date: April 12, 2011 13:09:55PM
Solar Energy Development PEIS
Comment ID: SolarD10276

First Name: Jacqueline
Middle Initial:
Last Name: Latendresse
Organization:
Address: 110 Harwill Drive
Address 2:
Address 3:
City: Stafford
State: VA
Zip: 22556
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am 100% behind exploring renewable energy sources and 100% against doing it on or near National Park lands. Our national parks must be preserved.

Thank you for your comment, Carol Casey.

The comment tracking number that has been assigned to your comment is SolarD10277.

Comment Date: April 12, 2011 13:10:22PM
Solar Energy Development PEIS
Comment ID: SolarD10277

First Name: Carol
Middle Initial: S
Last Name: Casey
Organization:
Address: 2213 Canary Court
Address 2:
Address 3:
City: Baltimore
State: MD
Zip: 212312725
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Balancing the nation's needs for clean energy with the continued integrity of our national parks will be a challenge.

To maintain that integrity, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Yovonne Autrey-Schell.

The comment tracking number that has been assigned to your comment is SolarD10278.

Comment Date: April 12, 2011 13:10:44PM
Solar Energy Development PEIS
Comment ID: SolarD10278

First Name: Yovonne
Middle Initial:
Last Name: Autrey-Schell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Thank you for allowing me the opportunity to state my opinion, it is appreciated. I am all for exploiting every opportunity we can manage to set up and use solar power; just so long as it can be done so without negatively affecting wildlife habitat to a large extent. Please ensure that an Environmental Impact Study is performed by scientists in the field of study of the particular geographical area/habitat and that your decision on whether to locate a solar gathering station in a specific area will be based on sound science rather than political or monetary motivation. The political and monetary gains will surely follow if the solar site is located well and there will be much less hassle if the environmental impact is low to non-existent.

The United States of America desperately needs to move beyond reliance upon fossil fuels for energy and solar power is one of our best options! Thank you for deciding to go this route.

Thank you for your comment, Dan Esposito.

The comment tracking number that has been assigned to your comment is SolarD10279.

Comment Date: April 12, 2011 13:11:14PM
Solar Energy Development PEIS
Comment ID: SolarD10279

First Name: Dan
Middle Initial: J
Last Name: Esposito
Organization:
Address: 1510 Rowell Avenue
Address 2:
Address 3:
City: Manhattan Beach
State: CA
Zip: 90266
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Dear Sir or Madame,

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it appears vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Courtney Lewis.

The comment tracking number that has been assigned to your comment is SolarD10280.

Comment Date: April 12, 2011 13:11:19PM
Solar Energy Development PEIS
Comment ID: SolarD10280

First Name: Courtney
Middle Initial:
Last Name: Lewis
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Lets put Americans (back) to work! Why not do this by being an innovator and leader in technology that will quickly be at a premium.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10281.

Comment Date: April 12, 2011 13:11:26PM

Solar Energy Development PEIS

Comment ID: SolarD10281

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address: [Withheld by requestor]

Address 2:

Address 3:

City: [Withheld by requestor]

State: [Withheld by requestor]

Zip: [Withheld by requestor]

Country: [Withheld by requestor]

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10282.

Comment Date: April 12, 2011 13:11:26PM
Solar Energy Development PEIS
Comment ID: SolarD10282

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I am a strong proponent of the use of solar power in the US. I have my own solar system and my partner works for a solar installation company.

In general, I support the SEZ, though I would like to see more use made of building roofs around our nation, which would decentralize solar and would reduce the potential for impacting our wilderness areas and resources.

The following solar energy zones have a strong potential for threatening our valuable and irreplaceable national parks and need to be reconfigured or in some cases removed to prevent such impact:

- o Riverside East SEZ: impact on Joshua tree NP wilderness and wildlife corridors.
- o Iron Mountain SEZ: Strong Impact On Joshua Tree NP - needs to be eliminated
- o Amargosa Valley SEZ: negative impact on Death Valley wilderness, water resources and endangered desert species
- o Red Sands SEZ: threatens wildlife water resources and desert dunes at White Sands National Monument.

In general, any proposed solar products that could be located within 15 miles of a national park boundary should be assessed with the National Park Service to avoid impact on both the wilderness and visitors. Also, it is essential that the BLM include any national parks, wilderness areas and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Alan and Ruth Yurchuck.

The comment tracking number that has been assigned to your comment is SolarD10283.

Comment Date: April 12, 2011 13:12:06PM
Solar Energy Development PEIS
Comment ID: SolarD10283

First Name: Alan and Ruth
Middle Initial:
Last Name: Yurchuck
Organization:
Address: 986 Arlington Drive
Address 2:
Address 3:
City: Tucker
State: GA
Zip: 300841566
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We strongly support an amended Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) threaten our national parks: The Riverside East SEZ, the Iron Mountain SEZ, the Amargosa Valley SEZ , and the Red Sands SEZ. All of these projects would have a negative impact on wildlife and water resources.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

It is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thanks for your consideration of these comments.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10284.

Comment Date: April 12, 2011 13:12:40PM
Solar Energy Development PEIS
Comment ID: SolarD10284

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support the Solar Energy EIS Process. We must stop sacrificing the quality and integrity of our childrens' environment to meet our current energy demands, which are excessive due to waste and inefficiency.

It is particularly important not to endanger or degrade our western National Parks and Monuments by irresponsible energy development. The NPS should be involved in evaluating any energy developments, including solar energy, that are within 15 miles of a national park.

Four of the proposed SEZs pose a serious threat to the environmental integrity of Joshua Tree National Monument, Death Valley, and White Sands National Monument. The SEZs that should be removed from the list of acceptable sites are Riverside East, Iron Mountain, Amargosa Valley, and Red Sands.

With these deletions, I strongly urge you to approve the SEZ Alternative of the EIS.

Thank you for your consideration and for your effort to protect our public lands.

Thank you for your comment, Ryan Robinson.

The comment tracking number that has been assigned to your comment is SolarD10285.

Comment Date: April 12, 2011 13:12:40PM
Solar Energy Development PEIS
Comment ID: SolarD10285

First Name: Ryan
Middle Initial: S
Last Name: Robinson
Organization:
Address: 1735 Ashley Hal Rd
Address 2: Apt. 180
Address 3:
City: Charleston
State: SC
Zip: 29407
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, ADRIAN SMITH.

The comment tracking number that has been assigned to your comment is SolarD10286.

Comment Date: April 12, 2011 13:12:42PM
Solar Energy Development PEIS
Comment ID: SolarD10286

First Name: ADRIAN
Middle Initial:
Last Name: SMITH
Organization:
Address: 110 JONES ST
Address 2: PO BOX 265
Address 3:
City: Moncure
State: NC
Zip: 27559
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is time to protect our national parks and not compromise them to make a few people rich. Please look for areas which have a high probability of providing the sunlight needed for the solar cells to site these installations. There are plenty of areas which have the right criteria without installing any installations in a national park.

Thank you for your comment, Diana Slawson.

The comment tracking number that has been assigned to your comment is SolarD10287.

Comment Date: April 12, 2011 13:12:59PM
Solar Energy Development PEIS
Comment ID: SolarD10287

First Name: Diana
Middle Initial: L
Last Name: Slawson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

As a visitor to many of our nation's National Parks annually, it is critical that we preserve the few wild places that are left in our country. Not only do these beautiful unspoiled places provide an environmental benefit to us and to the creatures that call them a "safe home," but for all and future generations of Americans to enjoy the beauty of a starry night sky in Great Basin National Park or hear the call of the wolves in Yellowstone or watch sunrise over the Grand Canyon. I have had the privilege of seeing all these amazing places with my children and want them to be able to do the same with theirs in the future.

Thank you for carefully considering the alternatives to spoiling our few remaining unspoiled environmental wonders of the world.

Thank you for your comment, Judith Arcana.

The comment tracking number that has been assigned to your comment is SolarD10288.

Comment Date: April 12, 2011 13:13:09PM
Solar Energy Development PEIS
Comment ID: SolarD10288

First Name: Judith
Middle Initial:
Last Name: Arcana
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

With appropriate amendments, I support the Solar Energy Zone - concentrating solar development within carefully vetted parcels of land that don't destroy national park resources or desert ecology.

As you know, there are four proposed Solar Energy Zones (SEZ) that need attention and change-of-plans.

The Riverside East SEZ must reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley. And the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Proposed solar projects sited within 15 miles of a national park boundary must trigger a consultation with the National Park Service to determine whether the project diminishes national park resources.

Finally, the BLM must include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Solar energy should be developed ONLY in solar energy zones that don't compromise national park wildlife - both animals and plants, the land itself, archaeological sites, water resources and the full darkness of the night sky.

Thank you for your comment, Roger Packard.

The comment tracking number that has been assigned to your comment is SolarD10289.

Comment Date: April 12, 2011 13:13:28PM
Solar Energy Development PEIS
Comment ID: SolarD10289

First Name: Roger
Middle Initial:
Last Name: Packard
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ron Silver.

The comment tracking number that has been assigned to your comment is SolarD10290.

Comment Date: April 12, 2011 13:14:42PM
Solar Energy Development PEIS
Comment ID: SolarD10290

First Name: Ron
Middle Initial:
Last Name: Silver
Organization:
Address: 1829 Sea Oats Drive
Address 2:
Address 3:
City: Atlantic Beach
State: FL
Zip: 32233
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michelle Gobely.

The comment tracking number that has been assigned to your comment is SolarD10291.

Comment Date: April 12, 2011 13:14:42PM
Solar Energy Development PEIS
Comment ID: SolarD10291

First Name: Michelle
Middle Initial:
Last Name: Gobely
Organization:
Address: 1581 Wheelock Lane #202
Address 2:
Address 3:
City: St. Paul
State: MN
Zip: 55117
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support Solar Energy and encourage it's growth, but please develop solar energy in ways that do not compromise our national park wildlife, the scenery, archeological sites, water resources, night sky viewing, etc. It seems that this should be a very workable option and I appreciate very much your taking these important issues into account when you develop solar energy options. Thank you for listening!

Michelle Gobely

Thank you for your comment, Jessie Rosenthal.

The comment tracking number that has been assigned to your comment is SolarD10292.

Comment Date: April 12, 2011 13:14:45PM
Solar Energy Development PEIS
Comment ID: SolarD10292

First Name: Jessie
Middle Initial:
Last Name: Rosenthal
Organization:
Address: ;lkajdsf
Address 2:
Address 3:
City: Albany
State: NY
Zip: 12203
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Maria Prokopowycz.

The comment tracking number that has been assigned to your comment is SolarD10293.

Comment Date: April 12, 2011 13:14:49PM
Solar Energy Development PEIS
Comment ID: SolarD10293

First Name: Maria
Middle Initial:
Last Name: Prokopowycz
Organization:
Address: 3440 Chicago Road
Address 2:
Address 3:
City: Warren
State: MI
Zip: 48092
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Julie Figueroa.

The comment tracking number that has been assigned to your comment is SolarD10294.

Comment Date: April 12, 2011 13:15:11PM
Solar Energy Development PEIS
Comment ID: SolarD10294

First Name: Julie
Middle Initial: A
Last Name: Figueroa
Organization:
Address: 22500 Sacramento Avenue
Address 2:
Address 3:
City: Port Charlotte
State: FL
Zip: 339543407
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am strongly pro-solar energy. Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10295.

Comment Date: April 12, 2011 13:15:12PM
Solar Energy Development PEIS
Comment ID: SolarD10295

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Fossil fuels are bad for everyone & every thing.

Solar energy is safe, cheap & plentiful

Thank you for your comment, Barbara Nave.

The comment tracking number that has been assigned to your comment is SolarD10296.

Comment Date: April 12, 2011 13:15:24PM
Solar Energy Development PEIS
Comment ID: SolarD10296

First Name: Barbara
Middle Initial: j
Last Name: Nave
Organization:
Address: 285 Tondaleia Drive
Address 2:
Address 3:
City: Sumter
State: SC
Zip: 29153
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The USA is far behind. When I lived in Spain during the '70's and '90's, much of the country was already well into solar energy. Why aren't we doing everything possible to convert to this free, problemless form of energy?

Thank you for your comment, John Watson.

The comment tracking number that has been assigned to your comment is SolarD10297.

Comment Date: April 12, 2011 13:15:26PM
Solar Energy Development PEIS
Comment ID: SolarD10297

First Name: John
Middle Initial: S
Last Name: Watson
Organization:
Address: 2018 E. Hopi
Address 2:
Address 3:
City: Mount Prospect
State: IL
Zip: 60056
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please carefully consider the environmental impact of any solar energy development, particularly proposals that would adversely affect Joshua Tree or Death Valley. The Riverside East, Iron Mountain, Armagosa and Red Sands zones need to be reconsidered due to negative environmental impacts. Please do not degrade this valuable ecosystems. Thank you.

Thank you for your comment, July Green.

The comment tracking number that has been assigned to your comment is SolarD10298.

Comment Date: April 12, 2011 13:15:48PM
Solar Energy Development PEIS
Comment ID: SolarD10298

First Name: July
Middle Initial: M
Last Name: Green
Organization:
Address: 1715 Gold Dr S
Address 2:
Address 3:
City: Fargo
State: ND
Zip: 58103
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am very excited about the prospect of building the Solar Energy Zones on public lands. My biggest concern is the impact on wildlife and plantlife and views. This is a great idea, but needs to be done responsibly.

Please concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

Thank you for your comment, Becky Butela.

The comment tracking number that has been assigned to your comment is SolarD10299.

Comment Date: April 12, 2011 13:15:50PM
Solar Energy Development PEIS
Comment ID: SolarD10299

First Name: Becky
Middle Initial:
Last Name: Butela
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Judi Aronowitz.

The comment tracking number that has been assigned to your comment is SolarD10300.

Comment Date: April 12, 2011 13:15:50PM
Solar Energy Development PEIS
Comment ID: SolarD10300

First Name: Judi
Middle Initial: A
Last Name: Aronowitz
Organization:
Address: Grand St
Address 2:
Address 3:
City: NYC
State: NY
Zip: 100024383
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Why not develop. Oil costs a fortune. Nuclear is unsafe, gas exploded. Why not!

Thank you for your comment, Teresa Kiss.

The comment tracking number that has been assigned to your comment is SolarD10301.

Comment Date: April 12, 2011 13:16:27PM
Solar Energy Development PEIS
Comment ID: SolarD10301

First Name: Teresa
Middle Initial:
Last Name: Kiss
Organization:
Address:
Address 2:
Address 3:
City:
State: OK
Zip: 74014
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Greetings:

I have considerable experience in visiting National Parks and while I completely support the USA becoming energy independent I believe we can do this without compromising the Natural Settings of our National Parks. I look out my back door in a suburb of Tulsa, OK and I see a huge, ugly power plant. There is no night sky viewing where I live. The same is true of a lot of people in this great country. However, when I go to visit I always check for a Night Sky Ranger Program. Or hike away from the glare of cars and noise of people. I love to hike where the only sign of humans may be the path I am on. There are four proposed Solar Energy Zones that I understand will have impacts on our National Parks. Riverside East, Amargosa Valley, Red Sands and Iron Mountain. Please reconsider these locations but please continue your work to create renewable energy resources away from these precious, preserved locations.

I think some locations at Historic Monuments that are man-made might not have the impact and be perfectly acceptable but please leave the Natural, National Parks, natural.

I also believe in limiting the number of visitors to a location if the means of support are not available, energy, facilities, policing, are not available. Citizens first and then a lottery for non-residents.

Thanks you for your time to consider my opinion.

Thank you for your comment, Herb Sayas.

The comment tracking number that has been assigned to your comment is SolarD10302.

Comment Date: April 12, 2011 13:16:52PM
Solar Energy Development PEIS
Comment ID: SolarD10302

First Name: Herb
Middle Initial: L
Last Name: Sayas
Organization:
Address: 4618 Laurel St
Address 2:
Address 3:
City: New Orleans
State: LA
Zip: 701151516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Use of solar generated energy and the infrastructure to achieve this is a plus. But care should be taken as to the location of the solar energy generating equipment. Also there is no need to light up the park roadways the same way some light up urban streets. The energy provided by solar panels should power normal facilities in the parks such as lights in cabins and rest rooms, lights in parking lots should be of minimum brightness. Also parks must not become the path ways for interstate or high speed highways.

Thank you for your comment, Todd Snyder.

The comment tracking number that has been assigned to your comment is SolarD10303.

Comment Date: April 12, 2011 13:17:03PM
Solar Energy Development PEIS
Comment ID: SolarD10303

First Name: Todd
Middle Initial: C
Last Name: Snyder
Organization:
Address: 2447 Post street
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 941153310
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Robert Temple.

The comment tracking number that has been assigned to your comment is SolarD10304.

Comment Date: April 12, 2011 13:17:13PM
Solar Energy Development PEIS
Comment ID: SolarD10304

First Name: Robert
Middle Initial:
Last Name: Temple
Organization:
Address:
Address 2:
Address 3:
City: Atlanta
State: GA
Zip: 30308
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

install solar & wind generators responsibly relative to wildlife, archeology, primary uses of public property.

Thank you for your comment, Glenda Denniston.

The comment tracking number that has been assigned to your comment is SolarD10305.

Comment Date: April 12, 2011 13:17:16PM
Solar Energy Development PEIS
Comment ID: SolarD10305

First Name: Glenda
Middle Initial:
Last Name: Denniston
Organization:
Address: 3311 Lake Mendota Drive
Address 2:
Address 3:
City: Madison
State: WI
Zip: 53705
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a strong believer in the use of solar energy and wish to encourage its development. However, such development must not come at the expense of our National Parks. These parks are the treasures of our nation.

Thank you for your comment, Kaylyn Wingo.

The comment tracking number that has been assigned to your comment is SolarD10306.

Comment Date: April 12, 2011 13:17:22PM
Solar Energy Development PEIS
Comment ID: SolarD10306

First Name: Kaylyn
Middle Initial:
Last Name: Wingo
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linda Swan.

The comment tracking number that has been assigned to your comment is SolarD10307.

Comment Date: April 12, 2011 13:17:39PM
Solar Energy Development PEIS
Comment ID: SolarD10307

First Name: Linda
Middle Initial:
Last Name: Swan
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Linn Barrett.

The comment tracking number that has been assigned to your comment is SolarD10308.

Comment Date: April 12, 2011 13:18:10PM
Solar Energy Development PEIS
Comment ID: SolarD10308

First Name: Linn
Middle Initial:
Last Name: Barrett
Organization:
Address: 4305 29th Street Road
Address 2:
Address 3:
City: Greeley
State: CO
Zip: 80634
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment: Draft Solar Energy PEIS.doc

Comment Submitted:

Draft Solar Energy Development PEIS

I am aware of the huge, six-state, solar energy management project in the desert Southwest. And I understand that the draft solar programmatic environmental impact statement (PEIS) lays the foundation of this project. Thank you for the opportunity to commend on this PEIS, as I have a few things to say about it.

1. Not all of the 22 million acres proposed for solar development, are appropriate for solar development. Land designated as part of the National Wilderness Preservation System (1.5 million acres) and important wildlife habitats/corridors are not appropriate for solar development.
2. The desert Southwest does not require 22 million acres of solar development. The PEIS reveals that this acreage amounts to approximately one hundred times more land than is necessary to reasonably meet the region's renewable energy needs.
3. The preferred alternative must be rejected and the solar energy zone alternative must be adopted. The energy zone alternative restricts solar power plants to BLM-designated appropriate development zones, and these zones are the best places with the best chances for successful projects. Therefore solar development in these zones will be faster, cheaper and better for the environment, consumers and project developers.
4. California's Pisgah and Iron Mountain zones must be excluded, and the new program must include a process for developing additional zones if needed in the future if needed.

Thank you.

Linn D. Barrett
4305 29th Street Road
Greeley, CO 80634

Thank you for your comment, Pamela Kelly.

The comment tracking number that has been assigned to your comment is SolarD10309.

Comment Date: April 12, 2011 13:18:14PM
Solar Energy Development PEIS
Comment ID: SolarD10309

First Name: Pamela
Middle Initial: G
Last Name: Kelly
Organization:
Address: 1356 Linden Ave
Address 2:
Address 3:
City: Long Beach
State: CA
Zip: 90813
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The United States should be taking a leadership role in developing solar and alternative safe, clean energies to replace dirty coal and oil. Instead, it's my understanding that we're lagging way behind Germany, for instance, where many structures have solar panels. It's the 50th anniversary of man's first flight in space and the perfect time for the US to once again pick up the gauntlet!

Thank you for your comment, Irene Radke.

The comment tracking number that has been assigned to your comment is SolarD10310.

Comment Date: April 12, 2011 13:18:32PM
Solar Energy Development PEIS
Comment ID: SolarD10310

First Name: Irene
Middle Initial:
Last Name: Radke
Organization:
Address: 4648 SW 38th Terr
Address 2:
Address 3:
City: Dania Beach
State: FL
Zip: 33312
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which will concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Susan & Marett.

The comment tracking number that has been assigned to your comment is SolarD10311.

Comment Date: April 12, 2011 13:18:35PM
Solar Energy Development PEIS
Comment ID: SolarD10311

First Name: Susan &
Middle Initial:
Last Name: Marett
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Connie Newman.

The comment tracking number that has been assigned to your comment is SolarD10312.

Comment Date: April 12, 2011 13:18:40PM
Solar Energy Development PEIS
Comment ID: SolarD10312

First Name: Connie
Middle Initial: A
Last Name: Newman
Organization:
Address: box 56
Address 2:
Address 3:
City: Pelican
State: AK
Zip: 99832
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Connie*

Thank you for your comment, Emil Reisman.

The comment tracking number that has been assigned to your comment is SolarD10313.

Comment Date: April 12, 2011 13:18:47PM
Solar Energy Development PEIS
Comment ID: SolarD10313

First Name: Emil
Middle Initial:
Last Name: Reisman
Organization:
Address: 835 S. Wooster St. #109
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90035
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please reconfigure SEZ to insure against damage to our national parks.

Thank you for your comment, Theresa Acerro.

The comment tracking number that has been assigned to your comment is SolarD10314.

Comment Date: April 12, 2011 13:19:05PM
Solar Energy Development PEIS
Comment ID: SolarD10314

First Name: Theresa
Middle Initial: B
Last Name: Acerro
Organization:
Address: PO Box 8697
Address 2:
Address 3: PO Box 8697
City: Chula Vista
State: CA
Zip: 91912
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our deserts are extremely important habitats for many animals-sheep, turtles, lizards and snakes come to mind immediately. The reptiles in particular can not be relocated and survive. The emphasis needs to be on putting solar on existing structures and over parking lots, not on precious wildlands. Old farms, destroyed habitat, military bases, but not on our National Parks and Preserves. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. native american cltural sites also need to be protected. Historically too much has been taken from Native peoples by our government.

Thank you for your comment, Leslie Cassidy.

The comment tracking number that has been assigned to your comment is SolarD10315.

Comment Date: April 12, 2011 13:19:25PM
Solar Energy Development PEIS
Comment ID: SolarD10315

First Name: Leslie
Middle Initial: A
Last Name: Cassidy
Organization:
Address: 534 East 83rd Street
Address 2: Apartment 2B
Address 3:
City: New York
State: NY
Zip: 10028
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Kimberly Halizak.

The comment tracking number that has been assigned to your comment is SolarD10316.

Comment Date: April 12, 2011 13:19:26PM
Solar Energy Development PEIS
Comment ID: SolarD10316

First Name: Kimberly
Middle Initial: A
Last Name: Halizak
Organization:
Address: 1933 N. Beachwood Dr., #205
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 900684035
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To Whom It May Concern:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time & consideration of my important environmental requests.

Kind Regards,
Kimberly A. Halizak

Thank you for your comment, Cori Donovan.

The comment tracking number that has been assigned to your comment is SolarD10317.

Comment Date: April 12, 2011 13:19:41PM
Solar Energy Development PEIS
Comment ID: SolarD10317

First Name: Cori
Middle Initial:
Last Name: Donovan
Organization:
Address: 32 Roosevelt Drive
Address 2:
Address 3:
City: Valhalla
State: NY
Zip: 10595
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Preservation of our Natural Resources animal life, eco system is most important and should take preference over any Solar Energy Development PEIS, there is way to much over developement as it is, we must protect mother earth before she turns on us.

Thank you for your comment, Lora Maurer.

The comment tracking number that has been assigned to your comment is SolarD10318.

Comment Date: April 12, 2011 13:19:47PM
Solar Energy Development PEIS
Comment ID: SolarD10318

First Name: Lora
Middle Initial:
Last Name: Maurer
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I think public parks should be kept as parks and development of natural resources should be off park land.

Thank you for your comment, Ron Rodgers.

The comment tracking number that has been assigned to your comment is SolarD10319.

Comment Date: April 12, 2011 13:19:48PM
Solar Energy Development PEIS
Comment ID: SolarD10319

First Name: Ron
Middle Initial:
Last Name: Rodgers
Organization:
Address: 1102 Park Place
Address 2:
Address 3:
City: College Station
State: TX
Zip: 77840
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

we have to be currently developing new energy sources that are compatible with our future and environment if we are to survive.

Thank you for your comment, Theresa Billeaud.

The comment tracking number that has been assigned to your comment is SolarD10320.

Comment Date: April 12, 2011 13:19:48PM
Solar Energy Development PEIS
Comment ID: SolarD10320

First Name: Theresa
Middle Initial: A
Last Name: Billeaud
Organization:
Address: 504 Fern St.
Address 2:
Address 3:
City: New Orleans
State: LA
Zip: 701183830
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Promote Solar!

Thank you for your comment, Tony Whetstone.

The comment tracking number that has been assigned to your comment is SolarD10321.

Comment Date: April 12, 2011 13:20:12PM
Solar Energy Development PEIS
Comment ID: SolarD10321

First Name: Tony
Middle Initial:
Last Name: Whetstone
Organization:
Address: 1802 Old Mill Ct.
Address 2:
Address 3:
City: Greenville
State: NC
Zip: 27858
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
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- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, William Dunton.

The comment tracking number that has been assigned to your comment is SolarD10322.

Comment Date: April 12, 2011 13:20:20PM
Solar Energy Development PEIS
Comment ID: SolarD10322

First Name: William
Middle Initial: J
Last Name: Dunton
Organization:
Address: 1500 West Ash Avenue
Address 2:
Address 3:
City: Fullerton
State: CA
Zip: 928333929
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please amend the SEZ to make more sense regarding the Crown Jewels of America: Our national parks.

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kevin Austin.

The comment tracking number that has been assigned to your comment is SolarD10323.

Comment Date: April 12, 2011 13:20:24PM
Solar Energy Development PEIS
Comment ID: SolarD10323

First Name: Kevin
Middle Initial: W
Last Name: Austin
Organization:
Address: 1619 Foster Rd
Address 2:
Address 3:
City: Richmond
State: VA
Zip: 23226
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I think Solar energy development is a great thing, but only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage and wilderness untouched by the hand/foot of man.

Let us not forget the words of President Johnson after signing the Wilderness Act::

"If future generations are to remember us with gratitude rather than contempt, we must leave them more than the miracles of technology. We must leave them a glimpse of the world as it was in the beginning, not just after we got through with it." -President Lyndon B. Johnson

That is our responsibility.

Thank you for your comment, Alice Kelly.

The comment tracking number that has been assigned to your comment is SolarD10324.

Comment Date: April 12, 2011 13:20:35PM
Solar Energy Development PEIS
Comment ID: SolarD10324

First Name: Alice
Middle Initial:
Last Name: Kelly
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Ann Oliver.

The comment tracking number that has been assigned to your comment is SolarD10325.

Comment Date: April 12, 2011 13:21:02PM
Solar Energy Development PEIS
Comment ID: SolarD10325

First Name: Ann
Middle Initial:
Last Name: Oliver
Organization:
Address: 542 Warner Avenue
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 90024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please, please, please protect our amazing National Parks. Thank you.

Thank you for your comment, Dorothy Kethler.

The comment tracking number that has been assigned to your comment is SolarD10326.

Comment Date: April 12, 2011 13:21:14PM
Solar Energy Development PEIS
Comment ID: SolarD10326

First Name: Dorothy
Middle Initial:
Last Name: Kethler
Organization:
Address: 46 Maestas Rd.
Address 2:
Address 3:
City: Ranchos de Taos
State: NM
Zip: 87557
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

- # The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- # The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- # The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- # Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands N

Thank you for your comment, Patricia Dion.

The comment tracking number that has been assigned to your comment is SolarD10327.

Comment Date: April 12, 2011 13:21:19PM
Solar Energy Development PEIS
Comment ID: SolarD10327

First Name: Patricia
Middle Initial:
Last Name: Dion
Organization:
Address: 510 Carrington Lane #305
Address 2:
Address 3:
City: Loveland
State: OH
Zip: 45140
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We must get solar into the mainstream throughout the US.

Thank you for your comment, suzanne w.

The comment tracking number that has been assigned to your comment is SolarD10328.

Comment Date: April 12, 2011 13:21:25PM
Solar Energy Development PEIS
Comment ID: SolarD10328

First Name: suzanne
Middle Initial:
Last Name: w
Organization:
Address: 8 Ockwell Ave South
Address 2:
Address 3:
City: savannah
State: GA
Zip: 31419
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This country will be remembered not only by what we created but by what we refuse to destroy.

Thank you for your comment, Doug Fleming.

The comment tracking number that has been assigned to your comment is SolarD10329.

Comment Date: April 12, 2011 13:21:42PM
Solar Energy Development PEIS
Comment ID: SolarD10329

First Name: Doug
Middle Initial: C
Last Name: Fleming
Organization: FISHERMAN #1 U.S.A.
Address: 2000 Fraser Street #103
Address 2:
Address 3:
City: Bellingham
State: WA
Zip: 982293797
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

DO AWAY WITH DIESEL GAS!

Thank you for your comment, sally abrams.

The comment tracking number that has been assigned to your comment is SolarD10330.

Comment Date: April 12, 2011 13:21:50PM
Solar Energy Development PEIS
Comment ID: SolarD10330

First Name: sally
Middle Initial:
Last Name: abrams
Organization:
Address: 138 cortland
Address 2:
Address 3:
City: san francisco
State: CA
Zip: 94110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

solar power needs to be developed in an environmentally conscious manner.

Thank you for your comment, Kimberly Haley.

The comment tracking number that has been assigned to your comment is SolarD10331.

Comment Date: April 12, 2011 13:21:53PM
Solar Energy Development PEIS
Comment ID: SolarD10331

First Name: Kimberly
Middle Initial: l
Last Name: Haley
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need solar energy, it only makes sense!!!

Thank you for your comment, Dori Grasso.

The comment tracking number that has been assigned to your comment is SolarD10332.

Comment Date: April 12, 2011 13:22:03PM
Solar Energy Development PEIS
Comment ID: SolarD10332

First Name: Dori
Middle Initial: C
Last Name: Grasso
Organization:
Address: 12207 Happy Hollow Road
Address 2:
Address 3:
City: Cockeysville
State: MD
Zip: 21030
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Gregory Fite.

The comment tracking number that has been assigned to your comment is SolarD10333.

Comment Date: April 12, 2011 13:22:06PM
Solar Energy Development PEIS
Comment ID: SolarD10333

First Name: Gregory
Middle Initial: M
Last Name: Fite
Organization:
Address: 4719 Hillside Drive
Address 2:
Address 3: 4719 Hillside Drive
City: Castro Valley
State: CA
Zip: 945461406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please make sure solar installations near national parks and monuments conform to good environmental use patterns, and protect wildlife and scenery.

Thank you for your comment, Mary Ann Baier.

The comment tracking number that has been assigned to your comment is SolarD10334.

Comment Date: April 12, 2011 13:22:12PM
Solar Energy Development PEIS
Comment ID: SolarD10334

First Name: Mary Ann
Middle Initial:
Last Name: Baier
Organization:
Address: 2930 Geneva St
Address 2:
Address 3:
City: Dearborn
State: MI
Zip: 481243356
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

When building or buying you should always consider the triple bottom line. That means when you buy an object, you should consider if the package is recyclable. When building, you should consider your environmental impact of what you are doing.

Thank you for your comment, Lanna Ultican.

The comment tracking number that has been assigned to your comment is SolarD10335.

Comment Date: April 12, 2011 13:22:18PM
Solar Energy Development PEIS
Comment ID: SolarD10335

First Name: Lanna
Middle Initial:
Last Name: Ultican
Organization:
Address: 1204 SW 18th
Address 2:
Address 3: 1204 SW 18th
City: Blue Springs
State: MO
Zip: 64015
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar & wind energy is the best to interact with the environment in a national park. It will do no harm.

Thank you for your comment, Aaron Ucko.

The comment tracking number that has been assigned to your comment is SolarD10336.

Comment Date: April 12, 2011 13:22:32PM
Solar Energy Development PEIS
Comment ID: SolarD10336

First Name: Aaron
Middle Initial: M
Last Name: Ucko
Organization:
Address: 2701 Calvert St., NW, Apt. 309
Address 2:
Address 3:
City: Washington
State: DC
Zip: 200082618
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Patricia Roberts.

The comment tracking number that has been assigned to your comment is SolarD10337.

Comment Date: April 12, 2011 13:23:05PM
Solar Energy Development PEIS
Comment ID: SolarD10337

First Name: Patricia
Middle Initial:
Last Name: Roberts
Organization:
Address: 64 Lookout Mountain Circle
Address 2:
Address 3:
City: Golden
State: CO
Zip: 80401
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We absolutely need appropriately placed solar in our National Parks!!

Thank you for your comment, angus macdonald.

The comment tracking number that has been assigned to your comment is SolarD10338.

Comment Date: April 12, 2011 13:23:05PM
Solar Energy Development PEIS
Comment ID: SolarD10338

First Name: angus
Middle Initial: m
Last Name: macdonald
Organization:
Address: PO BOX 111
Address 2:
Address 3:
City: Elkwood
State: VA
Zip: 22718
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10339.

Comment Date: April 12, 2011 13:23:24PM
Solar Energy Development PEIS
Comment ID: SolarD10339

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

We spend winters in Palm Springs and visit Joshua Tree frequently. DON'T SPOIL IT, PLEASE!

Thank you for your comment, Debbie Williams.

The comment tracking number that has been assigned to your comment is SolarD10340.

Comment Date: April 12, 2011 13:23:28PM
Solar Energy Development PEIS
Comment ID: SolarD10340

First Name: Debbie
Middle Initial: G
Last Name: Williams
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I urge development of solar energy!

Thank you for your comment, M Shuster.

The comment tracking number that has been assigned to your comment is SolarD10341.

Comment Date: April 12, 2011 13:23:47PM
Solar Energy Development PEIS
Comment ID: SolarD10341

First Name: M
Middle Initial:
Last Name: Shuster
Organization:
Address: 675 Mount Wilson Trl
Address 2:
Address 3:
City: Sierra Madre
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology--but with the following amendments:

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, SUSAN BAILEY-PRUC.

The comment tracking number that has been assigned to your comment is SolarD10342.

Comment Date: April 12, 2011 13:23:53PM
Solar Energy Development PEIS
Comment ID: SolarD10342

First Name: SUSAN
Middle Initial:
Last Name: BAILEY-PRUC
Organization:
Address:
Address 2:
Address 3:
City: AKRON
State: OH
Zip: 44333
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I AM THRILLED THAT WE ARE PROCEEDING TO DEVELOP OUR SOLAR ENERGY POTENTIAL.

PLEASE, PLEASE, PLEASE DON'T USE OUR NATIONAL PARKS AND MONUMENT LANDS IN ANY OF YOUR PLANS. WE NEED TO KEEP THESE FOR THE AMERICAN PEOPLE TO ENJOY EXCLUSIVELY!

Thank you for your comment, Brenda Bailey.

The comment tracking number that has been assigned to your comment is SolarD10343.

Comment Date: April 12, 2011 13:23:55PM
Solar Energy Development PEIS
Comment ID: SolarD10343

First Name: Brenda
Middle Initial:
Last Name: Bailey
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended as outlined below, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Karen White, MSW.

The comment tracking number that has been assigned to your comment is SolarD10344.

Comment Date: April 12, 2011 13:24:04PM
Solar Energy Development PEIS
Comment ID: SolarD10344

First Name: Karen
Middle Initial: A
Last Name: White, MSW
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is mandatory but it has to be installed wisely and not in places that will harm the land or its inhabitants. Solar zones must be used professionally.

Thank you for your comment, Anne Pollack.

The comment tracking number that has been assigned to your comment is SolarD10345.

Comment Date: April 12, 2011 13:24:34PM
Solar Energy Development PEIS
Comment ID: SolarD10345

First Name: Anne
Middle Initial:
Last Name: Pollack
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Allison Frymoyer.

The comment tracking number that has been assigned to your comment is SolarD10346.

Comment Date: April 12, 2011 13:24:34PM
Solar Energy Development PEIS
Comment ID: SolarD10346

First Name: Allison
Middle Initial:
Last Name: Frymoyer
Organization:
Address: 19 Garden Street, Apt. 55
Address 2: Apt. 55
Address 3:
City: Cambridge
State: MA
Zip: 021383626
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Marie Webb.

The comment tracking number that has been assigned to your comment is SolarD10347.

Comment Date: April 12, 2011 13:24:37PM
Solar Energy Development PEIS
Comment ID: SolarD10347

First Name: Marie
Middle Initial: C
Last Name: Webb
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Our parks are under thearts from many sides. Solar panels should be installed only where park lands will not be harmed. Park lands are valuable to many people for their scenery, walking trails and a place to appreciate nature. I hope parks are kept for these and many other qualities.

Thank you for your comment, Jenny Hawke.

The comment tracking number that has been assigned to your comment is SolarD10348.

Comment Date: April 12, 2011 13:24:38PM
Solar Energy Development PEIS
Comment ID: SolarD10348

First Name: Jenny
Middle Initial:
Last Name: Hawke
Organization:
Address: 3702 S. Arbroath Lane
Address 2:
Address 3:
City: Salt Lake City
State: UT
Zip: 84115
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It has been brought to my attention that the federal government has initiated an environmental review to identify where solar development should occur on public lands in California, Arizona, Nevada, New Mexico, Utah, and Colorado. I applaud initiatives for clean energy development.

Once amended, I support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that would threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ needs to be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

I believe that any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your time and consideration of my concerns.

Thank you for your comment, Scott Rubel.

The comment tracking number that has been assigned to your comment is SolarD10349.

Comment Date: April 12, 2011 13:24:59PM
Solar Energy Development PEIS
Comment ID: SolarD10349

First Name: Scott
Middle Initial:
Last Name: Rubel
Organization:
Address: 977 Montecito Dr.
Address 2:
Address 3:
City: Los Angeles
State: CA
Zip: 900311633
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy zones that do not include park land makes sense.

Thank you for your comment, Kirk Rhoads.

The comment tracking number that has been assigned to your comment is SolarD10350.

Comment Date: April 12, 2011 13:25:04PM
Solar Energy Development PEIS
Comment ID: SolarD10350

First Name: Kirk
Middle Initial:
Last Name: Rhoads
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Alana Davis.

The comment tracking number that has been assigned to your comment is SolarD10351.

Comment Date: April 12, 2011 13:25:47PM
Solar Energy Development PEIS
Comment ID: SolarD10351

First Name: Alana
Middle Initial: M
Last Name: Davis
Organization:
Address: 1175 Queen Lane
Address 2: Apt. 7
Address 3:
City: West Chester
State: PA
Zip: 19382
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Thank you for your comment, Roland Salvato.

The comment tracking number that has been assigned to your comment is SolarD10352.

Comment Date: April 12, 2011 13:25:47PM
Solar Energy Development PEIS
Comment ID: SolarD10352

First Name: Roland
Middle Initial:
Last Name: Salvato
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There is a right way and a wrong way to develop solar installations. Please do not infringe the national parks or any state parks natural beauty or long vistas when identifying public land to build on...

Thank you for your comment, Barry De Jasu.

The comment tracking number that has been assigned to your comment is SolarD10353.

Comment Date: April 12, 2011 13:26:26PM
Solar Energy Development PEIS
Comment ID: SolarD10353

First Name: Barry
Middle Initial:
Last Name: De Jasu
Organization:
Address: 20 Hampton Ave. apt. 512
Address 2:
Address 3:
City: Northampton
State: MA
Zip: 01060
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be well supported by our government while subsidies for oil, coal, and nuclear energy should be reduced then ended.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10354.

Comment Date: April 12, 2011 13:26:28PM
Solar Energy Development PEIS
Comment ID: SolarD10354

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Carol Ford.

The comment tracking number that has been assigned to your comment is SolarD10355.

Comment Date: April 12, 2011 13:26:35PM
Solar Energy Development PEIS
Comment ID: SolarD10355

First Name: Carol
Middle Initial:
Last Name: Ford
Organization:
Address: 6505 Betsy Ross Circle
Address 2:
Address 3:
City: Bethlehem
State: PA
Zip: 180179472
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Theodore Lundgren.

The comment tracking number that has been assigned to your comment is SolarD10356.

Comment Date: April 12, 2011 13:26:47PM
Solar Energy Development PEIS
Comment ID: SolarD10356

First Name: Theodore
Middle Initial: P
Last Name: Lundgren
Organization: T L H Consulting, Inc
Address: 487 NE 4th Ave
Address 2:
Address 3:
City: Cape Coral
State: FL
Zip: 339092504
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

The best place for solar arrays is where the land has already been ruined by human activity. Every rooftop is a good starting point.

NEVER in pristine lands in public parks.

Thank you for your comment, robert hlavna.

The comment tracking number that has been assigned to your comment is SolarD10357.

Comment Date: April 12, 2011 13:26:52PM
Solar Energy Development PEIS
Comment ID: SolarD10357

First Name: robert
Middle Initial: j
Last Name: hlavna
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Deanne O'Donnell.

The comment tracking number that has been assigned to your comment is SolarD10358.

Comment Date: April 12, 2011 13:26:59PM
Solar Energy Development PEIS
Comment ID: SolarD10358

First Name: Deanne
Middle Initial:
Last Name: O'Donnell
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10359.

Comment Date: April 12, 2011 13:27:13PM
Solar Energy Development PEIS
Comment ID: SolarD10359

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Dear Sir/Madam,

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- 1)The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2)The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3)The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4)Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

PLEASE ENSURE ANY SEZ DEVELOPMENT HAS NO OR, AT MOST, MINIMAL IMPACT OUR NATIONAL PARKS.
THANK YOU.

Thank you for your comment, H GRAY.

The comment tracking number that has been assigned to your comment is SolarD10360.

Comment Date: April 12, 2011 13:27:15PM
Solar Energy Development PEIS
Comment ID: SolarD10360

First Name: H
Middle Initial:
Last Name: GRAY
Organization: Home
Address: 29033 Dixon St. #35
Address 2:
Address 3: 29033 Dixon St. #35
City: Hayward
State: CA
Zip: 94544
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

ALL SOLAR NOW

Thank you for your comment, John Dickinson.

The comment tracking number that has been assigned to your comment is SolarD10361.

Comment Date: April 12, 2011 13:27:17PM
Solar Energy Development PEIS
Comment ID: SolarD10361

First Name: John
Middle Initial: A
Last Name: Dickinson
Organization:
Address: 3711 Linkview Drive
Address 2:
Address 3:
City: Houston
State: TX
Zip: 770253515
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, James Caldwell.

The comment tracking number that has been assigned to your comment is SolarD10362.

Comment Date: April 12, 2011 13:27:29PM
Solar Energy Development PEIS
Comment ID: SolarD10362

First Name: James
Middle Initial:
Last Name: Caldwell
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10363.

Comment Date: April 12, 2011 13:27:51PM
Solar Energy Development PEIS
Comment ID: SolarD10363

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support solar energy; however, a common sense approach is critical to protect our spectacular national parks, their abundant wildlife, pristine night skies, clean air and water resources. For this reason, I agree with the NPCA that the specifications for California's Iron Mountain SEZ, California's Riverside East SEZ , and Nevada's Amargosa Valley SEZ must be modified to conserve air, water, wildlife, vistas, and parklands.

I urge you to work with NPCA to develop an approach for solar energy that best conserves and protects our American parks.

Thank you for your comment, Susanna Odry.

The comment tracking number that has been assigned to your comment is SolarD10364.

Comment Date: April 12, 2011 13:28:04PM
Solar Energy Development PEIS
Comment ID: SolarD10364

First Name: Susanna
Middle Initial:
Last Name: Odry
Organization:
Address: P.O.Box 22
Address 2:
Address 3:
City: Fish Camp
State: CA
Zip: 93623
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please work with responsible, caring stewards of the environment to resolve any potential problem areas.

Thank you for your comment, jeff spakowski.

The comment tracking number that has been assigned to your comment is SolarD10365.

Comment Date: April 12, 2011 13:29:07PM
Solar Energy Development PEIS
Comment ID: SolarD10365

First Name: jeff
Middle Initial: f
Last Name: spakowski
Organization:
Address: 10155 lasalle
Address 2:
Address 3:
City: huntington woods
State: MI
Zip: 48070
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Tamar Schwartz.

The comment tracking number that has been assigned to your comment is SolarD10366.

Comment Date: April 12, 2011 13:29:21PM
Solar Energy Development PEIS
Comment ID: SolarD10366

First Name: Tamar
Middle Initial: R
Last Name: Schwartz
Organization:
Address: 25-79 31st Street
Address 2:
Address 3:
City: Astoria
State: NY
Zip: 111021748
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is very important to the future of our planet and National Parks are a good place to start.

Thank you for your comment, Arnold Schultz, Ph.D..

The comment tracking number that has been assigned to your comment is SolarD10367.

Comment Date: April 12, 2011 13:30:17PM
Solar Energy Development PEIS
Comment ID: SolarD10367

First Name: Arnold
Middle Initial: L
Last Name: Schultz, Ph.D.
Organization:
Address: 1137 S. Oakland St.
Address 2:
Address 3:
City: Aurora
State: CO
Zip: 800124259
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I fully support efforts to develop solar energy in the United States.

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Nan Beckman.

The comment tracking number that has been assigned to your comment is SolarD10368.

Comment Date: April 12, 2011 13:30:20PM
Solar Energy Development PEIS
Comment ID: SolarD10368

First Name: Nan
Middle Initial: B
Last Name: Beckman
Organization:
Address:
Address 2:
Address 3:
City: Pinehurst
State: NC
Zip: 28374
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of developing solar energy, but it must be done in a responsible way. Any solar projects that are within 15 miles of a national park should trigger a consultation with the National Park Service to determine what impact it might have. Following are several cases in point:

Red Sands SEZ threatens water resources critical to wildlife and formation of desert dunes at White Sands National Monument.

Amargosa Valley SEZ needs to be reduced or reconfigured to reduce the impact on Death Valley wilderness, desert wildlife and precious water resources.

Sincerely, Nan B. Beckman

Thank you for your comment, Charles Harris.

The comment tracking number that has been assigned to your comment is SolarD10369.

Comment Date: April 12, 2011 13:30:21PM
Solar Energy Development PEIS
Comment ID: SolarD10369

First Name: Charles
Middle Initial: B
Last Name: Harris
Organization:
Address: 34 Woodoaks Drive
Address 2:
Address 3:
City: San Rafael
State: CA
Zip: 94903
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

In assessing locations for solar energy installations, I urge you to ensure that such locations do not adversely affect our national parks and other protected lands by increasing visual or light pollution or otherwise.

Sincerely,
Charles B. Harris

Thank you for your comment, Carlene Petty.

The comment tracking number that has been assigned to your comment is SolarD10370.

Comment Date: April 12, 2011 13:30:27PM
Solar Energy Development PEIS
Comment ID: SolarD10370

First Name: Carlene
Middle Initial: L
Last Name: Petty
Organization: University of Louisville
Address: 780 Highway #44 West, Lot #50
Address 2:
Address 3:
City: Shepherdsville
State: KY
Zip: 401656073
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy development is absolutely one of the ways to go to preserve our Earth and provide energy. However, placement of solar facilities should be done in such a way as to not interfere with the quality of National Park experiences or wildlife behaviors and habitat. Please consider these in all planning for solar energy.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10371.

Comment Date: April 12, 2011 13:30:38PM
Solar Energy Development PEIS
Comment ID: SolarD10371

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Here are some form-letter comments that strongly reflect my views on this important issue of environmental and energy stewardship.

I've been to two of the three sites listed as being problematic and needing to be amended: white sands and joshua tree. They are two of my favorite national parks ever. I hope you take every possible step and recommendations from the NPS itself to keep these parks pristine for future generations. Thankyou.

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sam Crespi.

The comment tracking number that has been assigned to your comment is SolarD10372.

Comment Date: April 12, 2011 13:30:46PM
Solar Energy Development PEIS
Comment ID: SolarD10372

First Name: Sam
Middle Initial:
Last Name: Crespi
Organization:
Address: 23824 State Route 530NE, Arlington
Address 2: Arlington
Address 3: 23824 State Route 530NE, Arlington
City: Arlington
State: WA
Zip: 98223
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Protecting the national trust of our parklands is important.

It's not practical nor does it make sense not to have the NPCA involved in the logistics, locations etc of solar installations.

Thank you for your comment, Thomas Ronan.

The comment tracking number that has been assigned to your comment is SolarD10373.

Comment Date: April 12, 2011 13:30:50PM
Solar Energy Development PEIS
Comment ID: SolarD10373

First Name: Thomas
Middle Initial: W
Last Name: Ronan
Organization:
Address: 4469 Richmond St.
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 19137
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Adrienne Gardner.

The comment tracking number that has been assigned to your comment is SolarD10374.

Comment Date: April 12, 2011 13:30:56PM
Solar Energy Development PEIS
Comment ID: SolarD10374

First Name: Adrienne
Middle Initial:
Last Name: Gardner
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Thank you for your comment, Lisa D'Ambrosio.

The comment tracking number that has been assigned to your comment is SolarD10375.

Comment Date: April 12, 2011 13:31:16PM
Solar Energy Development PEIS
Comment ID: SolarD10375

First Name: Lisa
Middle Initial: E
Last Name: D'Ambrosio
Organization:
Address: 356 South Meadow Road
Address 2:
Address 3:
City: Lancaster
State: MA
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy needs to be developed & promoted to help save the world from the effects of climate change & global warming! This is so obvious that it is mind-boggling to me that things are not further along! The technology is there but the political will is not. Polluting, greedy oil & coal interests have bought our politicians and corrupted our political process.

Thank you for your comment, Ross Hammersley.

The comment tracking number that has been assigned to your comment is SolarD10376.

Comment Date: April 12, 2011 13:32:04PM
Solar Energy Development PEIS
Comment ID: SolarD10376

First Name: Ross
Middle Initial:
Last Name: Hammersley
Organization:
Address: 400 Boughey St.
Address 2:
Address 3:
City: Traverse City
State: MI
Zip: 49684
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks:

- (1) The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- (2) The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- (3) The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- (4) Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Kavanaugh.

The comment tracking number that has been assigned to your comment is SolarD10377.

Comment Date: April 12, 2011 13:32:29PM
Solar Energy Development PEIS
Comment ID: SolarD10377

First Name: Michael
Middle Initial:
Last Name: Kavanaugh
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Thank you for providing me with the opportunity to comment on the Draft Solar Energy Development PEIS. As someone who greatly values our nation's national resources, I believe that it is very important to develop our solar power resources, but want to make sure that this is done in a manner that is sensitive to our critical wild spaces.

I want to stress that it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

With that in mind, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources, designated wilderness, critical wildlife corridors, and sensitive desert ecology & water resources.

Thank you for considering my comments,
Michael Kavanaugh

Thank you for your comment, Joyce Casey.

The comment tracking number that has been assigned to your comment is SolarD10378.

Comment Date: April 12, 2011 13:33:01PM
Solar Energy Development PEIS
Comment ID: SolarD10378

First Name: Joyce
Middle Initial:
Last Name: Casey
Organization:
Address: 1232-B Nakomis NE
Address 2:
Address 3:
City: Albuquerque
State: NM
Zip: 871126049
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our National Parks are precious resources. We are eager to develop alternate sources of energy, but not at the risk of damaging these pristine places.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10379.

Comment Date: April 12, 2011 13:33:03PM

Solar Energy Development PEIS

Comment ID: SolarD10379

First Name: [Withheld by requestor]

Middle Initial:

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Our diminishing natural areas and wildlife habitat should not be disturbed or compromised for developing renewable energy sources such as solar, wind and geothermal. It is precisely for the preservation of our mother earth that renewable energy is being developed. A balanced approach is best.

Thank you for your comment, jerry and donna Weinstock.

The comment tracking number that has been assigned to your comment is SolarD10380.

Comment Date: April 12, 2011 13:33:15PM
Solar Energy Development PEIS
Comment ID: SolarD10380

First Name: jerry and donna
Middle Initial: j
Last Name: Weinstock
Organization: weinstock advocates
Address: one Bougainvillea ave.
Address 2:
Address 3:
City: Key West
State: FL
Zip: 33040
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

alternatives other than fossils saves this planet

Thank you for your comment, Joan Taylor.

The comment tracking number that has been assigned to your comment is SolarD10381.

Comment Date: April 12, 2011 13:33:36PM
Solar Energy Development PEIS
Comment ID: SolarD10381

First Name: Joan
Middle Initial: M
Last Name: Taylor
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We should be doing everything we can to develop and expand the use of clean energy in our country, and the whole world.

THERE IS NO SAFE LEVEL OF RADIATION!

Thank you for your comment, Nona Baker.

The comment tracking number that has been assigned to your comment is SolarD10382.

Comment Date: April 12, 2011 13:33:38PM
Solar Energy Development PEIS
Comment ID: SolarD10382

First Name: Nona
Middle Initial:
Last Name: Baker
Organization:
Address: 286 Crescent Ave
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 94110
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Our Natural Parks are our treasure, as surely as our money is.

In order to reduce our dependence on oil and coal, we must utilize the existing non-polluting energy resources available to us. But we must do this in a manner that allows us to pass on our natural heritage intact to those who come after us.

I am very much in favor of putting solar installations where they will not disturb the wildlife, water resources, archaeological sites, scenery or ability for people to see the sky in our National Parks. There must be many sites that would qualify for use given those restrictions.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10383.

Comment Date: April 12, 2011 13:34:05PM
Solar Energy Development PEIS
Comment ID: SolarD10383

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

While concentrating solar development within specified zones makes sense, several of these Solar Energy Zones (SEZs) threaten the resources of some of our most iconic desert national parks like Death Valley National Park and Joshua Tree National Park.

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

NPCA strongly believes that three SEZs need to be modified. California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources, resulting in a threat to the endangered Devil's Hole Pupfish and surrounding wetlands.

Thank you for your comment, Richard Fullerton.

The comment tracking number that has been assigned to your comment is SolarD10384.

Comment Date: April 12, 2011 13:34:09PM
Solar Energy Development PEIS
Comment ID: SolarD10384

First Name: Richard
Middle Initial: S
Last Name: Fullerton
Organization:
Address: 2315 Frederick Drive
Address 2:
Address 3:
City: Winston-Salem
State: NC
Zip: 271035504
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is no secret that the future of human life on this planet depends on our development of renewable energy resources as quickly as possible, with solar farms being one of the leading contenders in the race. But we **MUST** proceed in a responsible manner that does not damage public lands, and plan solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment, Marlene Sheridan.

The comment tracking number that has been assigned to your comment is SolarD10385.

Comment Date: April 12, 2011 13:34:17PM
Solar Energy Development PEIS
Comment ID: SolarD10385

First Name: Marlene
Middle Initial:
Last Name: Sheridan
Organization:
Address: 3398 via del Cielo
Address 2:
Address 3:
City: Fallbrook
State: CA
Zip: 92028
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

STOP>>>>and smell the roses...balance the U.S. government spending mentality...and, give us back our great country. Marlene Sheridan

Thank you for your comment, Ericka Camp.

The comment tracking number that has been assigned to your comment is SolarD10386.

Comment Date: April 12, 2011 13:34:24PM
Solar Energy Development PEIS
Comment ID: SolarD10386

First Name: Ericka
Middle Initial:
Last Name: Camp
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Kathryn Grace.

The comment tracking number that has been assigned to your comment is SolarD10387.

Comment Date: April 12, 2011 13:34:42PM
Solar Energy Development PEIS
Comment ID: SolarD10387

First Name: Kathryn
Middle Initial: C
Last Name: Grace
Organization:
Address: 201 South Hill Ter.
Address 2:
Address 3:
City: Ithaca
State:
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We certainly need to make gains in solar energy production, but I'm just hoping if it is done on public lands that there are careful considerations for the impact on wildlife and the environment as a whole.

Thank you for your comment, Dorothy Foster.

The comment tracking number that has been assigned to your comment is SolarD10388.

Comment Date: April 12, 2011 13:35:14PM
Solar Energy Development PEIS
Comment ID: SolarD10388

First Name: Dorothy
Middle Initial: L
Last Name: Foster
Organization: NA
Address: 3522 SW 33 Terrace
Address 2:
Address 3:
City: Topeka
State: KS
Zip: 66614
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Like all other forms of Human encroachments on our public lands our use of Solar Energy must do no harm to our National Parks and other special places.

Thank you for your comment, Cynthia Byrd.

The comment tracking number that has been assigned to your comment is SolarD10389.

Comment Date: April 12, 2011 13:35:24PM
Solar Energy Development PEIS
Comment ID: SolarD10389

First Name: Cynthia
Middle Initial:
Last Name: Byrd
Organization:
Address: 68 Macondary Lane, #2
Address 2:
Address 3:
City: San Francisco
State: CA
Zip: 94133
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I visit state parks on a regular basis, often camping and hiking while there. I agree with the NPCA's comments that, "Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage." Please do the right thing and keep our national parks a treasured place for all to enjoy. If we lose them, what will we have?

Thank you for your comment, Jennifer Tomassi.

The comment tracking number that has been assigned to your comment is SolarD10390.

Comment Date: April 12, 2011 13:35:27PM
Solar Energy Development PEIS
Comment ID: SolarD10390

First Name: Jennifer
Middle Initial:
Last Name: Tomassi
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Roberta Camp.

The comment tracking number that has been assigned to your comment is SolarD10391.

Comment Date: April 12, 2011 13:35:30PM
Solar Energy Development PEIS
Comment ID: SolarD10391

First Name: Roberta
Middle Initial:
Last Name: Camp
Organization:
Address: 713 S. Warnock St.
Address 2:
Address 3:
City: Philadelphia
State: PA
Zip: 191471927
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.
--However, there are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Tim Duda.

The comment tracking number that has been assigned to your comment is SolarD10392.

Comment Date: April 12, 2011 13:35:37PM
Solar Energy Development PEIS
Comment ID: SolarD10392

First Name: Tim
Middle Initial:
Last Name: Duda
Organization:
Address: 340 Queen Anne Court
Address 2:
Address 3: 340 Queen Anne Court
City: San Antonio
State: TX
Zip: 782096625
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is clean, sustainable and will create jobs. Enough dependence on non-renewable and polluting energy sources.

Thank you for your comment, John Dubendorff.

The comment tracking number that has been assigned to your comment is SolarD10393.

Comment Date: April 12, 2011 13:35:38PM
Solar Energy Development PEIS
Comment ID: SolarD10393

First Name: John
Middle Initial:
Last Name: Dubendorff
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--I strongly support the AMENDED Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- 1)The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- 2)The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- 3)The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- 4)Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10394.

Comment Date: April 12, 2011 13:35:40PM
Solar Energy Development PEIS
Comment ID: SolarD10394

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Elizabeth Sauer.

The comment tracking number that has been assigned to your comment is SolarD10395.

Comment Date: April 12, 2011 13:35:51PM
Solar Energy Development PEIS
Comment ID: SolarD10395

First Name: Elizabeth
Middle Initial: M
Last Name: Sauer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I'm a supporter of Solar Energy, however, it should only be developed in zones that don't compromise National Park wild life, scenery, water resources etc. and opportunities for future generations to fully enjoy America's Heritage.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10396.

Comment Date: April 12, 2011 13:36:01PM
Solar Energy Development PEIS
Comment ID: SolarD10396

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

I support green energy, however, I firmly believe that solar & wind power must be located where it will not harm wildlife, the environment or our National Parks. A great deal of care must be given, to make these a win - win situation.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10397.

Comment Date: April 12, 2011 13:36:17PM
Solar Energy Development PEIS
Comment ID: SolarD10397

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization: Julian Rodriguez & Associates
Address: [Withheld by requestor]
Address 2: [Withheld by requestor]
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sarah Roberts.

The comment tracking number that has been assigned to your comment is SolarD10398.

Comment Date: April 12, 2011 13:36:41PM
Solar Energy Development PEIS
Comment ID: SolarD10398

First Name: Sarah
Middle Initial: L
Last Name: Roberts
Organization:
Address: 48 Harlingen Road
Address 2:
Address 3:
City: Belle Mead
State: NJ
Zip: 08502
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please allow solar energy development only in places that won't compromise the many benefits to the public of national lands: ecosystem and wildlife protection, scenery, recreation, archaeology, water resources, etc. In particular, reconfigure the Riverside East SEZ to protect Joshua Tree National Park's wildlife corridors and wilderness, Remove the Iron Mountain SEZ to protect Joshua Tree, reduce the Amargosa Valley SEZ to protect Death Valley's many fragile features, and change the Red Sands SEZ to protect Water Resources critical to White Sands National Monument. I hope to visit these places someday and I don't want them destroyed due to exploitation by energy companies just to avoid the expenses of putting solar panels on roofs and over parking lots, where they'd do no harm.

Sometimes deserts seem like useless lands, but if their fragile ecosystems are destroyed they can cause problems: perhaps erosion and dust storms due to lack of vegetation to hold the soil.

Thank you for your comment, Margery Coffey.

The comment tracking number that has been assigned to your comment is SolarD10399.

Comment Date: April 12, 2011 13:36:42PM
Solar Energy Development PEIS
Comment ID: SolarD10399

First Name: Margery
Middle Initial:
Last Name: Coffey
Organization:
Address: 205 Farley Ave.
Address 2:
Address 3:
City: Rosalie
State: NE
Zip: 68055
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Margaret Silver.

The comment tracking number that has been assigned to your comment is SolarD10400.

Comment Date: April 12, 2011 13:36:54PM
Solar Energy Development PEIS
Comment ID: SolarD10400

First Name: Margaret
Middle Initial:
Last Name: Silver
Organization:
Address: 1829 Sea Oats Drive
Address 2:
Address 3:
City: Atlantic Beach
State: FL
Zip: 32233
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10401.

Comment Date: April 12, 2011 13:37:00PM
Solar Energy Development PEIS
Comment ID: SolarD10401

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Rusty Simpson.

The comment tracking number that has been assigned to your comment is SolarD10402.

Comment Date: April 12, 2011 13:37:37PM
Solar Energy Development PEIS
Comment ID: SolarD10402

First Name: Rusty
Middle Initial:
Last Name: Simpson
Organization:
Address: 1523 Marshall St
Address 2:
Address 3:
City: Baltimore
State: MD
Zip: 212304503
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

as much as we need Solar energy we also need to protect our wild places and National Parks and Monuments. Please do it right and protect our heritage.

Thank you for your comment, Kay Beams.

The comment tracking number that has been assigned to your comment is SolarD10403.

Comment Date: April 12, 2011 13:37:46PM
Solar Energy Development PEIS
Comment ID: SolarD10403

First Name: Kay
Middle Initial:
Last Name: Beams
Organization:
Address: 9539 Hartford Circle
Address 2:
Address 3:
City: Eden Prairie
State: MN
Zip: 55347
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Margaret McBride.

The comment tracking number that has been assigned to your comment is SolarD10404.

Comment Date: April 12, 2011 13:37:54PM
Solar Energy Development PEIS
Comment ID: SolarD10404

First Name: Margaret
Middle Initial: D
Last Name: McBride
Organization:
Address: 62 Fort Square West
Address 2:
Address 3:
City: Greenfield
State: MA
Zip: 01301
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am eager to see our country develop all available renewable energy sources. But I want to see this done in a way unlike our previous resource exploitation. The country belongs to all of us and to all the creatures we share it with. Solar energy development should be sited in ways that respect all the users of the land, not just humans. Respect wildlife and its needs as well as the rights of the people to enjoy the wildlife and wild beauty of our great land.

Thank you for your comment, Amy Kalblein.

The comment tracking number that has been assigned to your comment is SolarD10405.

Comment Date: April 12, 2011 13:38:00PM
Solar Energy Development PEIS
Comment ID: SolarD10405

First Name: Amy
Middle Initial: L
Last Name: Kalblein
Organization:
Address: 298 Rte 211 West
Address 2: Apt 1
Address 3:
City: Middletown
State: NY
Zip: 10940
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Make Solar Energy play an important part of our future!

Thank you for your comment, Abra Gwartney.

The comment tracking number that has been assigned to your comment is SolarD10406.

Comment Date: April 12, 2011 13:39:30PM
Solar Energy Development PEIS
Comment ID: SolarD10406

First Name: Abra
Middle Initial: M
Last Name: Gwartney
Organization:
Address: 4104 s.e.Ash st.
Address 2:
Address 3:
City: Portland
State: OR
Zip: 97214
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks. For example: the Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors and the Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

Thank you for your comment, Donnie Shelton.

The comment tracking number that has been assigned to your comment is SolarD10407.

Comment Date: April 12, 2011 13:40:12PM
Solar Energy Development PEIS
Comment ID: SolarD10407

First Name: Donnie
Middle Initial:
Last Name: Shelton
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

All forms of energy have their negative impacts, but we have learned that by now. We must use that knowledge to help us avoid the negative impacts as much as possible. That includes siting of alternative energy sources such as solar. ALL parks and monuments must be protected - as well as ALL important bird and wildlife areas/migration routes. We should develop as much home and business onsite power generation as possible.

Thank you for your comment, Rosemary Graham-Gardner.

The comment tracking number that has been assigned to your comment is SolarD10408.

Comment Date: April 12, 2011 13:40:15PM
Solar Energy Development PEIS
Comment ID: SolarD10408

First Name: Rosemary
Middle Initial:
Last Name: Graham-Gardner
Organization:
Address: P.O.Box 3335
Address 2:
Address 3:
City: Manhattan Beach
State: CA
Zip: 90266
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Every business should have solar panels on their roofs and be independent of the Grid.

Thank you for your comment, Andria Herron.

The comment tracking number that has been assigned to your comment is SolarD10409.

Comment Date: April 12, 2011 13:40:51PM
Solar Energy Development PEIS
Comment ID: SolarD10409

First Name: Andria
Middle Initial:
Last Name: Herron
Organization:
Address: 2012 E. 11th St
Address 2:
Address 3:
City: Vancouver
State: WA
Zip: 98661
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar Energy is a "no-brainer". Especially for our national parks. They are quiet and unobtrusive and extremely cost effective. Solar Energy will also create jobs, which is something this country is in desperate need of.

Thank you for your comment, Robert Nemtusak.

The comment tracking number that has been assigned to your comment is SolarD10410.

Comment Date: April 12, 2011 13:41:08PM
Solar Energy Development PEIS
Comment ID: SolarD10410

First Name: Robert
Middle Initial: D
Last Name: Nemtusak
Organization:
Address: 61 W Crystal Lake Ave
Address 2:
Address 3:
City: Crystal Lake
State: IL
Zip: 60014
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This seems fairly obvious.

Thank you for your comment, Elizabeth Gilchrist.

The comment tracking number that has been assigned to your comment is SolarD10411.

Comment Date: April 12, 2011 13:41:10PM
Solar Energy Development PEIS
Comment ID: SolarD10411

First Name: Elizabeth
Middle Initial:
Last Name: Gilchrist
Organization:
Address: 223 N. Guadalupe St. #298
Address 2:
Address 3:
City: Santa Fe
State: NM
Zip: 87501
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Obviously the United States needs to develop solar power. We've just had horrendous proof that nuclear power is a Bad Idea. However, while it's important for the US government to develop solar energy on public land, appropriately sited Solar Energy Zones are key. Several of the proposed SEZ's would be BAD for national parks.

1. Joshua Tree National Park -- Riverside East SEZ needs reconfiguring, Iron Mountain SEZ should be removed.
2. Death Valley -- Amargosa Valley should be reduced or reconfigured.
3. White Sands National Monument -- Red Sands SEZ threatens water resources, sand dunes.

Thank you for taking my comments into consideration. I am a lifelong National Park user -- the parks are for the United States what the royal forests were in Europe for hundreds of years... except all the people can use them.
Elizabeth Gilchrist

Thank you for your comment, Melissa Cathcart.

The comment tracking number that has been assigned to your comment is SolarD10412.

Comment Date: April 12, 2011 13:41:14PM
Solar Energy Development PEIS
Comment ID: SolarD10412

First Name: Melissa
Middle Initial:
Last Name: Cathcart
Organization:
Address: 3018 38 Ave S
Address 2:
Address 3:
City: Minneapolis
State: MN
Zip: 55406
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Wildlife and ecosystems are the priority. Develop solar energy where it won't undermine other environmental efforts.

Thank you for your comment, Jeanne Sloane.

The comment tracking number that has been assigned to your comment is SolarD10413.

Comment Date: April 12, 2011 13:41:18PM
Solar Energy Development PEIS
Comment ID: SolarD10413

First Name: Jeanne
Middle Initial: E
Last Name: Sloane
Organization:
Address: 7A Cochrane Way
Address 2:
Address 3:
City: Petaluma
State: CA
Zip: 94952
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is so important to start out on the right foot. Decisions now are setting precedents that will be followed, perhaps blindly, in the future. The planners should look as far into the future as they can, keeping the parks and environment as the first priority.

Thank you for your comment, Martha Spencer.

The comment tracking number that has been assigned to your comment is SolarD10414.

Comment Date: April 12, 2011 13:41:31PM
Solar Energy Development PEIS
Comment ID: SolarD10414

First Name: Martha
Middle Initial: P
Last Name: Spencer
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10415.

Comment Date: April 12, 2011 13:41:36PM
Solar Energy Development PEIS
Comment ID: SolarD10415

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, mark & susan glasser.

The comment tracking number that has been assigned to your comment is SolarD10416.

Comment Date: April 12, 2011 13:41:40PM
Solar Energy Development PEIS
Comment ID: SolarD10416

First Name: mark & susan
Middle Initial:
Last Name: glasser
Organization:
Address: 3660 barry ave
Address 2:
Address 3:
City: LA
State: CA
Zip: 900663202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to go to solar and all forms of renewable energy for the sake of our planet, our environment, our health and our economic well being

Thank you for your comment, Phillip Crabill.

The comment tracking number that has been assigned to your comment is SolarD10417.

Comment Date: April 12, 2011 13:42:04PM
Solar Energy Development PEIS
Comment ID: SolarD10417

First Name: Phillip
Middle Initial: J
Last Name: Crabill
Organization:
Address: 430 Copperas Trail
Address 2:
Address 3:
City: Highland Village
State: TX
Zip: 75077
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy is great but it must be introduced in an intelligent and caring manner that does not damage or destroy other parts of the environment. It should not cause death or damage to wildlife and plant life. Solar power should make our lives better and not damage the world we live in!!

Please see that it does not create new problems!!!! PLEASE!!!

Thank you for your comment, Angela Desmond.

The comment tracking number that has been assigned to your comment is SolarD10418.

Comment Date: April 12, 2011 13:42:16PM
Solar Energy Development PEIS
Comment ID: SolarD10418

First Name: Angela
Middle Initial:
Last Name: Desmond
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10419.

Comment Date: April 12, 2011 13:42:45PM

Solar Energy Development PEIS

Comment ID: SolarD10419

First Name: [Withheld by requestor]

Middle Initial: [Withheld by requestor]

Last Name: [Withheld by requestor]

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold name and address from public record

Attachment:

Comment Submitted:

Please consider all environmental impact while managing America's precious natural resources.

Thank you for your comment, Marilyn Waltasti.

The comment tracking number that has been assigned to your comment is SolarD10420.

Comment Date: April 12, 2011 13:42:49PM
Solar Energy Development PEIS
Comment ID: SolarD10420

First Name: Marilyn
Middle Initial: A
Last Name: Waltasti
Organization:
Address: 83 Duncan Hill Court
Address 2:
Address 3:
City: Wentzville
State: MO
Zip: 63385
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,

Marilyn A. Waltasti

Thank you for your comment, Fred Stanback.

The comment tracking number that has been assigned to your comment is SolarD10421.

Comment Date: April 12, 2011 13:42:58PM
Solar Energy Development PEIS
Comment ID: SolarD10421

First Name: Fred
Middle Initial:
Last Name: Stanback
Organization:
Address: 507 W Innes St. #270
Address 2:
Address 3:
City: Salisbury
State: NC
Zip: 28144
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Utility scale solar plants should only be sited where they will not interfere with natural values.
Distributed (rooftop) solar is the most appropriate form and can be almost anywhere.

Thank you for your comment, Virginia Stone-Meyer.

The comment tracking number that has been assigned to your comment is SolarD10422.

Comment Date: April 12, 2011 13:42:58PM
Solar Energy Development PEIS
Comment ID: SolarD10422

First Name: Virginia
Middle Initial: A
Last Name: Stone-Meyer
Organization:
Address: 3086 Hidden Brook Drive
Address 2:
Address 3:
City: Ravenna
State: OH
Zip: 44266
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please, I support solar and alternative energy. But I don't want our places of refuge (our national parks) turned into factories.
Please be wise with use, be non-invasive.

Thank you for your comment, Jessica Bosco.

The comment tracking number that has been assigned to your comment is SolarD10423.

Comment Date: April 12, 2011 13:43:17PM
Solar Energy Development PEIS
Comment ID: SolarD10423

First Name: Jessica
Middle Initial:
Last Name: Bosco
Organization:
Address:
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please take all above stated into consideration. We need to keep protected lands protected.

Thank you for your comment, carol wilhems.

The comment tracking number that has been assigned to your comment is SolarD10424.

Comment Date: April 12, 2011 13:43:47PM
Solar Energy Development PEIS
Comment ID: SolarD10424

First Name: carol
Middle Initial:
Last Name: wilhems
Organization: 3D Travel, Inc
Address: 2481 Meteor Stream Terr
Address 2:
Address 3:
City: Henderson
State: NV
Zip: 89044
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It's unconscionable to do anything on National Park, National Forest or Wildlife Preserve lands (including adjacent margin areas) that alters the natural landscape and/or ecosystem in any way.

While I'm all for developing (and rapidly) alternative/sustainable energy, I know there's plenty of space for that (as a Nevada resident, consider BLM land-grabs).

The ongoing assaults on the Nat'l Park system including shallow funding is totally against the people's interest. Sanctuaries are just that -- nothing less and totally sacred in every way.

Thank you for your comment, patricia o'shaughnessy.

The comment tracking number that has been assigned to your comment is SolarD10425.

Comment Date: April 12, 2011 13:43:49PM
Solar Energy Development PEIS
Comment ID: SolarD10425

First Name: patricia
Middle Initial: a
Last Name: o'shaughnessy
Organization:
Address: 147 w 15 st
Address 2:
Address 3:
City: deer park
State: NY
Zip: 11729
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

WE NEED SOLAR ENERGY INSTEAD OF FOREIGN OIL!!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10426.

Comment Date: April 12, 2011 13:44:08PM
Solar Energy Development PEIS
Comment ID: SolarD10426

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Although we do need alternative sources of energy, placement of technology, such as solar panels, wind turbines, water turbines, etc. needs to be conducted in such a way as to preserve the legacy of our National landscape. Please keep future generations in mind as you pursue solar development on public lands.

Thank you for your comment, Sam Wood.

The comment tracking number that has been assigned to your comment is SolarD10427.

Comment Date: April 12, 2011 13:44:58PM
Solar Energy Development PEIS
Comment ID: SolarD10427

First Name: Sam
Middle Initial:
Last Name: Wood
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ
- * The Iron Mountain SEZ
- * The Amargosa Valley SEZ
- * The Red Sands SEZ

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Evfelyn and leopard May.

The comment tracking number that has been assigned to your comment is SolarD10428.

Comment Date: April 12, 2011 13:45:21PM
Solar Energy Development PEIS
Comment ID: SolarD10428

First Name: Evfelyn and leopard
Middle Initial:
Last Name: May
Organization:
Address: 10217 Lorain Av.
Address 2:
Address 3:
City: Silver Spring
State: MD
Zip: 20901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We need to continue to develop the use of solar energy to reduce the dependency on fossil fuel and strongly support the Solar Energy Zone alternative' This would would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology

Thank you for your comment, Sally Small.

The comment tracking number that has been assigned to your comment is SolarD10429.

Comment Date: April 12, 2011 13:46:03PM
Solar Energy Development PEIS
Comment ID: SolarD10429

First Name: Sally
Middle Initial:
Last Name: Small
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Marie Perkins.

The comment tracking number that has been assigned to your comment is SolarD10430.

Comment Date: April 12, 2011 13:46:29PM
Solar Energy Development PEIS
Comment ID: SolarD10430

First Name: Marie
Middle Initial:
Last Name: Perkins
Organization:
Address: 250 S. Maple Avenue
Address 2: Apt. 7
Address 3:
City: Oak Park
State: IL
Zip: 60302
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Sabine Bradley-Phillips.

The comment tracking number that has been assigned to your comment is SolarD10431.

Comment Date: April 12, 2011 13:46:45PM
Solar Energy Development PEIS
Comment ID: SolarD10431

First Name: Sabine
Middle Initial:
Last Name: Bradley-Phillips
Organization: RARN.org
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

If habitats and wildlife is disturbed or even destroyed because of solar plants then it's not green energy anymore. How about just putting solar panels on every roof??

Thank you for your comment, Barbara Hanson.

The comment tracking number that has been assigned to your comment is SolarD10432.

Comment Date: April 12, 2011 13:47:12PM
Solar Energy Development PEIS
Comment ID: SolarD10432

First Name: Barbara
Middle Initial: J
Last Name: Hanson
Organization:
Address: 2030 NW 120 Terrace
Address 2:
Address 3:
City: Pembroke Pines
State: FL
Zip: 330261946
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

While realizing that securing nearly every form of energy entails danger to some other species/land, I would firmly support solar energy development as a better way to go.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10433.

Comment Date: April 12, 2011 13:47:19PM
Solar Energy Development PEIS
Comment ID: SolarD10433

First Name: [Withheld by requestor]
Middle Initial: [Withheld by requestor]
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thomas Wilson.

The comment tracking number that has been assigned to your comment is SolarD10434.

Comment Date: April 12, 2011 13:47:52PM
Solar Energy Development PEIS
Comment ID: SolarD10434

First Name: Thomas
Middle Initial:
Last Name: Wilson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

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2. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
3. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
4. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Anca Vlasopolos.

The comment tracking number that has been assigned to your comment is SolarD10435.

Comment Date: April 12, 2011 13:48:36PM
Solar Energy Development PEIS
Comment ID: SolarD10435

First Name: Anca
Middle Initial:
Last Name: Vlasopolos
Organization:
Address: 820 Notre Dame
Address 2:
Address 3:
City: Grosse Pointe
State: MI
Zip: 48230
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I support solar energy development only within appropriately sited Solar Energy Zones that do not harm our national parks.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10436.

Comment Date: April 12, 2011 13:49:04PM
Solar Energy Development PEIS
Comment ID: SolarD10436

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Thank you for your comment, Robert Uecker.

The comment tracking number that has been assigned to your comment is SolarD10437.

Comment Date: April 12, 2011 13:49:33PM
Solar Energy Development PEIS
Comment ID: SolarD10437

First Name: Robert
Middle Initial:
Last Name: Uecker
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, John Carter.

The comment tracking number that has been assigned to your comment is SolarD10438.

Comment Date: April 12, 2011 13:49:38PM
Solar Energy Development PEIS
Comment ID: SolarD10438

First Name: John
Middle Initial: R
Last Name: Carter
Organization:
Address: 22118 W. Spruce Dr.
Address 2:
Address 3: 22118 W. Spruce Dr.
City: Antioch
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Thank you for your comment, John Cannon.

The comment tracking number that has been assigned to your comment is SolarD10439.

Comment Date: April 12, 2011 13:49:55PM
Solar Energy Development PEIS
Comment ID: SolarD10439

First Name: John
Middle Initial: R
Last Name: Cannon
Organization: Conservation Science Institute
Address: 1447 Stoney Bottom Rd.
Address 2:
Address 3:
City: Front Royal
State: VA
Zip: 22630
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your consideration.

John Cannon, Ph.D.
Conservation Biologist

Thank you for your comment, Clara Jacobson.

The comment tracking number that has been assigned to your comment is SolarD10440.

Comment Date: April 12, 2011 13:50:07PM
Solar Energy Development PEIS
Comment ID: SolarD10440

First Name: Clara
Middle Initial: M
Last Name: Jacobson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Require solar panels on every rooftop in the United States at least in Southwest and Sunbelt areas and there will be no need to destroy land. But since our nation never does anything sensible like that at least insure that National Parks and monuments and sensitive wildlife areas are protected and that no wildlife or wildlands are harmfully impacted.

Thank you for your comment, Laura Robinson.

The comment tracking number that has been assigned to your comment is SolarD10441.

Comment Date: April 12, 2011 13:50:21PM
Solar Energy Development PEIS
Comment ID: SolarD10441

First Name: Laura
Middle Initial:
Last Name: Robinson
Organization:
Address: 25 Collinwood Road
Address 2:
Address 3:
City: Maplewood
State: NJ
Zip: 070401035
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

To embrace the beauty and heritage of our parks and wild places for current and future generations, planning for solar or wind energy development must carefully factor in the space to be used.

Thank you for your comment, Melissa Renn.

The comment tracking number that has been assigned to your comment is SolarD10442.

Comment Date: April 12, 2011 13:50:51PM
Solar Energy Development PEIS
Comment ID: SolarD10442

First Name: Melissa
Middle Initial:
Last Name: Renn
Organization:
Address: 20 Loomis Street #4
Address 2:
Address 3:
City: Cambridge
State: MA
Zip: 02138
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Why don't you first put solar energy on top of all governmental buildings--on post offices, fire depts, state houses, federal buildings before destroying pristine natural preserves? National Parks are meant to preserve!!

Thank you for your comment, Barbara Ziller-Caritey.

The comment tracking number that has been assigned to your comment is SolarD10443.

Comment Date: April 12, 2011 13:51:40PM
Solar Energy Development PEIS
Comment ID: SolarD10443

First Name: Barbara
Middle Initial:
Last Name: Ziller-Caritey
Organization:
Address: 16755 Salmonberry Road
Address 2:
Address 3:
City: Brookings
State: OR
Zip: 97415
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

i support solar energy but hope it is only in appropriate sites to protect wildlife & birds

Thank you for your comment, Barbara Wood.

The comment tracking number that has been assigned to your comment is SolarD10444.

Comment Date: April 12, 2011 13:52:18PM
Solar Energy Development PEIS
Comment ID: SolarD10444

First Name: Barbara
Middle Initial: L
Last Name: Wood
Organization:
Address: 1926 SE Richmond Lane
Address 2:
Address 3:
City: Port Orchard
State: WA
Zip: 98367
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Benita Campbell.

The comment tracking number that has been assigned to your comment is SolarD10445.

Comment Date: April 12, 2011 13:52:19PM
Solar Energy Development PEIS
Comment ID: SolarD10445

First Name: Benita
Middle Initial:
Last Name: Campbell
Organization:
Address: 23 Hindman Avenue
Address 2:
Address 3:
City: Burgettstown
State: PA
Zip: 15021
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Let's be reasonable and responsible about the development of solar energy in our national parks. We must not give the King CONG (coal, oil, nuclear, and gas) mocking reasons to NOT pursue development of renewable energy. Let's use the best and most current scientific knowledge as to how we can do this. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage

Thank you for your comment, Mary E O'Kiersey.

The comment tracking number that has been assigned to your comment is SolarD10446.

Comment Date: April 12, 2011 13:52:24PM
Solar Energy Development PEIS
Comment ID: SolarD10446

First Name: Mary E
Middle Initial:
Last Name: O'Kiersey
Organization: Foxpath2 Electronic Visualization
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

"Measure twice, Cut once."

Please do sufficient research to protect the parks, wildlife and planet before installing much needed, large energy production facilities.

Thank you for your comment, Marjorie Mead.

The comment tracking number that has been assigned to your comment is SolarD10447.

Comment Date: April 12, 2011 13:52:29PM
Solar Energy Development PEIS
Comment ID: SolarD10447

First Name: Marjorie
Middle Initial: A
Last Name: Mead
Organization:
Address: 11082 W. Timberline Dr.
Address 2:
Address 3:
City: Sun City
State: AZ
Zip: 853511534
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Four proposed Solar Energy Zones (SEZ) threaten our national parks.

* The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

* The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

*The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and limited water resources, including desert wetlands that are home to endangered species such as the Devil's Hole Pupfish.

* Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for the opportunity to submit citizen comments on this important environmental issue.

Thank you for your comment, Mike Jaklitsch.

The comment tracking number that has been assigned to your comment is SolarD10448.

Comment Date: April 12, 2011 13:52:40PM
Solar Energy Development PEIS
Comment ID: SolarD10448

First Name: Mike
Middle Initial:
Last Name: Jaklitsch
Organization:
Address: 47-16 244th Street
Address 2:
Address 3:
City: Douglaston
State: NY
Zip: 11362
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Anna Rol.

The comment tracking number that has been assigned to your comment is SolarD10449.

Comment Date: April 12, 2011 13:53:15PM
Solar Energy Development PEIS
Comment ID: SolarD10449

First Name: Anna
Middle Initial: N
Last Name: Rol
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Megan Taylor.

The comment tracking number that has been assigned to your comment is SolarD10450.

Comment Date: April 12, 2011 13:53:21PM
Solar Energy Development PEIS
Comment ID: SolarD10450

First Name: Megan
Middle Initial:
Last Name: Taylor
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.

The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Frank Benedetto.

The comment tracking number that has been assigned to your comment is SolarD10451.

Comment Date: April 12, 2011 13:53:44PM
Solar Energy Development PEIS
Comment ID: SolarD10451

First Name: Frank
Middle Initial:
Last Name: Benedetto
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I am appalled.

Thank you for your comment, Sharon Bramblett.

The comment tracking number that has been assigned to your comment is SolarD10452.

Comment Date: April 12, 2011 13:53:44PM
Solar Energy Development PEIS
Comment ID: SolarD10452

First Name: Sharon
Middle Initial:
Last Name: Bramblett
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Use photovoltaic solar power units on roofs of appropriately located park buildings. You won't need water or transmission lines.

For areas not amenable to the above, locate photovoltaic solar power units away from most utilized park areas using NPS recommendations. Minimize concentrating solar power installations to reduce water use.

Four SEZs that conflict with park resources and sensitive ecological areas should be reconfigured or removed:

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

NPS officials should have veto power concerning the locations of these solar facilities.

I applaud the addition of solar power to provide clean energy to our parks, and it can be done with thoughtful and responsible plans.

Thank you for your comment, Lorin Swinehart.

The comment tracking number that has been assigned to your comment is SolarD10453.

Comment Date: April 12, 2011 13:54:33PM
Solar Energy Development PEIS
Comment ID: SolarD10453

First Name: Lorin
Middle Initial: D
Last Name: Swinehart
Organization:
Address: 725 Linden Avenue
Address 2:
Address 3:
City: Piqua
State: OH
Zip: 45356
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

This is to urge you to support the responsible development of solar energy resources in such a way as not to compromise the integrity of national parks, wilderness areas, wildlife preserves and other natural resources.

Thank you for your comment, Sharon Gillespie.

The comment tracking number that has been assigned to your comment is SolarD10454.

Comment Date: April 12, 2011 13:54:56PM
Solar Energy Development PEIS
Comment ID: SolarD10454

First Name: Sharon
Middle Initial: s
Last Name: Gillespie
Organization:
Address: 1103 Enfield
Address 2:
Address 3:
City: Austin
State: TX
Zip: 787034127
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a huge fan of solar energy. But solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Please act accordingly to preserve the preservation of our country's heritage.

Thank you.

Thank you for your comment, Deb Fritzler.

The comment tracking number that has been assigned to your comment is SolarD10455.

Comment Date: April 12, 2011 13:55:00PM
Solar Energy Development PEIS
Comment ID: SolarD10455

First Name: Deb
Middle Initial:
Last Name: Fritzler
Organization:
Address: 1489 Lowesville Road
Address 2:
Address 3:
City: Amherst
State: VA
Zip: 245214221
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am in favor of solar and wind energy.
I do not want our parks and national monuments harmed in the action of the above.
All contractors should act responsibly when placing and running our energy packs.

Thank you.

Thank you for your comment, David Judd.

The comment tracking number that has been assigned to your comment is SolarD10456.

Comment Date: April 12, 2011 13:55:10PM
Solar Energy Development PEIS
Comment ID: SolarD10456

First Name: David
Middle Initial: A
Last Name: Judd
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please add my voice to the following comments:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Helene Brazier.

The comment tracking number that has been assigned to your comment is SolarD10457.

Comment Date: April 12, 2011 13:55:18PM
Solar Energy Development PEIS
Comment ID: SolarD10457

First Name: Helene
Middle Initial:
Last Name: Brazier
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am concerned about the process of selecting where solar facilities will be set up. There are in this vast land sufficient sunny locations in which to establish solar energy producing arrays that they need not be put in parks and/or scenic areas whose vistas are worth preserving. I support the use of solar energy. If I could afford it, I would have solar panels on my roof. But there are areas which should be protected from unnecessary changes. Thank you

Thank you for your comment, Philip Hult.

The comment tracking number that has been assigned to your comment is SolarD10458.

Comment Date: April 12, 2011 13:55:25PM
Solar Energy Development PEIS
Comment ID: SolarD10458

First Name: Philip
Middle Initial:
Last Name: Hult
Organization:
Address: 401A County Road 2425 N
Address 2:
Address 3:
City: Mahomet
State: IL
Zip: 61853
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I believe that we must develop renewable energy projects that will help us end our reliance on foreign oil, buffer us from climate change, and promote national security.
We must also ensure that solar facilities are installed responsibly without harming our national parks and Wilderness areas both already dedicated and in wilderness study status.
There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, endangered and threatened species, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.
For an example of where harm can be done, there was news of a proposal in California that would be greatly detrimental to the desert tortoises. Areas like that must be off limits.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10459.

Comment Date: April 12, 2011 13:56:01PM
Solar Energy Development PEIS
Comment ID: SolarD10459

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

What's needed is a common sense approach that protects these spectacular places, their abundant wildlife, pristine night skies, clean air and water resources. This means eliminating or reconfiguring the boundaries of SEZs that would disrupt wildlife corridors, cause air and light pollution, impair spectacular vistas and drawdown water resources. It should also mean prohibiting the siting of new SEZs or new solar development in general from at least 15 miles from national parks unless the National Park Service determines that development does not unacceptably impact park resources.

Three SEZs need to be modified: California's Iron Mountain SEZ must be eliminated because of its harmful impacts to water resources, night sky viewing and scenic vistas from Joshua Tree National Park. California's Riverside East SEZ must be reduced and its boundaries reconfigured to minimize damage to wildlife corridors and viewsheds from Joshua Tree National Park wilderness. Finally, Nevada's Amargosa Valley SEZ is simply too close to Death Valley National Park wilderness and would negatively affect park wildlife and drawdown precious water resources.

Thank you for your comment, Lisa Hughes.

The comment tracking number that has been assigned to your comment is SolarD10460.

Comment Date: April 12, 2011 13:56:07PM
Solar Energy Development PEIS
Comment ID: SolarD10460

First Name: Lisa
Middle Initial:
Last Name: Hughes
Organization: Hughes
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

It is time to invest our time and money into energy that is safe for the earth and alternatives to oil and nuclear energies.

Thank you for your comment, Carol Dobson.

The comment tracking number that has been assigned to your comment is SolarD10461.

Comment Date: April 12, 2011 13:56:35PM
Solar Energy Development PEIS
Comment ID: SolarD10461

First Name: Carol
Middle Initial: L
Last Name: Dobson
Organization:
Address: 2130 Broadway
Address 2:
Address 3:
City: New York
State: NY
Zip: 10023
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Fossil fuels are finite. Our continued dependence on them will also destroy life as we know it for future generations. We must develop alternatives NOW.

Thank you for your comment, Lisa Fues.

The comment tracking number that has been assigned to your comment is SolarD10462.

Comment Date: April 12, 2011 13:56:54PM
Solar Energy Development PEIS
Comment ID: SolarD10462

First Name: Lisa
Middle Initial:
Last Name: Fues
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3: [Withheld by requestor]
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, linda hunt.

The comment tracking number that has been assigned to your comment is SolarD10463.

Comment Date: April 12, 2011 13:56:55PM
Solar Energy Development PEIS
Comment ID: SolarD10463

First Name: linda
Middle Initial: p
Last Name: hunt
Organization:
Address: 44 wheatley rd
Address 2:
Address 3:
City: north east
State: MD
Zip: 21901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a bug supporter of solar energy. Using public lands is a smart idea. However, care must be taken in evaluating the sites impact on wildlife, as well as historical areas.

Thank you for your comment, Katherine Gibson.

The comment tracking number that has been assigned to your comment is SolarD10464.

Comment Date: April 12, 2011 13:56:58PM
Solar Energy Development PEIS
Comment ID: SolarD10464

First Name: Katherine
Middle Initial: E
Last Name: Gibson
Organization:
Address: 19 Packanack Lake Rd
Address 2:
Address 3:
City: Wayne
State: NJ
Zip: 074705809
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

There could also be a viable alternative in asking the Native American Tribal Land Occupants if they would be interested in allowing solar (and wind) zones to be on their lands. I don't know all the legalities and monies involved, but if they are open to discussions, the possibilities of energy sources being made available to them, income for the tribes through paid use of land, jobs for those willing to be trained to build, and maintain equipment while remaining on the reservations would dramatically improve the living conditions for our aboriginal people of America.

Thank you for considering my thoughts.

Thank you for your comment, Jacqueline Peipert.

The comment tracking number that has been assigned to your comment is SolarD10465.

Comment Date: April 12, 2011 13:57:04PM
Solar Energy Development PEIS
Comment ID: SolarD10465

First Name: Jacqueline
Middle Initial: k
Last Name: Peipert
Organization:
Address: 33425 Irish Lane
Address 2:
Address 3:
City: Brighton
State: IL
Zip: 62012
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please pursue solar energy to help take the pressure off the big oil that we rely on now.

Thank you for your comment, Jamie Kinner.

The comment tracking number that has been assigned to your comment is SolarD10466.

Comment Date: April 12, 2011 13:57:18PM
Solar Energy Development PEIS
Comment ID: SolarD10466

First Name: Jamie
Middle Initial:
Last Name: Kinner
Organization:
Address:
Address 2:
Address 3:
City:
State: IN
Zip: 46510
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy use for parks is a GREAT idea, and one that will save money as well as moving us into the future on renewable energy.

Thank you for your comment, Jeff close.

The comment tracking number that has been assigned to your comment is SolarD10467.

Comment Date: April 12, 2011 13:57:29PM
Solar Energy Development PEIS
Comment ID: SolarD10467

First Name: Jeff
Middle Initial: j
Last Name: close
Organization:
Address: 2301 w whipple st
Address 2:
Address 3:
City: show low
State: AZ
Zip: 85901
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

"But there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage."

Thank you for your comment, Joshua Maizel.

The comment tracking number that has been assigned to your comment is SolarD10468.

Comment Date: April 12, 2011 13:58:16PM
Solar Energy Development PEIS
Comment ID: SolarD10468

First Name: Joshua
Middle Initial:
Last Name: Maizel
Organization: NPCA
Address: 120 Davis Ln
Address 2:
Address 3:
City: Red Bank
State: NJ
Zip: 07701
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Harry Harrison.

The comment tracking number that has been assigned to your comment is SolarD10469.

Comment Date: April 12, 2011 13:58:31PM
Solar Energy Development PEIS
Comment ID: SolarD10469

First Name: Harry
Middle Initial:
Last Name: Harrison
Organization:
Address:
Address 2:
Address 3:
City: White Plains
State: NY
Zip:
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am certain that the brightest minds in the USA can make solar energy cost effective if the oil, gas and coal industries stopped thwarting research by manipulating prices and by buying our Congress.

When will we learn? How many more billions of dollars should we continue to send overseas - and to people and countries that despise us?

Thank you for your comment, Lee Basnar.

The comment tracking number that has been assigned to your comment is SolarD10470.

Comment Date: April 12, 2011 13:58:40PM
Solar Energy Development PEIS
Comment ID: SolarD10470

First Name: Lee
Middle Initial:
Last Name: Basnar
Organization:
Address: 1900 Kachina Trail
Address 2:
Address 3: 1900 Kachina Trail
City: Sierra Vista
State: AZ
Zip: 85650
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10471.

Comment Date: April 12, 2011 13:58:53PM
Solar Energy Development PEIS
Comment ID: SolarD10471

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

The natural beauty of the parks can be protected while designated space for solar farms can be beneficial. Co-Existence is possible.

Thank you for your comment, Carol Jurczewski.

The comment tracking number that has been assigned to your comment is SolarD10472.

Comment Date: April 12, 2011 13:59:29PM
Solar Energy Development PEIS
Comment ID: SolarD10472

First Name: Carol
Middle Initial:
Last Name: Jurczewski
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

It is commendable that alternative energy sources are being considered for development. However, please do it in a way that will not terribly alter the surrounding habitats of the animals and plants.
Thank you.

Thank you for your comment, Barbara Cain.

The comment tracking number that has been assigned to your comment is SolarD10473.

Comment Date: April 12, 2011 14:00:34PM
Solar Energy Development PEIS
Comment ID: SolarD10473

First Name: Barbara
Middle Initial: L
Last Name: Cain
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

As we can see, nuclear energy can be a scary proposition but solar? That is the way to wean ourselves out of the lives of the people running the Middle East who only want to see us dead while taking our money for gas and oil. GO SOLAR!! Freely given by our abundant universe.

Thank you for your comment, Al Benford.

The comment tracking number that has been assigned to your comment is SolarD10474.

Comment Date: April 12, 2011 14:00:47PM
Solar Energy Development PEIS
Comment ID: SolarD10474

First Name: Al
Middle Initial:
Last Name: Benford
Organization: U.S. Citizen
Address: 25F Cliffside Dr.
Address 2:
Address 3:
City: Manchester
State: CT
Zip: 06042
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar energy should be developed. If on public lands, it must be done with respect to the purposes of the public land. National Parks are intended to preserve scenery, wildlife, historic or archeological artifacts or other important items for our descendants to enjoy. Please, in your noble quest for renewable energy, do not destroy or harm valuable places in the National Parks.

Thank you for your comment, Lora Meisner.

The comment tracking number that has been assigned to your comment is SolarD10475.

Comment Date: April 12, 2011 14:01:50PM
Solar Energy Development PEIS
Comment ID: SolarD10475

First Name: Lora
Middle Initial: D
Last Name: Meisner
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

I hope you will take these comments and put them into action.

Thank you for your comment, Donald Jackson.

The comment tracking number that has been assigned to your comment is SolarD10476.

Comment Date: April 12, 2011 14:02:21PM
Solar Energy Development PEIS
Comment ID: SolarD10476

First Name: Donald
Middle Initial: L
Last Name: Jackson
Organization: none
Address: 1010 SW Suwannee Downs Dr.
Address 2:
Address 3:
City: Lake City
State: FL
Zip: 32024
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am a firm believer in solar power. However, siting of commercial-level solar electric plants must be done so as not to impact nearby areas, in particular, near enough to impact national parks. Park values such as quietude, water sources, night sky, and wildlife corridor disruption must be considered carefully. A judicious review is called for in each proposal for large scale solar generation siting.

Thank you for the opportunity to comment.

Thank you for your comment, Elaine Becker.

The comment tracking number that has been assigned to your comment is SolarD10477.

Comment Date: April 12, 2011 14:02:37PM
Solar Energy Development PEIS
Comment ID: SolarD10477

First Name: Elaine
Middle Initial:
Last Name: Becker
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Having grown up in the rockies, I am in love with the scenic vistas! I'm also in love with the idea of responsible solar, instead of ugly powerlines. Please be sure to place solar on rooftops of ranger stations, firewatch towers or cabins, where there is already cleared land around to reduce shade. Please do NOT put them in the middle of lovely meadows or other such scenic areas.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for taking the time to speak up for responsible solar development that protects our national parks. Your action today will help make a difference!

Sincerely,
Elaine Becker

Thank you for your comment, Thomas Poulson.

The comment tracking number that has been assigned to your comment is SolarD10478.

Comment Date: April 12, 2011 14:02:54PM
Solar Energy Development PEIS
Comment ID: SolarD10478

First Name: Thomas
Middle Initial: L
Last Name: Poulson
Organization: dna
Address: 318 Marlberry Circle
Address 2:
Address 3:
City: Jupiter
State: FL
Zip: 334582850
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Renewable energy is important but neither wind nor solar energy production should occur in National Parks or Monuments where it will impair views and possibly compromise habitats of some species.

Thank you for your comment, Leah Griffin.

The comment tracking number that has been assigned to your comment is SolarD10479.

Comment Date: April 12, 2011 14:03:26PM
Solar Energy Development PEIS
Comment ID: SolarD10479

First Name: Leah
Middle Initial: M
Last Name: Griffin
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

--Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology. Our National parks and the wild life they support deserve our best efforts. They are, after all our legacy and National treasures and deserve to be treated as such.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. I live in Los angeles county where we are trying to rectify the problems of cutting off wild life corridors and crippling use of habitat by wildlife. I can only imagine the problems we would face if this was not taken into consideration from the "get-go" in developing solar zones. I think its is an appropraite reminder that our intention is to not deplete resources but to increase them. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. Believe me- this is a a precious resource and one treasured by all the Los Angeles region in the land of cement and asphalt. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development. I would think that these last two points would go without saying but....;just in case. In closing, I just wanted to say that I am a strong supporter of solar energy and other green technologies. However, I want them to be developed and applied in concert with the environment. Have we learned nothing from the Gulf oil spill and Japan's "clean energy" disaster. This is an opportunity to work in a holistic manner and end our dependency on Saudi oil. Let's think beyond our short term goals and think about our grandchildren's energy needs, their environment and quality of life.

Thank you for your comment, Robert Groff.

The comment tracking number that has been assigned to your comment is SolarD10480.

Comment Date: April 12, 2011 14:03:49PM
Solar Energy Development PEIS
Comment ID: SolarD10480

First Name: Robert
Middle Initial: W
Last Name: Groff
Organization:
Address: 225 Michelle Drive
Address 2:
Address 3:
City: Campbell
State: CA
Zip: 950081719
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

We have solar on our home (PV & hot water) and it more than meets our needs. I am very much for solar. But even a good thing can be done badly. By improper siting causing the destruction of habitat and national treasures makes solar a bad thing. Use rooftops instead of meadows. Use parking lots instead of fragile desert. Siting arrays near where their electricity will be used. Please don't make solar a bad thing.

Thank you for your comment, Troy Leutz.

The comment tracking number that has been assigned to your comment is SolarD10481.

Comment Date: April 12, 2011 14:03:52PM
Solar Energy Development PEIS
Comment ID: SolarD10481

First Name: Troy
Middle Initial: L
Last Name: Leutz
Organization:
Address: 810 N. East Ave.
Address 2:
Address 3:
City: Jackson
State: MI
Zip: 49202
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors. The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish. Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, S. Etherton.

The comment tracking number that has been assigned to your comment is SolarD10482.

Comment Date: April 12, 2011 14:03:56PM
Solar Energy Development PEIS
Comment ID: SolarD10482

First Name: S.
Middle Initial:
Last Name: Etherton
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I applaud the government's move to develop renewable energy products - specifically solar energy. However, solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

Thank you for your consideration.

Thank you for your comment, J Pearce Sr.

The comment tracking number that has been assigned to your comment is SolarD10483.

Comment Date: April 12, 2011 14:04:31PM
Solar Energy Development PEIS
Comment ID: SolarD10483

First Name: J
Middle Initial: B
Last Name: Pearce Sr
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

I hope development of alternative energy will proceed apace. At the same time, I would oppose choosing a 'path of least resistance' that avoided conflicts with influential and privileged property owners by funneling this development onto public lands - especially national parks and monuments and their close environs. I would urge that, from the outset, the recreational and restorative purposes of these lands be kept at the forefront in the siting of wind farms and solar collectors.

Thank you for your comment, Kathy Burpee.

The comment tracking number that has been assigned to your comment is SolarD10484.

Comment Date: April 12, 2011 14:05:03PM
Solar Energy Development PEIS
Comment ID: SolarD10484

First Name: Kathy
Middle Initial:
Last Name: Burpee
Organization:
Address: 6 High Street
Address 2:
Address 3:
City: Cold Spring
State: NY
Zip: 10516
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Please place a high value on our protected
and vulnerable wild lands and their wildlife.
Energy demands must be subservient to the
need to preserve what can never be replaced once lost.

Thank you for your comment, Katherine Andrews, PhD.

The comment tracking number that has been assigned to your comment is SolarD10485.

Comment Date: April 12, 2011 14:05:11PM
Solar Energy Development PEIS
Comment ID: SolarD10485

First Name: Katherine
Middle Initial:
Last Name: Andrews, PhD
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, I strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for being responsive and responsible for our precious lands.

Gratefully,
Katherine Andrews, PhD

Thank you for your comment, Isabella La Rocca.

The comment tracking number that has been assigned to your comment is SolarD10486.

Comment Date: April 12, 2011 14:05:27PM

Solar Energy Development PEIS

Comment ID: SolarD10486

First Name: Isabella

Middle Initial:

Last Name: La Rocca

Organization:

Address:

Address 2:

Address 3:

City:

State:

Zip:

Country:

Privacy Preference: Withhold address from public record

Attachment:

Comment Submitted:

I am all for solar energy development, however, there's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

Thank you for your comment, Debbie Kruzen.

The comment tracking number that has been assigned to your comment is SolarD10487.

Comment Date: April 12, 2011 14:05:35PM
Solar Energy Development PEIS
Comment ID: SolarD10487

First Name: Debbie
Middle Initial: A
Last Name: Kruzen
Organization:
Address: 213 E. 3rd street
Address 2:
Address 3:
City: Mountain View
State: MO
Zip: 65548
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Don't just look at just Solar. Also check out the wind. Remember that a lot of times if the sun isn't shining the wind is blowing. And the newer wind generators require a lot less wind to work then the older models. I'm thrilled that you are looking into solar but reduce the amount of electric used also. I've changed to LED bulbs in the house and I'm amazed at the amount of electric I've saved!

Thank you for your comment, Barry Zuckerman.

The comment tracking number that has been assigned to your comment is SolarD10488.

Comment Date: April 12, 2011 14:05:50PM
Solar Energy Development PEIS
Comment ID: SolarD10488

First Name: Barry
Middle Initial:
Last Name: Zuckerman
Organization:
Address: 1 Old Anvi Lane
Address 2:
Address 3:
City: Middletown
State: NY
Zip: 10940
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment.

Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your attention and consideration of my comments.

Thank you for your comment, Melanie Andrus.

The comment tracking number that has been assigned to your comment is SolarD10489.

Comment Date: April 12, 2011 14:05:50PM
Solar Energy Development PEIS
Comment ID: SolarD10489

First Name: Melanie
Middle Initial:
Last Name: Andrus
Organization:
Address:
Address 2:
Address 3:
City:
State: [Withheld by requestor]
Zip:
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Please do all you can to make sure solar farms do NOT harm animals or their habitat!

Thank you for your comment, Genevieve Woolsey.

The comment tracking number that has been assigned to your comment is SolarD10490.

Comment Date: April 12, 2011 14:05:57PM
Solar Energy Development PEIS
Comment ID: SolarD10490

First Name: Genevieve
Middle Initial:
Last Name: Woolsey
Organization:
Address:
Address 2:
Address 3:
City:
State:
Zip:
Country:
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage. I hope that while we move forward and develop a responsible clean energy plan we don't sacrifice out national parks in doing so.

Thank you for your comment, Kevin Watkins.

The comment tracking number that has been assigned to your comment is SolarD10491.

Comment Date: April 12, 2011 14:05:59PM
Solar Energy Development PEIS
Comment ID: SolarD10491

First Name: Kevin
Middle Initial: E
Last Name: Watkins
Organization:
Address: 54 Bryan Drive
Address 2:
Address 3:
City: Rehoboth Beach
State: DE
Zip: 19971
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I am strong supporter of sustainable energy and understand the need for an infrastructure to built to create sustainable energy. I am also an avid visitor and huge admirer of our national parks. Please consider the following ammendments to the proposed solar energy zones:

The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.

The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife. The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.

Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, JoAnn Raine.

The comment tracking number that has been assigned to your comment is SolarD10492.

Comment Date: April 12, 2011 14:06:27PM
Solar Energy Development PEIS
Comment ID: SolarD10492

First Name: JoAnn
Middle Initial: W
Last Name: Raine
Organization: Friends of National parks
Address: 11805 meadowglen lane
Address 2: #1221
Address 3:
City: Houston
State: TX
Zip: 77082
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

Solar panels and wind farms can be located away from public treasures such as the national refuges and national parks. Our parks are sacred trusts to our children. Views should not be compromised. Beauty is worth much more than anything we could gain from such energy resources. I treasure these quiet places where you can see the land as it was in our past. Prohibit the energy industry from using National parks for such purposes as wind farms, solar panels or gas well heads.

Thank you for your comment, andi gibson.

The comment tracking number that has been assigned to your comment is SolarD10493.

Comment Date: April 12, 2011 14:07:53PM
Solar Energy Development PEIS
Comment ID: SolarD10493

First Name: andi
Middle Initial:
Last Name: gibson
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

We need clean wind and solar energy throughout the world now.

Thank you for your comment, Harriet McCleary.

The comment tracking number that has been assigned to your comment is SolarD10494.

Comment Date: April 12, 2011 14:07:59PM
Solar Energy Development PEIS
Comment ID: SolarD10494

First Name: Harriet
Middle Initial: C
Last Name: McCleary
Organization:
Address: 2440 Stevens Ave. #2
Address 2:
Address 3:
City: Minneapolis
State: MN
Zip: 554043566
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

I strongly support, once amended, the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

- * The Riverside East SEZ must be reconfigured to reduce impact to Joshua Tree National Park's wilderness and wildlife corridors.
- * The Iron Mountain SEZ must be removed to prevent impacts to Joshua Tree National Park's remarkable scenery and wildlife.
- * The Amargosa Valley SEZ must be reduced or reconfigured to reduce negative impact to Death Valley's wilderness and precious water resources, including desert wetlands home to endangered species such as the Devil's Hole Pupfish.
- * Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you.

Thank you for your comment, Brian Huntley.

The comment tracking number that has been assigned to your comment is SolarD10495.

Comment Date: April 12, 2011 14:08:44PM
Solar Energy Development PEIS
Comment ID: SolarD10495

First Name: Brian
Middle Initial:
Last Name: Huntley
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

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- Similarly, the Red Sands SEZ threatens water resources critical to wildlife and the formation of desert dunes at White Sands National Monument.

--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Michael Harrington.

The comment tracking number that has been assigned to your comment is SolarD10496.

Comment Date: April 12, 2011 14:08:50PM
Solar Energy Development PEIS
Comment ID: SolarD10496

First Name: Michael
Middle Initial: A
Last Name: Harrington
Organization:
Address: 1392 Pine Tree Drive
Address 2:
Address 3:
City: Maplewood
State: MN
Zip: 551197115
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

There are lots of available land sites for solar/wind development. Let's not forget why we're trying to 'be green'- we need to *protect* the resources of this planet, so that future generations can also enjoy them as we have done!

Thank you for your comment

The comment tracking number that has been assigned to your comment is SolarD10497.

Comment Date: April 12, 2011 14:08:54PM
Solar Energy Development PEIS
Comment ID: SolarD10497

First Name: [Withheld by requestor]
Middle Initial:
Last Name: [Withheld by requestor]
Organization:
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold name and address from public record
Attachment:

Comment Submitted:

There's a right way and a wrong way to embark on this mission. Solar energy should be developed only in solar energy zones that don't compromise national park wildlife, scenery, archaeological sites, water resources, night sky viewing, and the opportunity for present and future generations to fully enjoy America's heritage.

--Once amended, we strongly support the Solar Energy Zone alternative, which would concentrate solar development within parcels of land that avoid needless future conflicts with national park resources and sensitive desert ecology.

--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Thomas Washburn.

The comment tracking number that has been assigned to your comment is SolarD10498.

Comment Date: April 12, 2011 14:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10498

First Name: Thomas
Middle Initial: E
Last Name: Washburn
Organization: twashburn@cfl.rr.com
Address: [Withheld by requestor]
Address 2:
Address 3:
City: [Withheld by requestor]
State: [Withheld by requestor]
Zip: [Withheld by requestor]
Country: [Withheld by requestor]
Privacy Preference: Withhold address from public record
Attachment:

Comment Submitted:

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--There are four proposed Solar Energy Zones (SEZ) that threaten our national parks.

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--Any proposed solar projects sited within 15 miles of a national park boundary should trigger a consultation with the National Park Service to determine whether the project unacceptably impacts or diminishes national park resources or visitor enjoyment. Finally, it is vital that the BLM include proposed national parks, wilderness areas, and national monuments as high conflict areas for industrial solar development.

Thank you for your comment, Keith Milligan.

The comment tracking number that has been assigned to your comment is SolarD10499.

Comment Date: April 12, 2011 14:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10499

First Name: Keith
Middle Initial: J
Last Name: Milligan
Organization:
Address: Post Office Box 1124
Address 2:
Address 3:
City: Veradale
State: WA
Zip: 99037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

No one owns the Sun therefore, there can be no wars fought, no blood spilled, to protect our "interests" domestically and abroad. Imagine a world without war! War ends ALL!!! Create jobs with renewable energy component manufacturing and solve both unemployment and energy crisis simultaneously. If we do not make the conversion to not only reduce, but eliminate CO2 emissions, we will fry in our own insanity of burning fossil fuels. The madness has to end NOW!!!

Thank you for your comment, Keith Milligan.

The comment tracking number that has been assigned to your comment is SolarD10499.

Comment Date: April 12, 2011 14:09:44PM
Solar Energy Development PEIS
Comment ID: SolarD10499

First Name: Keith
Middle Initial: J
Last Name: Milligan
Organization:
Address: Post Office Box 1124
Address 2:
Address 3:
City: Veradale
State: WA
Zip: 99037
Country: USA
Privacy Preference: Don't withhold name or address from public record
Attachment:

Comment Submitted:

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