FES 12-24 • DOE/EIS-0403

Final Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States

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Comments and Responses

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U.S. Department of Energy

Final Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States (FES 12-24; DOE/EIS-0403)

Responsible Agencies: The U.S. Department of the Interior (DOI) Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE) are co-lead agencies. Nineteen cooperating agencies participated in the preparation of this PEIS: U.S. Department of Defense; U.S. Bureau of Reclamation; U.S. Fish and Wildlife Service; U.S. National Park Service; U.S. Environmental Protection Agency, Region 9; U.S. Army Corps of Engineers, South Pacific Division; Arizona Game and Fish Department; California Energy Commission; California Public Utilities Commission; Nevada Department of Wildlife; N-4 Grazing Board, Nevada; Utah Public Lands Policy Coordination Office; Clark County, Nevada, including Clark County Department of Aviation; Doña Ana County, New Mexico; Esmeralda County, Nevada; Eureka County, Nevada; Lincoln County, Nevada; Nye County, Nevada; and Saguache County, Colorado.

Locations: Arizona, California, Colorado, Nevada, New Mexico, and Utah.

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Abstract: The BLM and DOE have jointly prepared this PEIS to evaluate actions that the agencies are considering taking to further facilitate utility-scale solar energy development in six southwestern states.[1] For the BLM, this includes the evaluation of a new Solar Energy Program applicable to solar development on BLM-administered lands. For DOE, it includes the evaluation of developing new guidance to further facilitate utility-scale solar energy development and maximize the mitigation of associated potential environmental impacts. This Solar PEIS evaluates the potential environmental, social, and economic effects of the agencies' proposed actions and alternatives in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality's regulations for implementing NEPA (Title 40, Parts 1500–1508 of the *Code of Federal Regulations* [40 CFR Parts 1500–1508]), and applicable BLM and DOE authorities.

For the BLM, the Final Solar PEIS analyzes a no action alternative, under which solar energy development would continue on BLM-administered lands in accordance with the terms and conditions of the BLM's existing solar energy policies, and two action alternatives that involve implementing a new BLM Solar Energy Program that would allow the permitting of future solar energy development projects on public lands to proceed in a more efficient, standardized, and environmentally responsible manner. The proposed program would establish right-of-way authorization policies and design features applicable to all utility-scale solar energy development on BLM-administered lands. It would identify categories of lands to be excluded from utility-scale solar energy development and specific locations well suited for utility-scale production of solar energy where the BLM would prioritize development (i.e., solar energy zones or SEZs). The proposed action would also allow for responsible utility-scale solar development on lands outside of priority areas.

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1 Utility-scale facilities are defined as projects that generate electricity that is delivered into the electricity transmission grid, generally with capacities greater than 20 megawatts (MW).

For DOE, the Final PEIS analyzes a no action alternative, under which DOE would continue to address environmental concerns for DOE-supported solar projects on a case-by-case basis, and an action alternative, under which DOE would adopt programmatic environmental guidance for use in DOE-supported solar projects.

The BLM and DOE initiated the Solar PEIS process in May 2008. On December 17, 2010, the BLM and DOE published the Draft Solar PEIS. Subsequently, on October 28, 2011, the lead agencies published the Supplement to the Draft Solar PEIS, in which adjustments were made to elements of BLM's proposed Solar Energy Program to better meet BLM's solar energy objectives, and in which DOE's proposed programmatic environmental guidance was presented.

SOLAR PEIS CONTENTS

SOLAR PEIS CONTENTS (Cont.)

VOLUME 6

VOLUME 7

VOLUME 7 CONTENTS

CONTENTS (Cont.)

CONTENTS (Cont.)

CONTENTS (Cont.)

CONTENTS (Cont.)

CONTENTS (Cont.)

CONTENTS (Cont.)

CONTENTS (Cont.)

CONTENTS (Cont.)

CONTENTS (Cont.)

TABLES

NOTATION

The following is a list of acronyms and abbreviations, chemical names, and units of measure used in this document. Some acronyms used only in tables may be defined only in those tables.

GENERAL ACRONYMS AND ABBREVIATIONS

AADT	annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
AC	alternating current
ACC	air-cooled condenser
ACEC	Area of Critical Environmental Concern
ADEQ	Arizona Department of Environmental Quality
ACHP	Advisory Council on Historic Preservation
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
AERMOD	AMS/EPA Regulatory Model
AFC	Application for Certification
AGL	above ground level
AIM	Assessment, Inventory and Monitoring
AIRFA	American Indian Religious Freedom Act
AMA	active management area
AML	animal management level
ANHP	Arizona National Heritage Program
APE	area of potential effect
APLIC	Avian Power Line Interaction Committee
APP	Avian Protection Plan
APS	Arizona Public Service
AQCR	Air Quality Control Region
AQRV	air quality–related value
ARB	Air Resources Board
ARRA	American Recovery and Reinvestment Act of 2009
ARRTIS	Arizona Renewable Resource and Transmission Identification Subcommittee
ARS	Agricultural Research Service
ARZC	Arizona and California
ATSDR	Agency for Toxic Substances and Disease Registry
AUM	animal unit month
AVSE	Arlington Valley Solar Energy
AVWS	Audio Visual Warning System
AWBA	Arizona Water Banking Authority
AWEA	American Wind Energy Association
AWRM	Active Water Resource Management
AZDA	Arizona Department of Agriculture
AZGFD	Arizona Game and Fish Department

AZGS	Arizona Geological Survey
BA	biological assessment
BAP	base annual production
BEA	Bureau of Economic Analysis
BISON-M	Biota Information System of New Mexico
BLM	Bureau of Land Management
BLM-CA	Bureau of Land Management, California
BMP	best management practice
BNSF	Burlington Northern Santa Fe
BO	biological opinion
BOR	U.S. Bureau of Reclamation
BPA	Bonneville Power Administration
BRAC	Blue Ribbon Advisory Council on Climate Change
BSE	Beacon Solar Energy
BSEP	Beacon Solar Energy Project
BTS	Bureau of Transportation Statistics
CAA	Clean Air Act
CAAQS	California Air Quality Standards
CAISO	California Independent System Operator
Caltrans	California Department of Transportation
C-AMA	California-Arizona Maneuver Area
CAP	Central Arizona Project
CARB	California Air Resources Board
CAReGAP	California Regional Gap Analysis Project
CASQA	California Stormwater Quality Association
CASTNET	Clean Air Status and Trends NETwork
CAWA	Colorado Agricultural Water Alliance
CCC	Civilian Conservation Corps
CDC	Centers for Disease Control and Prevention
CDCA	California Desert Conservation Area
CDFG	California Department of Fish and Game
CDNCA	California Desert National Conservation Area
CDOT	Colorado Department of Transportation
CDOW	Colorado Division of Wildlife (now Colorado Parks and Wildlife)
CDPHE	Colorado Department of Public Health and Environment
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CES	constant elasticity of substitution
CESA	California Endangered Species Act
CESF	Carrizo Energy Solar Farm
CFR	*Code of Federal Regulations*
CGE	computable general equilibrium
CHAT	crucial habitat assessment tool

CIRA	Cooperative Institute for Research in the Atmosphere
CLFR	compact linear Fresnel reflector
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNHP	Colorado National Heritage Program
Colorado DWR	Colorado Division of Water Resources
CO_2e	carbon dioxide equivalent
CPC	Center for Plant Conservation
CPUC	California Public Utilities Commission
CPV	concentrating photovoltaic
CRBSCF	Colorado River Basin Salinity Control Forum
CREZ	competitive renewable energy zone
CRPC	Cultural Resources Preservation Council
CRSCP	Colorado River Salinity Control Program
CSA	Candidate Study Area
CSC	Coastal Services Center
CSFG	carbon-sequestration fossil generation
CSP	concentrating solar power
CSQA	California Stormwater Quality Association
CSRI	Cultural Systems Research, Incorporated
CTG	combustion turbine generator
CTPG	California Transmission Planning Group
CTSR	Cumbres & Toltec Scenic Railroad
CUP	Conditional Use Permit
CVP	Central Valley Project
CWA	Clean Water Act
CWCB	Colorado Water Conservation Board
CWHRS	California Wildlife Habitat Relationship System
DC	direct current
DEM	digital elevation model
DHS	U.S. Department of Homeland Security
DIMA	Database for Inventory, Monitoring and Assessment
DLT	dedicated-line transmission
DNA	Determination of NEPA Adequacy
DNI	direct normal insulation
DNL	day-night average sound level
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOL	U.S. Department of Labor
DOT	U.S. Department of Transportation
DRECP	California Desert Renewable Energy Conservation Plan
DSM	demand-side management
DSRP	Decommissioning and Site Reclamation Plan
DTC/C-AMA	Desert Training Center/California–Arizona Maneuver Area

DWMA	Desert Wildlife Management Area
DWR	Division of Water Resources
EA	environmental assessment
EBID	Elephant Butte Irrigation District
ECAR	East Central Area Reliability Coordination Agreement
ECOS	Environmental Conservation Online System (USFWS)
EERE	Energy Efficiency and Renewable Energy (DOE)
Eg	band gap energy
EIA	Energy Information Administration (DOE)
EIS	environmental impact statement
EISA	Energy Independence and Security Act of 2007
EMF	electromagnetic field
E.O.	Executive Order
EPA	U.S. Environmental Protection Agency
EPRI	Electric Power Research Institute
EQIP	Environmental Quality Incentives Program
ERCOT	Electric Reliability Council of Texas
ERO	Electric Reliability Organization
ERS	Economic Research Service
ESA	Endangered Species Act of 1973
ESRI	Environmental Systems Research Institute
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FLPMA	Federal Land Policy and Management Act of 1976
FONSI	Finding of No Significant Impact
FR	*Federal Register*
FRCC	Florida Reliability Coordinating Council
FSA	Final Staff Assessment
FTE	full-time equivalent
FY	fiscal year
G&TM	generation and transmission modeling
GCRP	U.S. Global Climate Research Program
GDA	generation development area
GHG	greenhouse gas
GIS	geographic information system
GMU	game management unit
GPS	global positioning system
GTM	Generation and Transmission Model

GUAC	Groundwater Users Advisory Council
GWP	global warming potential
HA	herd area
HAP	hazardous air pollutant
HAZCOM	hazard communication
HCE	heat collection element
HCP	Habitat Conservation Plan
HMA	herd management area
HMMH	Harris Miller Miller & Hanson, Inc.
HRSG	heat recovery steam generator
HSPD	Homeland Security Presidential Directive
HTF	heat transfer fluid
HUC	hydrologic unit code
HVAC	heating, ventilation, and air-conditioning
I	Interstate
IARC	International Agency for Research on Cancer
IBA	important bird area
ICE	internal combustion engine
ICPDS	Imperial County Planning & Development Services
ICWMA	Imperial County Weed Management Area
IDT	interdisplinary team
IEC	International Electrochemical Commission
IFR	instrument flight rule
IID	Imperial Irrigation District
IM	Instruction Memorandum
IMPS	Iron Mountain Pumping Station
IMS	interim mitigation strategy
INA	Irrigation Non-Expansion Area
IOP	Interagency Operating Procedure
IOU	investor-owned utility
IPCC	Intergovernmental Panel on Climate Change
ISA	Independent Science Advisor; Instant Study Area
ISB	Intermontane Seismic Belt
ISCC	integrated solar combined cycle
ISDRA	Imperial Sand Dunes Recreation Area
ISEGS	Ivanpah Solar Energy Generating System
ISO	independent system operator; iterative self-organizing
ITFR	Interim Temporary Final Rulemaking
ITP	incidental take permit
IUCNNR	International Union for Conservation of Nature and Natural Resources
IUCNP	International Union for Conservation of Nature Pakistan
KGA	known geothermal resources area
KML	keyhole markup language

KOP	key observation point
KSLA	known sodium leasing area
LCC	Landscape Conservation Cooperative
LCCRDA	Lincoln County Conservation, Recreation, and Development Act of 2004
LCOE	levelized cost of energy
L_{dn}	day-night average sound level
LDWMA	Low Desert Weed Management Area
L_{eq}	equivalent sound pressure level
LiDAR	light detection and ranging
LLA	limited land available
LLRW	low-level radioactive waste (waste classification)
LPN	listing priority number
LRG	Lower Rio Grande
LSA	lake and streambed alteration
LSE	load-serving entity
LTMP	long-term monitoring and adaptive management plan
LTVA	long-term visitor area
MAAC	Mid-Atlantic Area Council
MAIN	Mid-Atlantic Interconnected Network
MAPP	methyl acetylene propadiene stabilizer; Mid-Continent Area Power Pool
MCAS	Marine Corps Air Station
MCL	maximum contaminant level
MEB	Marine Expeditionary Brigade
MFP	Management Framework Plan
MIG	Minnesota IMPLAN Group
MLA	maximum land available
MOA	military operating area
MOU	Memorandum of Understanding
MPDS	maximum potential development scenario
MRA	Multiple Resource Area
MRI	Midwest Research Institute
MRO	Midwest Reliability Organization
MSDS	Material Safety Data Sheet
MSL	mean sea level
MTR	military training route
MVEDA	Mesilla Valley Economic Development Alliance
MWA	Mojave Water Agency
MWD	Metropolitan Water District
MWMA	Mojave Weed Management Area
NAAQS	National Ambient Air Quality Standard(s)
NADP	National Atmospheric Deposition Program
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission (California)

NAIC	North American Industrial Classification System
NASA	National Aeronautics and Space Administration
NCA	National Conservation Area
NCCAC	Nevada Climate Change Advisory Committee
NCDC	National Climatic Data Center
NCES	National Center for Education Statistics
NDAA	National Defense Authorization Act
NDCNR	Nevada Department of Conservation and Natural Resources
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NDWP	Nevada Division of Water Planning
NDWR	Nevada Division of Water Resources
NEAP	Natural Events Action Plan
NEC	National Electric Code
NED	National Elevation Database
NEP	Natural Events Policy
NEPA	National Environmental Policy Act of 1969
NERC	North American Electricity Reliability Corporation
NGO	non-governmental organization
NHA	National Heritage Area
NHD	National Hydrography Dataset
NHNM	National Heritage New Mexico
NHPA	National Historic Preservation Act of 1966
NID	National Inventory of Dams
NLCS	National Landscape Conservation System
NMAC	*New Mexico Administrative Code*
NMBGMR	New Mexico Bureau of Geology and Mineral Resources
NMDGF	New Mexico Department of Game and Fish
NM DOT	New Mexico Department of Transportation
NMED	New Mexico Environment Department
NMED-AQB	New Mexico Environment Department-Air Quality Board
NMFS	National Marine Fisheries Service
NMOSE	New Mexico Office of the State Engineer
NMSU	New Mexico State University
NNHP	Nevada Natural Heritage Program
NNL	National Natural Landmark
NNSA	National Nuclear Security Administration
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NP	National Park
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NPV	net present value

NRA	National Recreation Area
NRCS	Natural Resources Conservation Service
NREL	National Renewable Energy Laboratory
NRHP	*National Register of Historic Places*
NRS	*Nevada Revised Statutes*
NSC	National Safety Council
NSO	no surface occupancy
NSTC	National Science and Technology Council
NTHP	National Trust for Historic Preservation
NTS	Nevada Test Site
NTTR	Nevada Test and Training Range
NVCRS	Nevada Cultural Resources Inventory System
NV DOT	Nevada Department of Transportation
NWCC	National Wind Coordinating Committee
NWI	National Wetlands Inventory
NWIS	National Water Information System (USGS)
NWPP	Northwest Power Pool
NWR	National Wildlife Refuge
NWSRS	National Wild and Scenic River System
O&M	operation and maintenance
ODFW	Oregon Department of Fish and Wildlife
OHV	off-highway vehicle
ONA	Outstanding Natural Area
ORC	organic Rankine cycle
OSE/ISC	Office of the State Engineer/Interstate Stream Commission
OSHA	Occupational Safety and Health Administration
OTA	Office of Technology Assessment
PA	Programmatic Agreement
PAD	Preliminary Application Document
PAH	polycyclic aromatic hydrocarbon
PAT	peer analysis tool
PCB	polychlorinated biphenyl
PCM	purchase change material
PCS	power conditioning system
PCU	power converting unit
PEIS	programmatic environmental impact statement
PFYC	potential fossil yield classification
PGH	Preliminary General Habitat
PIER	Public Interest Energy Research
P.L.	Public Law
PLSS	Public Land Survey System
PM	particulate matter
$PM_{2.5}$	particulate matter with a diameter of 2.5 μm or less
PM_{10}	particulate matter with a diameter of 10 μm or less

POD	plan of development
POU	publicly owned utility
PPA	Power Purchase Agreement
P-P-D	population-to-power density
PPE	personal protective equipment
PPH	Preliminary Priority Habitat
PSD	Prevention of Significant Deterioration
PURPA	Public Utility Regulatory Policy Act
PV	photovoltaic
PVID	Palo Verde Irrigation District
PWR	public water reserve
QRA	qualified resource area
R&I	relevance and importance
RAC	Resource Advisory Council
RCE	Reclamation Cost Estimate
RCI	residential, commercial, and industrial (sector)
RCRA	Resource Conservation and Recovery Act of 1976
RD&D	research, development, and demonstration; research, development, and deployment
RDBMS	Relational Database Management System
RDEP	Restoration Design Energy Project
REA	Rapid Ecoregional Assessment
REAT	Renewable Energy Action Team
REDA	Renewable Energy Development Area
REDI	Renewable Energy Development Infrastructure
REEA	Renewable Energy Evaluation Area
ReEDS	Regional Energy Deployment System
REPG	Renewable Energy Policy Group
RETA	Renewable Energy Transmission Authority
RETAAC	Renewable Energy Transmission Access Advisory Committee
RETI	Renewable Energy Transmission Initiative
REZ	renewable energy zone
RF	radio frequency
RFC	Reliability First Corporation
RFDS	reasonably foreseeable development scenario
RGP	Rio Grande Project
RGWCD	Rio Grande Water Conservation District
RMP	Resource Management Plan
RMPA	Rocky Mountain Power Area
RMZ	Resource Management Zone
ROD	Record of Decision
ROI	region of influence
ROS	recreation opportunity spectrum
ROW	right-of-way

RPG	renewable portfolio goal
RPS	Renewable Portfolio Standard
RRC	Regional Reliability Council
RSEP	Rice Solar Energy Project
RSI	Renewable Systems Interconnection
RTO	regional transmission organization
RTTF	Renewable Transmission Task Force
RV	recreational vehicle
SAAQS	State Ambient Air Quality Standard(s)
SAMHSA	Substance Abuse and Mental Health Services Administration
SCADA	supervisory control and data acquisition
SCE	Southern California Edison
SCRMA	Special Cultural Resource Management Area
SDRREG	San Diego Regional Renewable Energy Group
SDWA	Safe Drinking Water Act of 1974
SEGIS	Solar Energy Grid Integration System
SEGS	Solar Energy Generating System
SEI	Sustainable Energy Ireland
SEIA	Solar Energy Industrial Association
SES	Stirling Energy Systems
SETP	Solar Energy Technologies Program (DOE)
SEZ	solar energy zone
SHPO	State Historic Preservation Office(r)
SIP	State Implementation Plan
SLRG	San Luis & Rio Grande
SMA	Special Management Area
SMART	specific, measurable, achievable, relevant, and time sensitive
SMP	suggested management practice
SNWA	Southern Nevada Water Authority
SPP	Southwest Power Pool
SRMA	Special Recreation Management Area
SSA	Socorro Seismic Anomaly
SSI	self-supplied industry
ST	solar thermal
STG	steam turbine generator
SUA	special use airspace
SWAT	Southwest Area Transmission
SWIP	Southwest Intertie Project
SWPPP	Stormwater Pollution Prevention Plan
SWReGAP	Southwest Regional Gap Analysis Project
TAP	toxic air pollutant
TCC	Transmission Corridor Committee
TDS	total dissolved solids
TEPPC	Transmission Expansion Planning Policy Committee

TES	thermal energy storage
TRACE	Transmission Routing and Configuration Estimator
TSA	Transportation Security Administration
TSCA	Toxic Substances Control Act of 1976
TSDF	treatment, storage, and disposal facility
TSP	total suspended particulates
UACD	Utah Association of Conservation Districts
UBWR	Utah Board of Water Resources
UDA	Utah Department of Agriculture
UDEQ	Utah Department of Environmental Quality
UDNR	Utah Department of Natural Resources
UDOT	Utah Department of Transportation
UDWQ	Utah Division of Water Quality
UDWR	Utah Division of Wildlife Resources
UGS	Utah Geological Survey
UNEP	United Nations Environmental Programme
UNPS	Utah Native Plant Society
UP	Union Pacific
UREZ	Utah Renewable Energy Zone
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
USC	*United States Code*
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
Utah DWR	Utah Division of Water Rights
UTTR	Utah Test and Training Range
UWS	Underground Water Storage, Savings and Replenishment Act
VACAR	Virginia–Carolinas Subregion
VCRS	Visual Contrast Rating System
VFR	visual flight rule
VOC	volatile organic compound
VRHCRP	Virgin River Habitat Conservation & Recovery Program
VRI	Visual Resource Inventory
VRM	Visual Resource Management
WA	Wilderness Area
WECC	Western Electricity Coordinating Council
WECC CAN	Western Electricity Coordinating Council–Canada
WEG	wind erodibility group
Western	Western Area Power Administration
WGA	Western Governors' Association
WGFD	Wyoming Game and Fish Department

WHA	wildlife habitat area
WHO	World Health Organization
WIA	Wyoming Infrastructure Authority
WRAP	Water Resources Allocation Program; Western Regional Air Partnership
WRCC	Western Regional Climate Center
WREZ	Western Renewable Energy Zones
WRRI	Water Resources Research Institute
WSA	Wilderness Study Area
WSC	wildlife species of special concern
WSMR	White Sands Missile Range
WSR	Wild and Scenic River
WSRA	Wild and Scenic Rivers Act of 1968
WWII	World War II
WWP	Western Watersheds Project
YPG	Yuma Proving Ground
ZITA	zone identification and technical analysis
ZLD	zero liquid discharge

CHEMICALS

CH_4	methane	NO_2	nitrogen dioxide
CO	carbon monoxide	NO_x	nitrogen oxides
CO_2	carbon dioxide		
		O_3	ozone
H_2S	hydrogen sulfide		
Hg	mercury	Pb	lead
N_2O	nitrous oxide	SF_6	sulfur hexafluoride
NH_3	ammonia	SO_2	sulfur dioxide
		SO_x	sulfur oxides

UNITS OF MEASURE

ac-ft	acre-foot (feet)	dBA	A-weighted decibel(s)
bhp	brake horsepower		
		°F	degree(s) Fahrenheit
°C	degree(s) Celsius	ft	foot (feet)
cf	cubic foot (feet)	ft^2	square foot (feet)
cfs	cubic foot (feet) per second	ft^3	cubic foot (feet)
cm	centimeter(s)		
		g	gram(s)
dB	decibel(s)	gal	gallon(s)

GJ	gigajoule(s)
gpcd	gallon per capita per day
gpd	gallon(s) per day
gpm	gallon(s) per minute
GW	gigawatt(s)
GWh	gigawatt hour(s)
GWh/yr	gigawatt hour(s) per year
h	hour(s)
ha	hectare(s)
Hz	hertz
in.	inch(es)
J	joule(s)
K	degree(s) Kelvin
kcal	kilocalorie(s)
kg	kilogram(s)
kHz	kilohertz
km	kilometer(s)
km^2	square kilometer(s)
kPa	kilopascal(s)
kV	kilovolt(s)
kVA	kilovolt-ampere(s)
kW	kilowatt(s)
kWh	kilowatt-hour(s)
kWp	kilowatt peak
L	liter(s)
lb	pound(s)
m	meter(s)
m^2	square meter(s)
m^3	cubic meter(s)
mg	milligram(s)
Mgal	million gallons
mi	mile(s)
mi^2	square mile(s)
min	minute(s)
mm	millimeter(s)
MMt	million metric ton(s)
MPa	megapascal(s)
mph	mile(s) per hour
MVA	megavolt-ampere(s)
MW	megawatt(s)
MWe	megawatt(s) electric
MWh	megawatt-hour(s)
ppm	part(s) per million
psi	pound(s) per square inch
psia	pound(s) per square inch absolute
rpm	rotation(s) per minute
s	second(s)
scf	standard cubic foot (feet)
TWh	terawatt hour(s)
VdB	vibration velocity decibel(s)
W	watt(s)
yd^2	square yard(s)
yd^3	cubic yard(s)
yr	year(s)
µg	microgram(s)
µm	micrometer(s)

ENGLISH/METRIC AND METRIC/ENGLISH EQUIVALENTS

The following table lists the appropriate equivalents for English and metric units.

Multiply	By	To Obtain
English/Metric Equivalents		
acres	0.004047	square kilometers (km^2)
acre-feet (ac-ft)	1,234	cubic meters (m^3)
cubic feet (ft^3)	0.02832	cubic meters (m^3)
cubic yards (yd^3)	0.7646	cubic meters (m^3)
degrees Fahrenheit (ºF) –32	0.5555	degrees Celsius (ºC)
feet (ft)	0.3048	meters (m)
gallons (gal)	3.785	liters (L)
gallons (gal)	0.003785	cubic meters (m^3)
inches (in.)	2.540	centimeters (cm)
miles (mi)	1.609	kilometers (km)
miles per hour (mph)	1.609	kilometers per hour (kph)
pounds (lb)	0.4536	kilograms (kg)
short tons (tons)	907.2	kilograms (kg)
short tons (tons)	0.9072	metric tons (t)
square feet (ft^2)	0.09290	square meters (m^2)
square yards (yd^2)	0.8361	square meters (m^2)
square miles (mi^2)	2.590	square kilometers (km^2)
yards (yd)	0.9144	meters (m)
Metric/English Equivalents		
centimeters (cm)	0.3937	inches (in.)
cubic meters (m^3)	0.00081	acre-feet (ac-ft)
cubic meters (m^3)	35.31	cubic feet (ft^3)
cubic meters (m^3)	1.308	cubic yards (yd^3)
cubic meters (m^3)	264.2	gallons (gal)
degrees Celsius (ºC) +17.78	1.8	degrees Fahrenheit (ºF)
hectares (ha)	2.471	acres
kilograms (kg)	2.205	pounds (lb)
kilograms (kg)	0.001102	short tons (tons)
kilometers (km)	0.6214	miles (mi)
kilometers per hour (kph)	0.6214	miles per hour (mph)
liters (L)	0.2642	gallons (gal)
meters (m)	3.281	feet (ft)
meters (m)	1.094	yards (yd)
metric tons (t)	1.102	short tons (tons)
square kilometers (km^2)	247.1	acres
square kilometers (km^2)	0.3861	square miles (mi^2)
square meters (m^2)	10.76	square feet (ft^2)
square meters (m^2)	1.196	square yards (yd^2)

VOLUME 7:

COMMENTS AND RESPONSES FOR THE PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR SOLAR ENERGY DEVELOPMENT IN SIX SOUTHWESTERN STATES

1 INTRODUCTION

This volume of the *Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States* (Solar PEIS) contains summaries of public comments on the Draft Solar PEIS and the Supplement to the Draft Solar PEIS, along with responses to those comments from the U.S. Department of the Interior (DOI) Bureau of Land Management (BLM) and the U.S. Department of Energy (DOE).

The Notice of Availability (NOA) of the Draft Solar PEIS was published in Volume 75, page 78980, of the *Federal Register* on December 17, 2010 (75 FR 78980). This began a public comment period, which lasted from December 17, 2010, to May 2, 2011. Fourteen public meetings were held during the comment period on the Draft Solar PEIS. Comments on the Draft Solar PEIS were submitted via the Solar PEIS project Web site (http://solareis.anl.gov), by mail, and orally at public meetings. Several nongovernmental organizations submitted comments in the form of standardized campaign letters from their constituents. Six campaigns were submitted on the Draft Solar PEIS, with more than 86,000 individuals represented. In addition, approximately 1,950 comment documents were received on the Draft Solar PEIS,[1] and about 150 comment statements were received orally at public meetings. Comments were received from individual members of the public; federal, state, and local governmental agencies; tribes; solar companies and solar industry organizations; environmental organizations; utilities; ranchers; water districts; and many other types of organizations. While comments were received from individuals and organizations from many of the 50 states, comments were primarily received from the organization and individuals in the six-state study area.

In response to comments on the Draft Solar PEIS providing suggestions on how the BLM and DOE could increase the utility of the analysis, strengthen elements of the BLM's proposed Solar Energy Program, and increase certainty regarding solar energy development on BLM-administered lands, the BLM and DOE published a Supplement to the Draft Solar PEIS. The NOA of the Supplement to the Draft Solar PEIS was published in Volume 76, page 66958, of the *Federal Register* on October 28, 2011 (76 FR 66958). This began a public comment period, which lasted from October 28, 2011 to January 27, 2012. The agencies convened five public meetings on the Supplement; one meeting in the San Luis Valley of Colorado was not originally planned but was added in response to stakeholder requests.

[1] A "comment document" refers to the entire submittal provided by a commentor, whether in writing or verbally during one of the public meetings. Each comment document, in turn, may have one or more individual comments and may address more than one topic. In some cases, comment documents contain only a single substantive comment. In most cases, comment documents contain more than one substantive comment.

Comments on the Supplement to the Draft Solar PEIS were received from the same broad cross-section of entities that commented on the Draft Solar PEIS. Comments were submitted via the Solar PEIS project Web site, by mail, and orally at public meetings. Six campaigns were submitted on the Supplement to the Draft PEIS, with more than 134,000 individuals represented. In addition, approximately 250 comment documents were received from individuals and organizations, and about 64 comment statements were received orally at public meetings.

All comment documents received during the public comment periods were cataloged and considered in preparing the Final Solar PEIS. As comment documents were received, they were assigned a unique identifying number. As shown in Table 1, comments documents on the Draft Solar PEIS that were received electronically via the Solar PEIS project Web site were labeled "SEDD" (for "Solar Energy Development Draft") and assigned sequential numbers starting with 10001 (e.g., SEDD10001). Comment documents on the Supplement to the Draft Solar PEIS that were received electronically via the Solar PEIS project Web site were labeled "SEDDsupp" and assigned sequential numbers starting with 20001 (e.g., SEDDsupp20001).[2] Comment documents received by mail were labeled "Solar_" for the Draft Solar PEIS and "SolarS_" for the Supplement to the Draft Solar PEIS and were assigned sequential numbers starting with the number 001 (e.g., Solar_001 and SolarS_001). Oral and written comment documents provided at public meetings were similarly labeled but with the addition of two letters denoting the location of the public meeting (see Table 1); for the Draft Solar PEIS, numbers began at 001 for each meeting location, and for the Supplement to the Draft Solar PEIS, numbers began at 01.

TABLE 1-1 Catalog Scheme for Solar PEIS Comment Documents

	Comment Document Code	
Source	Draft Solar PEIS	Supplement to the Draft Solar PEIS
Solar PEIS project Web site	SEDD_10001[a]	SEDDsupp_20001
Public meeting[b]	Solar_AL_001	SolarS_AL_01
Mail	Solar_001	SolarS_001

[a] SEDD = Solar Energy Development Draft.

[b] Initials denote the location of the public meeting: AL = Alamosa, Colorado; BA = Barstow, California; CC = Cedar City, Utah; CL = Caliente, Nevada; DC = Washington, D.C.; EC = El Centro, California; GF = Goldfield, Nevada; IW = Indian Wells, California; LC = Las Cruces, New Mexico; LV = Las Vegas, Nevada; PD = Palm Desert, California; PH = Phoenix, Arizona; SA = Sacramento, California; SL = Salt Lake City, Utah; and TU = Tucson, Arizona.

[2] Two comments on the Supplement to the Draft Solar PEIS submitted via the Web site were numbered 11908 and 11909, because they were submitted before the official start of the public comment period when the numbering scheme was changed.

Each comment document was reviewed to identify individual substantive comments. Individual comments were assigned unique numbers associated with the document number. For example, individual comments from document SEDD_10001 would be numbered SEDD_10001-1, SEDD_10001-2, SEDD_10001-3, and so forth.

Copies of all comment documents received on the Draft Solar PEIS and Supplement to the Draft Solar PEIS, as well as transcripts of comments delivered orally during the public meetings, are available on the Solar PEIS project Web site and are provided on the CD that is included with Volume 7 of the Final Solar PEIS. The comment numbers for the comment documents are shown on the confirmation sheets provided through the project Web site or printed on the right margin of the first page of the comment document for comments received by mail or delivered orally during the public meetings.

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2 SUMMARY OF THE MAJOR ISSUES RAISED BY THE COMMENTORS ON THE DRAFT SOLAR PEIS AND ON THE SUPPLEMENT TO THE DRAFT SOLAR PEIS AND THE AGENCIES' RESPONSES

Commentors on the Draft Solar PEIS identified 18 major topics of concern. These topics included concerns about appropriate siting of solar facilities, BLM policies regarding right-of-way (ROW) authorizations for solar facilities on BLM-administered lands, DOE's environmental guidance for solar facility projects supported by that agency, transmission constraints and evaluation methods, environmental concerns regarding solar development, the adequacy of the alternatives being evaluated by the agencies, stakeholder participation, and several others.

In response to comments received on the Draft Solar PEIS, the lead agencies prepared and released the Supplement to the Draft Solar PEIS. Through the Supplement, adjustments were made to many elements of the proposed Solar Energy Program, and new elements were added. The BLM modified its preferred alternative in the Supplement to emphasize its commitment to development in solar energy zones (SEZs). Efforts were made to ensure that SEZs would not be located in high-conflict areas; a protocol for identifying new SEZs was provided; and incentives for projects within SEZs were outlined. In addition, the BLM revisited ongoing state-based planning efforts to ensure that such efforts could result in the identification of new SEZs. While the BLM's preferred alternative as presented in the Supplement to the Draft Solar PEIS and the Final Solar PEIS emphasizes the use and creation of SEZs for utility-scale solar energy development, it also includes a proposed variance process that would accommodate responsible development outside of SEZs.

Specifically with regard to the SEZs, through the Supplement the BLM modified the list of SEZs being carried forward for consideration in the Solar PEIS. Some of the SEZs analyzed in the Draft Solar PEIS were found to have substantial resource conflicts that made them inappropriate locations to prioritize utility-scale solar energy development. The BLM decided to drop some SEZs entirely from further consideration based on the comments received on the Draft Solar PEIS and additional data collection that took place after the Draft was issued. The BLM also decided to adjust the boundaries of some SEZs that would be carried forward in the Solar PEIS. The BLM dropped the following previously proposed SEZs: Bullard Wash in Arizona, Iron Mountain and Pisgah in California, Delamar Valley and East Mormon Mountain in Nevada, and Mason Draw and Red Sands in New Mexico. In addition, the areas of the following SEZs were substantially reduced: Riverside East in California; De Tilla Gulch, Fourmile East, and Los Mogotes East in Colorado; Amargosa Valley, Dry Lake, and Dry Lake Valley North in Nevada; and Afton in New Mexico. The overall result of these changes was to reduce the total acreage potentially available for development in proposed SEZs from about 677,000 acres (2,740 km^2) to about 285,000 acres (1,153 km^2).

In the Supplement to the Draft Solar PEIS, DOE presented proposed programmatic environmental guidance that would be used by DOE to further integrate environmental considerations into its analysis and selection of proposed solar projects. DOE used the information about environmental impacts provided in the Draft Solar PEIS and other information to develop the draft programmatic guidance. In the Final Solar PEIS, DOE has identified the proposed action as its preferred alternative.

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3 RESPONSES TO COMMENTS

Presented below in Sections 3.1 through 3.19 are summaries of the 18 major topics identified by the agencies that capture the substantive concerns raised in the comments received on the Draft Solar PEIS and the Supplement to the Draft Solar PEIS, and the agencies' responses to address those comments.

Table 3-1, which follows the summaries and responses to major topics, lists all the organizations and individuals that provided comments on the Draft Solar PEIS and the Supplement to the Draft Solar PEIS via the project Web site, by mail, or orally at the public meetings. The comment document number assigned to each submittal and the comment response number or numbers for the agencies' responses that address the concerns raised in that submittal are also provided in Table 3-1. Thus, to identify the agencies' responses to a particular commentor's concerns, an interested party can look up a commentor's name or organization, locate the corresponding comment response numbers that identify the agencies' response to the issue raised by the commentor, and review the responses presented in this section.

3.1 COMMENTS ON SOLAR ENERGY ZONES

3.1.1 Brenda SEZ

Summary: In general, comments on the Draft Solar PEIS stated that the proposed Brenda SEZ would likely be an appropriate SEZ, assuming that required design features to protect soil, water, and air and water quality would be complied with, and that washes would be avoided. Commentors stated that the SEZ was actually located only 12 mi (19 km) from existing transmission, rather than 19 mi (31 km) as stated in the Draft. It was suggested that the possibility of tying the SEZ into the Central Arizona Project (CAP) transmission line be investigated. Comments suggested adjusting the boundaries to avoid Bouse and Tyson washes in the northwestern and northeastern corners of the Brenda SEZ.

Response: On the basis of additional analysis and comments received regarding the proposed Brenda SEZ, the BLM revised the SEZ boundaries. The area of Bouse Wash on the east side of the SEZ and the area on the west side of the SEZ to the west of the county road 28 were eliminated (a total of 530 acres [2.1 km^2]). Excluding the area of Bouse Wash will avoid impacts on habitats and species that utilize the wash. Eliminating the area of the SEZ west of the county road avoids splitting solar development on the SEZ and associated internal access and security issues. In addition, the new boundary limits solar development to a distance of about 0.75 mi (1.2 km) east of the Plomosa Special Resource Management Area (SRMA) and avoids crossing a well-vegetated drainage with wildlife values. It was verified that the nearest existing transmission line to the SEZ is located 12 mi (19 km) from the SEZ, and the information was changed in Section 8.1.2 of this Final Solar PEIS. The identification of specific transmission line interconnections for the SEZs (e.g., the CAP transmission line) is beyond the scope of the Solar PEIS. However, a new transmission analysis for the Brenda SEZ is provided in Section 8.1.23 of

this Final Solar PEIS. Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

3.1.2 Bullard Wash SEZ

Summary: Most of the comments on the proposed Bullard Wash SEZ received from environmental groups were in favor of eliminating the area as an SEZ because of concerns about the plant and wildlife community present in the SEZ, potential effects on special status species in the area, and its remote location. There were also concerns about groundwater availability and the effect of water withdrawals on groundwater-dependent species. Other comments suggested that development should be considered only in areas toward the southern end of the SEZ where low-density plant communities exist. There was concern that the SEZ is located in an important transition zone between the Joshua Tree forest and the Sonoran Desert, and a recommendation was made that the Solar PEIS consider the impact of noise on native and migratory wildlife species. Comments also expressed concern for the Sonoran desert tortoise that may occur in the affected area of the SEZ.

Response: On the basis of comments received on the Draft Solar PEIS, review by the BLM, and continued review of potential impacts identified in the Draft Solar PEIS, the Bullard Wash SEZ has been eliminated from further consideration and will not be identified as an SEZ in applicable land use plans. The potential impacts from solar development in the proposed Bullard Wash SEZ were considered sufficient reason to eliminate the area from further consideration as an SEZ. Because this proposed SEZ was eliminated from further consideration through the Supplement to the Draft Solar PEIS, the text of the analysis for the SEZ presented in the Draft Solar PEIS was not updated for the Final Solar PEIS.

Although the area has been dropped from consideration as an SEZ, the lands that composed the proposed Bullard Wash SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.3 Gillespie SEZ

Summary: Most of the comments on the proposed Gillespie SEZ received from environmental groups were generally in favor of identifying the area as an SEZ, with boundary adjustments. Comments recommended that the southern boundary be adjusted north of the Agua Caliente Road and that the northwest portion of the SEZ be reshaped into a more compact area. There was concern for visual impacts on the Sonoran Desert National Monument, Signal Peak Wilderness, and Woolsey Peak Wilderness, and a suggestion that BLM include the retirement of grazing allotments as a mitigation measure. In addition, there was concern about groundwater withdrawals and the potential impacts on riparian habitats and species. At least one commentor suggested eliminating the Gillespie SEZ because it will affect the integrity and scenic values of the landscape, degrade the viewsheds of nearby wilderness areas, create risk of invasive weeds

and PM_{10} (particulate matter with a diameter of 10 μm or less) dust issues, and constrain the permitting process for groundwater use. One commentor suggested that height of solar technologies be limited to 10 feet (3 m) or less.

Response: No boundary revisions were identified for the proposed SEZ; however, applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected. The Draft Solar PEIS identified potential visual impacts on the Woolsey Peak Wilderness Area (WA). To accommodate the flexibility described in the BLM's program objectives and in light of anticipated changes in technologies and environmental conditions over time, the BLM has removed some of the prescriptive SEZ-specific design features presented in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS (e.g., height restrictions on technologies used to address visual resource impacts).

Note: Section 8.3.14.3 of this Final Solar PEIS incorrectly includes an SEZ-specific design feature stating that development of power tower facilities should be prohibited within the SEZ. This error will be corrected through the ROD for the Final Solar PEIS.

3.1.4 Imperial East SEZ

Summary: Most of the comments received on the proposed Imperial East SEZ were in favor of identifying the area as an SEZ in the applicable land use plan, but with reduction in size to eliminate conflicts. Some commentors were in favor of expanding the SEZ, assuming Areas of Rare Species Richness could be avoided (these are being evaluated in the Desert Renewable Energy Conservation Plan [DRECP]). However, other commentors recommended eliminating the SEZ because of cultural, wildlife, and special status species concerns. Commentors also opposed designation of Imperial East as an SEZ because it contains Class L lands, is in close proximity to lands with cultural sensitivity, and is located near two Areas of Critical Environmental Concern (ACECs), and the existing transmission lines in the area are inadequate to handle assumed output if the SEZ were fully developed.

With respect to cumulative impacts, comments requested that information from other solar energy EISs in the vicinity of this SEZ be considered in the Final Solar PEIS. In addition, a member of a wildlife organization noted the absence of a means for prioritizing competing renewable energy interests in a given area, noting that a known geothermal resource areas (KRA) underlies the SEZ. Several comments from the solar industry requested additional analysis of transmission capacity and details on when, where, and how transmission would be developed.

Response: No boundary revisions were identified for the proposed SEZ. However, areas specified for non-development under SEZ-specific design features were mapped, where data were available. For the proposed Imperial East SEZ, 5 acres (0.02 km^2) of wetlands along the southern border of the SEZ were identified as non-development areas. The remaining developable area within the SEZ is 5,717 acres (23.1 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

3.1.5 Iron Mountain SEZ

Summary: Many comments on the proposed Iron Mountain SEZ were received; most favored eliminating the area as an SEZ because it contains environmentally and culturally sensitive areas. Commentors were concerned about the direct impacts on significant cultural resources, the SEZ's proximity to Joshua Tree National Park (NP), and the inconsistencies with criteria developed by the conservation community for siting solar facilities in the desert (including Citizen Proposed Wilderness, which commented that development of the SEZ would preclude opportunities to connect Joshua Tree NP with the Mojave Preserve and that the SEZ is located within a BLM-designated multihabitat management area). One commentor mentioned that the SEZ was located in an essential habitat-connectivity linkage area for desert bighorn sheep populations. With respect to cumulative impacts, commentors were concerned about the possible impacts on its facilities and recommended that the BLM also consider cumulative effects of solar energy development on the water district's facilities. Commentors argued that the area provides desert tortoise connectivity between the Northern and Eastern Colorado Desert Tortoise Recovery Units and contains habitat for rare plants. There were concerns that development of the SEZ would require significant infrastructure, have adverse impacts on night sky resources in Joshua Tree NP, and inhibit wildlife movements among the Mojave National Preserve, several wilderness areas to the south of the SEZ, and Joshua Tree NP. Finally, there were concerns about possible environmental justice impacts on people in the nearby communities of Rice, Blythe, and Desert Center.

Response: On the basis of public comments received on the Draft Solar PEIS, review by the BLM, and continued review of potential impacts identified in the Draft Solar PEIS, the Iron Mountain SEZ was eliminated from further consideration and will not be identified as an SEZ in applicable land use plans. The potential impacts from solar development in the proposed Iron Mountain SEZ were considered sufficient reason to eliminate the area from further consideration as an SEZ. Because this proposed SEZ was eliminated from further consideration through the Supplement to the Draft Solar PEIS, the text of the analysis for the SEZ presented in the Draft Solar PEIS was not updated for the Final Solar PEIS.

Because of the extensive potential impacts from solar development in the proposed Iron Mountain SEZ, the lands that composed the SEZ as presented in the Draft Solar PEIS will be considered solar ROW exclusion areas; that is, applications for solar development on these lands will not be accepted by the BLM.

3.1.6 Pisgah SEZ

Summary: Many comments on the proposed Pisgah SEZ were received; most were in favor of eliminating the area as an SEZ because it contains environmentally and culturally sensitive areas. There was a recommendation to change the SEZ boundaries to eliminate inappropriate areas from consideration. Native American tribes were concerned about the direct impacts on significant cultural resources. One commentor indicated that the SEZ is incompatible

with the BLM's conservation responsibilities under the Endangered Species Act (ESA), Federal Land Policy and Management Act, and its own wildlife resource manuals. The SEZ is located in an area of essential habitat connectivity, and it was recommended that cumulative impacts on the value of the area as a wildlife corridor should be addressed.

One commentor was concerned about socioeconomic impacts, including any financial or ratepayer impacts from development of the SEZ, and recommended that the BLM also consider cumulative effects of solar energy development on the water district's facilities. There were multiple conflicts with wildlife and habitat resources, and it was argued that there would be impacts on bighorn sheep movement. There was also concern that the area provides the only connectivity between tortoises in the Southern Mojave and Central Mojave populations, and development of the SEZ would affect connectivity between the West Mojave recovery unit and the eastern desert tortoise recovery units. The area is also adjacent to two ACECs and a Wilderness Study Area (WSA). The California Public Utilities Commission and other groups expressed concern for desert tortoise habitat located within and near the SEZ.

Commentors expressed concern for the golden eagle population near the SEZ and indicated that development in the proposed Pisgah SEZ would constitute a "take" of golden eagles, because it would disturb and destroy the foraging habitat of nearby golden eagles. Environmental groups commented that the development of the SEZ would have adverse impacts on desert tortoise and sensitive biological, cultural, and visual resources. Another recommendation was that only dry-cooling technologies be allowed.

Response: On the basis of public comments received on the Draft Solar PEIS, review by the BLM, and continued review of potential impacts identified in the Draft Solar PEIS, the Pisgah SEZ was eliminated from further consideration and will not be identified as an SEZ in applicable land use plans. The potential impacts from solar development in the proposed Pisgah SEZ were considered sufficient reason to eliminate the area from further consideration as an SEZ. Because this proposed SEZ was eliminated from further consideration through the Supplement to the Draft Solar PEIS, the text of the analysis for the SEZ presented in the Draft Solar PEIS was not updated for the Final Solar PEIS.

Although the area has been dropped from consideration as an SEZ, most of the lands that composed the proposed Pisgah SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis. An exception to the above will be made for specific lands identified during the environmental review process for the approved Calico Solar Project (CACA 49537), which comprises more than 4,600 acres (19 km^2) within the SEZ. Through the Calico environmental review process, some parts of the project area were identified as areas where solar development should be avoided; these areas will now be identified as solar ROW exclusion areas, that is, areas where applications for solar development will not be accepted by the BLM.

3.1.7 Riverside East SEZ

Summary: Many of the comments received on the proposed Riverside East SEZ were in favor of identifying the area as an SEZ, with boundary adjustments. In particular, there were recommendations to eliminate all Wildlife Habitat Management Areas (WHMAs), the sand transport corridor, the microphyll woodlands, and habitat connectivity areas from solar energy development. Many commentors proposed that lands within the western end of the SEZ be eliminated to avoid impacts on Joshua Tree NP's cultural and natural resources and that the SEZ be reconfigured to avoid impacts on Joshua Tree NP's southern and eastern border.

There was opposition to designating the area as an SEZ because of its proximity to Lake Tamarisk and Desert Center, while other commentors recommended that the Riverside East SEZ be eliminated because of occupied desert tortoise habitat and other wildlife habitat, important cultural sites, negative impacts on tourism, and off-highway vehicle (OHV) use, which would be affected by solar energy development.

Many commentors expressed concern for the potential impact on Joshua Tree NP and wildlife corridors. The solar industry expressed concern over the proposed visual resource mitigation requirements for the Riverside East SEZ in the Draft Solar PEIS and other restrictions that would constrain solar energy development within the SEZ. Others expressed concern for impacts on Native American trails, such as the Salt Song Trail, and adequacy of government-to-government consultation. There was concern that full build-out of the Riverside East SEZ would be unlikely, given the groundwater availability and its potential impacts on groundwater resources and groundwater-dependent species, as well as concern about the transmission line assumptions made in the Draft Solar PEIS and whether those lines would actually be available for interconnection. There was also concern regarding the potential impacts on Metropolitan Water District's facilities and ROWs. Comments requested that sensitive habitats in the vicinity of Palen Lake and Palen Dunes, Ford Dry Lake, and McCoy Wash not be available for development.

Some commentors did not think that the reduction in size for Riverside East minimized all the potential environmental impacts, including land with wilderness characteristics, visual resource management Class II and III height limitations, visual impacts on Joshua Tree NP, impacts on residents of Desert Center, important linkages of desert tortoise habitat, and impacts on birds. There were also recommendations to exclude additional areas from development including sand transport corridors. Alternatively, commentors also suggested that identifying the McCoy wash as a non-development area is overly restrictive.

Response: The proposed Riverside East SEZ was reconfigured to eliminate 43,439 acres (176 km^2) in the northwest portion of the SEZ. Excluding this area will reduce impacts on Joshua Tree NP. In addition, 11,547 acres (46.7 km^2) within the SEZ boundaries have been identified as non-development areas. These areas consist of intermittent lakes, major washes, and areas identified for non-development through investigations for approved projects. The remaining developable area within the SEZ is 147,910 acres (598.6 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

To accommodate the flexibility described in the BLM's program objectives and in light of anticipated changes in technologies and environmental conditions over time, the BLM removed some of the prescriptive SEZ-specific design features presented in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS (e.g., height restrictions on technologies used to address visual resource impacts).The lands that had composed the northwest area of the proposed SEZ that were eliminated from the SEZ through the Supplement will be considered solar ROW exclusion areas; that is, applications for solar development on these lands will not be accepted by the BLM. In addition, lands within the SEZ identified during investigations for approved projects as areas where solar energy development should not occur will be defined as non-development areas.

3.1.8 Antonito Southeast SEZ

Summary: Many of the comments on the proposed Antonito Southeast SEZ received from environmental groups favored identifying the area as an SEZ. Several members of the public commented that development of the SEZ would affect their ranching operations, while others supported designating the area as an SEZ.

One commentor expressed concern with wetland protection in the Antonito Southeast SEZ, including Alta Lake, and suggested that the Final Solar PEIS include specific design criteria for wetland protection. There are concerns that the SEZ contains Colorado Department of Wildlife- (CDOW-) identified elk severe winter range for pronghorn and recommended that activity should be limited outside of project fencing during severe winters when elk are using these areas.

Commentors were concerned that the SEZ contains a Gunnison prairie dog colony of unknown status and that surveys for the species have not been conducted, and provided recommendations to avoid impacts on the Gunnison prairie dog, including avoidance of active colonies, clearance surveys within any area defined by CDOW as having colonies of inactive or unknown status, potential off-site mitigation within areas of high species viability, and project siting that avoids blocking migration corridors used by the species to migrate between colonies. Another commentor was concerned about the potential socioeconomic impact of solar energy development at the proposed Antonito Southeast SEZ. Commentors also expressed concern for proximity to transmission lines in the area and suggested that private land be used for solar energy development. Commentors suggested additional exclusion areas including the Cumbres and Toltec Scenic Railroad and the Alta Lake Allotment.

Response: No boundary revisions were identified for the proposed SEZ. However, areas specified for non-development under SEZ-specific design features were mapped, where data were available. For the proposed Antonito Southeast SEZ, 17 acres (0.07 km^2) of non-development wetland and lake areas were identified. Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected. The remaining developable area within the SEZ is 9,712 acres (39.3 km^2).

3.1.9 De Tilla Gulch SEZ

Summary: Many of the comments received on the proposed De Tilla Gulch SEZ were in favor of identifying the area as an SEZ with proper siting, design, and mitigation.

Commentors proposed adjusting the boundary to remove the active prairie dog colony that overlaps the northern edge of the SEZ. Also, if surveys performed within the intersection area of the SEZ and Mineral Hot Springs Potential Conservation Area (PCA) indicate that there is significant activity by special status species within the SEZ, boundary adjustments should be considered to eliminate the PCA. Because the SEZ contains CDOW-identified severe winter range for elk and winter concentration habitat for pronghorn, commentors recommended that disturbance during the winter season be avoided or minimized in these areas. One commentor recommended that the BLM and DOE consider re-evaluating the magnitude of impacts of habitat loss within each SEZ for individual species or groups of species.

Commentors recommended the removal of the De Tilla Gulch SEZ because of potential impacts on the Old Spanish National Historic Trail, and if the area is retained as an SEZ, they suggested that solar development should be restricted to areas that do not have the potential to adversely affect the setting of the trail, and that a combination of mitigation measures should be required to minimize impacts on high-potential route segments located within the SEZ viewshed.

One commentor suggested that if wet cooling is considered as an option for the De Tilla Gulch SEZ, the Final Solar PEIS should clearly identify the level of groundwater withdrawal that can be maintained without adversely affecting groundwater levels in the area. Finally, another commentor recommended that SEZ-specific design features be adopted that require off-site habitat improvement projects and/or compensatory mitigation that offsets habitats losses in order to minimize displacement of big game and lost hunting opportunities for pronghorn.

Commentors recommended removing the southern boundaries of the SEZ by 0.5 mi (0.8 km) to avoid impacts on the Old Spanish National Historic Trail. Although the Supplement to the Draft Solar PEIS excluded pronghorn seasonal ranges from the De Tilla Gulch SEZ, it did not exclude severe winter range for elk or valuable habitat for Gunnison's prairie dog, Gunnison's sage-grouse. Commentors also expressed concern for proximity to transmission lines in the area.

Response: The proposed De Tilla Gulch SEZ was reconfigured to eliminate 458 acres (1.9 km^2) along the northwest edge of the SEZ (i.e., the area that had bordered U.S. 285). Excluding this area will avoid impacts on an active Gunnison prairie dog colony, on pronghorn winter range and winter concentration area, and on the proposed Cochetopa Scenic Byway. The remaining SEZ area is 1,064 acres (4.3 km^2). No additional areas within the SEZ were identified for non-development. Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

To accommodate the flexibility described in the BLM's program objectives and in light of anticipated changes in technologies and environmental conditions over time, the BLM removed some of the prescriptive SEZ-specific design features presented in the Draft Solar PEIS

and the Supplement to the Draft Solar PEIS, including specifically disallowing wet- or dry-cooling technologies for the proposed SEZs. In the Draft Solar PEIS, wet cooling in the De Tilla Gulch SEZ was not stated to be infeasible, mainly because of the small size of the SEZ; such water demands would be lower than for other SEZs. For the Final Solar PEIS, detail was added to the groundwater analysis for the De Tilla Gulch SEZ provided in Section 10.2.9.2. It was stated that the high pumping scenario has the potential for a significant groundwater drawdown within the SEZ but not in the surrounding area. Given the restrictive nature of water rights and the need for augmentation water reserves, it would be difficult for any projects seeking an amount of water more than 1,000 ac-ft/yr (1.2 million m^3/yr) to be successful in obtaining the needed water rights. Since some configurations of projects within the SEZ that would include wet cooling would not exceed that amount, wet cooling was not stated to be infeasible in the Draft or Final Solar PEIS for the De Tilla Gulch SEZ.

Because of the extensive potential impacts from solar development in the portion of the De Tilla Gulch SEZ that has been eliminated, those lands will be considered solar ROW exclusion areas; that is, applications for solar development on those lands will not be accepted by the BLM.

3.1.10 Fourmile East SEZ

Summary: Most of the comments received from environmental groups on the proposed Fourmile East SEZ were in favor of identifying the area as an SEZ. However, these groups proposed adjusting the eastern boundary 0.25 mi (0.40 km) west of State Highway 150 to avoid adverse impacts on the Old Spanish National Historic Trail and the Los Caminos Antiguos Scenic Byway. There were concerns that the SEZ contains winter range for pronghorn and that the southern tip of the SEZ intersects a Gunnison prairie dog colony of unknown status and surveys for the species have not been conducted. Commentors provided recommendations to avoid impacts on the Gunnison prairie dog, including avoidance of active colonies, clearance surveys within any area defined by the CDOW as having colonies of inactive or unknown status, potential off-site mitigation within areas of high species viability, and project siting that avoids blocking migration corridors used by the species to migrate between colonies. Commentors also expressed concern for proximity to transmission lines in the area. Commentors were concerned that the PEIS did not address potential impacts on the Great Sand Dunes NP and the local economy. At least one commentor supported height restrictions for solar technologies to minimize impacts on specially designated areas, including the Great Sand Dunes NP.

Response: The proposed Fourmile East SEZ was reconfigured to eliminate 999 acres (4 km^2), mainly along the eastern boundary of the SEZ, and also a small area on the west side of the proposed SEZ. Excluding these areas will avoid impacts on known cultural resources, a historic playa basin, Caminos Antiguos Scenic Byway, the Old Spanish National Historic Trail, the Pike National Historic Trail, big game winter range, and important riparian habitat. Small additional wetland areas with a total area of about 1 acre (0.004 km^2) have been identified as non-development areas within the SEZ. The remaining developable area within the SEZ area is 2,882 acres (11.7 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

Because of the extensive potential impacts from solar development in the portion of the Fourmile East SEZ that was eliminated, those lands will be considered solar ROW exclusion areas; that is, applications for solar development on those lands will not be accepted by the BLM.

3.1.11 Los Mogotes East SEZ

Summary: Most of the comments on the proposed Los Mogotes East SEZ received from environmental groups were in favor of identifying the area as an SEZ. Commentors were concerned with the distance to transmission lines and stated that shallow soils would make development of the SEZ difficult, while another was concerned because the Los Mogotes East SEZ contains pronghorn winter concentration areas. There was a recommendation that the BLM require off-site habitat improvement projects and/or compensatory mitigation to offset habitat losses in order to minimize both displacement of big game and lost hunting opportunities for pronghorn. One commentor expressed concern that the SEZ contains 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. A few commentors were concerned that the SEZ contains a Gunnison prairie dog colony of unknown status, that the Old Spanish National Historic Trail is located immediately east of the SEZ, and that the area is known to have a number of cultural and historical resources that have not been adequately inventoried. There were also concerns with the socioeconomic impact of solar energy development at the proposed Los Mogotes East SEZ. Commentors also expressed concern for the displacement of grazing and suggested locating solar development projects on rock outcroppings or other areas rather than destroying areas for livestock. One commentor recommended reducing the size of the Los Mogotes East SEZ to preserve the winter wildlife range, mating grounds, and birthing grounds, while another recommended that BLM remove the SEZ from consideration because of the potential presence of mountain plovers.

Response: The proposed Los Mogotes East SEZ was reconfigured to eliminate more than half of the area, 3,268 acres (13.2 km^2) on the western side of the SEZ. Excluding these areas will avoid impacts on significant cultural resources; grazing allotments; an important riparian area; Gunnison prairie dog, burrowing owl, ferruginous hawk, mountain plover, pronghorn birthing and winter habitat; and visual resources. Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

Because of the extensive potential impacts from solar development in the portion of the Los Mogotes East SEZ that was eliminated, those lands will be considered solar ROW exclusion areas; that is, applications for solar development on those lands will not be accepted by the BLM.

3.1.12 Amargosa Valley SEZ

Summary: Some comments received on the proposed Amargosa Valley SEZ were in favor of identifying the area as an SEZ, provided that specific concerns are addressed in the Final Solar PEIS. Many commentors, however, opposed designating the area as an SEZ because of the

potential negative impact on Death Valley wilderness and water resources and endangered desert species, including the Devil's Hole pupfish. Other commentors recommended that Amargosa Valley SEZ be reduced or reconfigured to avoid potential impacts. Some commentors suggested a boundary adjustment to avoid the 100-year flood channel and the secondary wash that is tributary to the Amargosa River, including a buffer to avoid potential impacts on wildlife and plant habitat, to provide flood control, and to preserve hydrologic function. There was a recommendation that the SEZ be moved to an area further from Death Valley NP to avoid impacts on special status species and important water resources.

One commentor recommended that the SEZ area be reconfigured to address potential impacts on groundwater-dependent species, a national wildlife refuge, and desert tortoise, while another recommended that the portion of the SEZ to the northeast of U.S. 95 be eliminated.

Concerns were expressed over potential impacts of groundwater withdrawals on the Ash Meadows National Wildlife Refuge (NWR), Devil's Hole, and the Amargosa Mesquite Trees ACEC. One commentor suggested eliminating the SEZ or restricting technologies to those that use the least amount of water, such as photovoltaic (PV). Several commentors supported the elimination of the Amargosa SEZ, citing the over-allocated groundwater basin, an important corridor for desert tortoise, the potential impact on the Devil's Hole pupfish, the presence of Big Dune, and because of its location within desert tortoise and other special status species habitat and because the region lacks both groundwater and surface water resources.

One commentor recommended that impacts on water availability, listed species, and viewshed for the Amargosa Valley SEZ should also be discussed in the Draft Solar PEIS in relation to impacts in California. Another concern was that facilities exceeding 50 ft (15 m) in height could be incompatible with low-level aircraft operations conducted in military training routes (MTRs) and/or present electromagnetic compatibility concerns, and that glare and heat emissions could present both flight and ground safety concerns. A concern over releases of radon from disturbed soil within the SEZ was expressed. One commentor opposed solar development in Amargosa Valley because of its proximity to numerous unrecorded archaeological sites, religious sites, songscapes, and storyscapes important to Southern Paiute people and the Pahrump Paiute Tribe and also requested that ethnographic studies be conducted. One commentor disagreed with the reduction in size of the Amargosa Valley SEZ in the Supplement to the Draft Solar PEIS, and recommended that it be offset by the identification of an alternative SEZ. Another commentor opposed technology limitations at the programmatic level.

Response: The proposed Amargosa Valley SEZ was reconfigured to eliminate the area south and west of the Amargosa River floodplain and the area northeast of U.S. 95, a total of 21,888 acres (88.6 km^2). Excluding these areas will mitigate many potential impacts, including impacts on Death Valley NP and desert tortoise. In addition, 1,258 acres (5.1 km^2) within the SEZ boundaries were identified as non-development areas. These areas consist of lands within the Amargosa River floodplain that were included in the SEZ only to facilitate definition of the boundaries using the Public Land Survey System (PLSS). The remaining developable area within the SEZ is 8,479 acres (34.3 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

To reduce the visual resource impacts of solar development within the proposed Amargosa Valley SEZ, SEZ-specific visual resource mitigation requirements were presented in the Draft Solar PEIS. However, the area of the SEZ that was labeled to meet Visual Resource Management (VRM) Class II-consistent objectives in the Draft Solar PEIS was eliminated from the SEZ.

On the basis of the water impact analysis provided in the Draft Solar PEIS, development within the remaining area of the SEZ may need to be restricted to PV technology or a technology with equivalent or lower water use. Updated analyses taking the revised SEZ boundaries into consideration will be included in the Final Solar PEIS. Because of the extensive potential impacts from solar development in the portion of the Amargosa Valley SEZ that was eliminated, those lands will be considered solar ROW exclusion areas; that is, applications for solar development on those lands will not be accepted by the BLM.

Regarding concerns for radon release if the soil is disturbed, this is not a valid concern because radon is a gas released from the natural decay of uranium, and there is no evidence that the soil within the Amargosa Valley SEZ has been contaminated with uranium.

3.1.13 Delamar Valley SEZ

Summary: Many comments received on the proposed Delamar Valley SEZ favored eliminating the area as an SEZ. Many comments expressed concern for ranching operations in the area and the effect of solar development in the proposed SEZ on grazing allotments in the area.

Commentors suggested removing the southern end of the SEZ because the sensitive resources in the playa lake make it inappropriate for solar development. There was a concern that any development in the SEZ would have an immediate adverse effect on current and future U.S. Department of Defense (DoD) operations on the Nevada Test and Training Range (NTTR). There was opposition to the designation of Delamar Valley as an SEZ because of its potential adverse impacts on water resources, soil resources, vegetation resources, visual resources, recreation, livestock grazing, wildlife, and county socioeconomics. If, however, the SEZ were to be carried forward, there was a recommendation that only PV technologies be considered because of the lack of groundwater resources in the area. One commentor recommended avoiding Joshua tree habitat along the northern portion of the SEZ, while others recommended eliminating Delamar Valley as an SEZ because of the region's limited groundwater availability and because the groundwater basin is fully appropriated. There were concerns over impacts on ROWs for the Groundwater Development Project.

Response: On the basis of public comments received on the Draft Solar PEIS, review by the BLM, and continued review of potential impacts identified in the Draft Solar PEIS, the Delamar Valley SEZ was eliminated from further consideration and will not be identified as an SEZ in applicable land use plans. The potential impacts from solar development in the proposed Delamar Valley SEZ were considered sufficient reason to eliminate the area from further consideration as an SEZ. Because this proposed SEZ was eliminated from further consideration

through the Supplement to the Draft Solar PEIS, the text of the analysis for the SEZ presented in the Draft Solar PEIS was not updated for the Final Solar PEIS.

Although the area has been dropped from consideration as an SEZ, the lands that composed the proposed Delamar Valley SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.14 Dry Lake SEZ

Summary: Many of the comments received on the proposed Dry Lake SEZ favored identifying the area as an SEZ with proper siting and design. For example, commentors recommended excluding the dry lake, playa, and washes to avoid impacts on wildlife and special status species habitat, and removing the portion of the SEZ that is southeast of I-15 to avoid impacts on the Old Spanish National Historic Trail. Commentors also recommended adjusting the SEZ boundary to reduce impacts on the National Historic Trail. There were concerns regarding impacts on use of the area for emergency military aircraft bailout purposes. A few commentors recommended that the Dry Lake SEZ be eliminated to avoid impacts on desert tortoise habitat and military test and training operations. One commentor recommended that the boundaries be adjusted to incorporate the EPA-identified contaminated site located 0.65 mi (1 km) from the SEZ.

Response: The proposed Dry Lake SEZ was reconfigured to include only the southernmost area that is northwest of I-15. Excluding the northern portion of the SEZ will mitigate some potential impacts from development in the SEZ, including impacts on desert tortoise and other wildlife, and potential impacts on military operations. The remaining area is 6,186 acres (25 km^2). In addition, 469 acres (1.9 km^2) of floodplain and wetland non-development areas within the remaining SEZ boundaries were identified. The remaining developable area within the SEZ is 5,717 acres (23 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

The lands eliminated from the proposed Dry Lake SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.15 Dry Lake Valley North SEZ

Summary: Many of the comments received on the proposed Dry Lake Valley North SEZ favored identifying the area as an SEZ with proper siting and design. Commentors recommended boundary adjustments to avoid important wildlife and special status species habitat. Other groups and individual members of the public favored identifying the area as an SEZ, with boundary

adjustments due to impacts on grazing. One commentor specifically requested that the area of the SEZ be limited to no more than 10,000 acres (40 km^2), stating that existing and planned transmission could accommodate only the corresponding amount of power generated. Other commentors requested that the SEZ be eliminated because of conflicts with military operations and training and lack of sufficient groundwater resources.

There was concern for groundwater development project ROWs and other areas identified for future ROWs that are located within the SEZ. Other comments requested changes to the transmission line and access road analysis. Some commentors argued that the boundaries for the Dry Lake Valley SEZ should be reduced further than was identified in the Supplement to the Draft Solar PEIS, while others recommended that the removed areas be classified as exclusion areas, rather than solar ROW variance areas. There was a recommendation that the PEIS limit solar development in the SEZ to technologies with a height no greater than 200 ft (61 m).

Response: The proposed Dry Lake Valley North SEZ was reconfigured to eliminate 48,148 acres (195 km^2), mainly the northern portion of the SEZ. Excluding the northern portion of the SEZ will mitigate some potential impacts from development in the SEZ, including impacts on sage-grouse and other wildlife, grazing, and military operations. In addition, about 3,657 acres (15 km^2) of wetland and dry lake non-development areas within the SEZ boundaries were identified. The remaining developable area within the SEZ is 25,069 acres (101.5 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

The lands eliminated from the proposed Dry Lake Valley North SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.16 East Mormon Mountain SEZ

Summary: Most of the comments received on the proposed East Mormon Mountain SEZ favored eliminating the area as an SEZ. However, there was support for designating the area as an SEZ. Many comments expressed concern for ranching operations in the area and the effect of solar development in the proposed SEZ on grazing allotments in the area.

There was a recommendation that any solar energy technologies that require structures higher than 700 ft (1,127 m) above ground level receive additional analysis. There was opposition to the designation of East Mormon Mountain as an SEZ because of its potential adverse impacts on the Mormon Mesa ACEC; specially designated lands with wilderness characteristics and designated by Congress; livestock grazing; recreation; DoD operating areas; sensitive soil, water, and vegetation resources; designated critical habitat for federally endangered species; and visual resource values.

Commentors also recommended eliminating East Mormon Mountain as an SEZ, because the SEZ includes desert tortoise habitat and is immediately adjacent to the Mormon Mesa Desert Wildlife Management Area (DWMA) and Beaver Dam Slope DWMA in the Northeastern Mojave recovery unit. The Nature Conservancy recommended avoiding the Toquop Wash, because it is a regionally important desert wash containing many of the Mojave Desert ecoregionally significant plant and animal species.

Response: On the basis of public comments received on the Draft Solar PEIS, review by the BLM, and continued review of potential impacts identified in the Draft Solar PEIS, the East Mormon Mountain SEZ was eliminated from further consideration and will not be identified as an SEZ in applicable land use plans. The potential impacts from solar development in the proposed East Mormon Mountain SEZ were considered sufficient reason to eliminate the area from further consideration as an SEZ. Because this proposed SEZ was eliminated from further consideration through the Supplement to the Draft Solar PEIS, the text of the analysis for the SEZ presented in the Draft Solar PEIS was not updated for the Final Solar PEIS.

Although the area has been dropped from consideration as an SEZ, the lands that composed the proposed East Mormon Mountain SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.17 Gold Point SEZ

Summary: Some of the comments received on the proposed Gold Point SEZ supported identifying the area as an SEZ, while others favored eliminating it (or, alternatively, reducing its size to include only the degraded area near U.S. 95 and State Route 266). There was opposition to the SEZ because of impacts on the town of Gold Point and its residents and because of its pristine conditions, Native American concerns, remote area, presence of pronghorn and sage grouse habitat, and lack of water.

Other environmental groups supported designation of the area as an SEZ but requested that the proposed transmission line run along existing highways to avoid fragmentation and impacts on recreation, and suggested that the BLM may need to scale back the peak construction year and full build-out scenarios, given limited water availability. Commentors also suggested that the project design take into consideration access to forage and water for antelope, particularly during dry periods. Concerns over encroachment into MTR airspace and structures higher than 50 ft (15 m) were also expressed during scoping for the Draft Solar PEIS. One commentor provided alternative locations for renewable energy development. There was also a request that the BLM include a study of the flood potential of the unnamed wash that bisects the SEZ for the Final Solar PEIS.

Response: No boundary revisions for the proposed Gold Point SEZ were identified. However, areas specified for non-development under SEZ-specific design features were mapped, where data were available. For the proposed Gold Point SEZ, 214 acres (0.87 km^2) of a

significant unnamed intermittent stream passing east–west through the center of the SEZ were identified as non-development areas. The remaining developable area within the SEZ is 4,596 acres (18.6 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

3.1.18 Millers SEZ

Summary: Many environmental groups providing comments on the Draft Solar PEIS did not identify major conflicts for the Millers SEZ. There was a request that nearby sand dunes and vegetation communities be avoided and a suggestion that the BLM may need to scale back the peak construction year and full build-out scenarios, given limited water availability. Commentors suggested that the BLM include analysis of potential impacts associated with sand dunes and vegetation communities in the Final Solar PEIS, as well as measures to avoid, minimize, or mitigate such impacts. Concerns over encroachment into MTR airspace and structures higher than 50 ft (15 m) were expressed during scoping for the Draft Solar PEIS. One commentor recommended that the Final Solar PEIS include distribution, population size and health, and habitat analysis for kangaroo mice, while another provided recommendations for alternative locations for renewable energy development. There was also concern for avian mortality, and commentors recommended that the SEZ should have height restrictions due to rare migratory bird species in the area. At least one commentor recommended that the Millers SEZ be eliminated due to Native American concerns.

Response: No boundary revisions were identified for the proposed SEZ. However, areas specified for non-development under SEZ-specific design features were mapped, where data were available. For the proposed Millers SEZ, Ione Wash and a small wetland area in the southern portion of the SEZ, totaling 253 acres (1.0 km^2), were identified as non-development areas. The remaining developable area within the SEZ is 16,534 acres (66.9 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

3.1.19 Afton SEZ

Summary: Most of the comments received on the proposed Afton SEZ favored identifying the area as an SEZ, but with required mitigation measures to protect sensitive plants, National Historic Trails, and cultural resources. These groups generally supported designation of the SEZ because of its proximity to existing roads and transmission lines; however, one commentor recommended that boundaries of the SEZ be modified to remove the Kenzin Conservation Area and protect its grasslands.

There were concerns that the impacts on ranching presented in the Draft Solar PEIS underestimated the true impacts on grazing allotments and suggested that mitigation of and/or compensation to affected ranching operations should be mandatory. One commentor supported designation of the area as an SEZ and agreed with the SEZ-specific design features in the Draft Solar PEIS, including specifying only PV technology and avoiding impacts on special habitat

types. One commentor recommended the removal of the Afton SEZ because of the potential impacts on El Camino Real de Tierra Adentro National Historic Trail, El Camino Real Scenic Byway, Butterfield Scenic Byway, and SRMAs. Full Circle Heritage Services believed that a more assertive effort should be made to consult with the tribes. Some commentors recommended stricter mitigation measures for water resources, including monitoring standards of water quality and groundwater levels, while others urged BLM to place limits on the amount of water that can be used and leave it to the developers to determine whether they can construct or operate within those limits rather than identifying technology limitations.

Response: The proposed Afton SEZ was significantly reconfigured to eliminate 46,917 acres (190 km^2) of land. Lands that were eliminated are at the north, northeast, southeast, and southwest boundaries. The rationale for the changes was to focus potential solar development in the area along the existing Section 368 corridor, where development already exists. In addition, 742 acres (3 km^2) of floodplain and intermittent and dry lake non-development areas within the remaining SEZ boundaries were identified. The remaining developable area within the SEZ is 29,964 acres (121.2 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

To accommodate the flexibility described in the BLM's program objectives and in light of anticipated changes in technologies and environmental conditions over time, the BLM has removed some of the prescriptive SEZ-specific design features presented in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS (e.g., height restrictions on technologies used to address visual resource impacts).

On the basis of the water impact analysis provided in the Draft Solar PEIS, development within the remaining areas of the SEZ may need to be restricted to PV technology or a technology with equivalent or lower water use. Updated analyses taking the revised SEZ boundaries into consideration will be included in the Final Solar PEIS. The lands eliminated from the proposed Afton SEZ will be retained as solar ROW variance lands, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.20 Mason Draw SEZ

Summary: Of the comments received on the proposed Mason Draw SEZ, most favored eliminating the area as an SEZ. Others supported designating the area as an SEZ, provided boundary adjustments were made. Multiple commentors supported designating the area as an SEZ if the boundary were adjusted to exclude the Sleeping Lady Hills unit of New Mexico Wilderness Alliance's Citizens' Proposed Wilderness Inventory. There was concern for ranching operations in the area and the disproportionate burden that would be placed on ranchers if development occurred on the SEZ. There was support for the elimination of the Mason Draw SEZ, because of the presence of large areas of intact native grassland of the Chihuahuan Semi-Desert Grasslands type, and populations of antelope, quail, and doves that make the area a

popular and high-quality hunting and wildlife-watching recreational resource. There were also concerns about impacts on wildlife and wildlife habitat, including pronghorn, mule deer, and Aplomado falcon, as well as overlap of the SEZ with the portion of the Goodsight Mountains' Citizens' Proposed Wilderness Area on the northern end of the unit. The Full Circle Heritage Services recommended a robust ESA and Section 106 consultation process.

Response: On the basis of public comments received on the Draft Solar PEIS, review by the BLM and continued review of potential impacts identified in the Draft Solar PEIS, the Mason Draw SEZ was eliminated from further consideration and will not be identified as an SEZ in applicable land use plans. The potential impacts from solar development in the proposed Mason Draw SEZ were considered sufficient reason to eliminate the area from further consideration as an SEZ. Because this proposed SEZ was eliminated from further consideration through the Supplement to the Draft Solar PEIS, the text of the analysis for the SEZ presented in the Draft Solar PEIS was not updated for the Final Solar PEIS.

Although the area has been dropped from consideration as an SEZ, the lands that composed the proposed Mason Draw SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.21 Red Sands SEZ

Summary: Many comments on the proposed Red Sands SEZ were received. Some commentors were in favor of eliminating the area as an SEZ, while others supported designating the area as an SEZ. There were concerns that groundwater withdrawals might affect the White Sands pupfish. At least one commentor recommended that the BLM modify the boundaries or drop the SEZ entirely. There were suggestions that the BLM work closely with affected tribes to determine whether development of the SEZ could cause adverse impacts on sacred viewsheds and whether those impacts could be adequately mitigated. One commentor favored eliminating the Red Sands SEZ because development within the SEZ could jeopardize groundwater at White Sands National Monument, and because it would have adverse impacts on the development and stability of the gypsum sand dunes and on visual resources of the White Sands National Monument. There was a recommendation that no power tower facilities be allowed in the SEZ.

Response: On the basis of public comments received on the Draft Solar PEIS, review by the BLM, and continued review of the potential impacts identified in the Draft Solar PEIS, the Red Sands SEZ was eliminated from further consideration and will not be identified as an SEZ in applicable land use plans. The potential impacts from solar development in the proposed Red Sands SEZ were considered sufficient reason to eliminate the area from further consideration as an SEZ. Because this proposed SEZ was eliminated from further consideration through the Supplement to the Draft Solar PEIS, the text of the analysis for the SEZ presented in the Draft Solar PEIS was not updated for the Final Solar PEIS.

Although the area has been dropped from consideration as an SEZ, the lands that composed the proposed Red Sands SEZ will be retained as solar ROW variance areas, because the BLM expects that individual projects could be sited in this area to avoid and/or minimize impacts. Any solar development within this area in the future would require appropriate environmental analysis.

3.1.22 Escalante Valley SEZ

Summary: Most of the comments received on the proposed Escalante Valley SEZ favored identifying the area as an SEZ. A few commentors proposed adjusting the boundary adjacent to the dry lakebed in the southwest portion of the SEZ with a buffer to protect the area and using existing access roads rather than constructing a new road from State Route 56.

There was a suggestion that BLM include the retirement of grazing allotments as a mitigation measure. There were also concerns over vegetation removal and soil disturbance within the Escalante Valley SEZ, and stringent guidelines and mitigation measures to preserve native vegetation and soils were recommended to alleviate impacts. One commentor recommended that cumulative impact analysis include an analysis of the proposed new road construction and new transmission lines and upgrades, particularly for species such as the greater sage-grouse, western burrowing owl, ferruginous hawk, pygmy rabbit, bald eagle, and Utah prairie dog. There was a recommendation that the BLM perform cultural resource surveys and Native American consultation prior to defining the SEZ, to ensure that the SEZ is an area with low resource conflicts. Commentors recommended that the BLM identify a 1,000-hectare (2,741 acres [11 km^2]) ecological reference area to provide a control area for researching impacts of utility-scale solar development and to inform future efforts in minimizing and mitigating impacts.

Response: No boundary revisions were identified for the proposed SEZ. However, areas specified for non-development under SEZ-specific design features were mapped, where data were available. For the proposed Escalante Valley SEZ, 12 acres (0.05 km^2) of dry lake area and 69 acres (0.28 km^2) of dune area were identified as non-development areas. The remaining developable area within the SEZ is 6,533 acres (26.4 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

3.1.23 Milford Flats South SEZ

Summary: Most of the comments received on the proposed Milford Flats South SEZ favored identifying the area as an SEZ and stated that the region is already fragmented and has low habitat value for many species. There was a concern that development of the SEZ would have a 12% impact on Utah prairie dog habitat, which is a substantial portion of this species' available and potentially suitable habitat in the Utah West Desert, and a recommendation was made that additional analysis of the impacts on the Utah prairie dog be provided in the Final Solar PEIS for the proposed Utah SEZs, including cumulative impact analysis. One commentor

recommended that additional analysis be provided in the Final Solar PEIS for impacts on the greater sage-grouse for the proposed SEZs in Utah, and that analysis regarding effectiveness of design features that avoid lek and nesting habitat should be conducted for each SEZ. Another commented that the assumed transmission corridor would cross greater sage-grouse brood-rearing habitat for the Black Mountains-Mineral East leks and is also part of the Bald Hills Bird Habitat Conservation Area. One commentor recommended that the Solar PEIS use the existing designated transmission corridor adjacent to and on the west side of the SEZ. Commentors indicated that the Utah Division of Wildlife Resources (UDWR) quad-level occurrences for greater sage-grouse intersect the SEZ itself, not just the affected area, and suggested use of a different transmission line and access road route than were assumed in the Draft Solar PEIS to minimize surface disturbance. There was also concern with the fragile soil and potential for fugitive dust generation at the proposed Milford Flats South SEZ. One commentor requested that the cumulative impacts assessment include analysis of the impacts of expected new road construction and of new transmission lines and upgrades on the greater sage-grouse, western burrowing owl, ferruginous hawk, pygmy rabbit, bald eagle, and Utah prairie dog. Commentors recommended that the Milford Flats SEZ be eliminated due to Native American concerns.

Response: No boundary revisions were identified for the proposed SEZ. However, areas specified for non-development under SEZ-specific design features were mapped, where data were available. For the proposed Milford Flats South SEZ, 228 acres (0.9 km^2) composing the Minersville Canal was identified as a non-development area. The remaining developable area within the SEZ is 6,252 acres (25.3 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected.

3.1.24 Wah Wah Valley SEZ

Summary: Many comments on the proposed Wah Wah Valley SEZ opposed identifying the area as an SEZ in the applicable land use plan. Environmental groups cited the remoteness, lack of water, impacts on special status species, including greater sage-grouse, the need for long, new transmission lines, and the lack of an underlying resource management plan framework as reasons that the proposed SEZ should be eliminated or deprioritized. There was a recommendation that the BLM not use the Section 368 corridor as the assumed location for transmission to connect the SEZ to the grid and a suggestion that the BLM perform cultural resource surveys and consultations prior to defining the SEZ. One commentor indicated that the SEZ contains a substantial portion of the Utah prairie dog and greater-sage grouse habitat in the Utah West Desert and recommended additional analysis and mitigation measures be provided in the Final Solar PEIS. Commentors urged the BLM to look more closely into the impacts on grazing allotments, recommended appropriate and generous mediation standards to compensate the animal unit month holder, and requested clarification on the applicability of neighboring county noise regulations.

Response: No boundary revisions were identified for the proposed SEZ. However, areas specified for non-development under SEZ-specific design features were mapped, where data were available. For the proposed Wah Wah Valley SEZ, 224 acres (0.91 km^2) of the Wah Wah

Wash were identified as non-development areas. The remaining developable area within the SEZ is 5,873 acres (23.8 km^2). Additional applicable non-development areas within SEZs may be identified during project-specific investigations when additional data have been collected. No corrections were needed regarding the noise impact evaluation for Wah Wah Ranch; this was evaluated using the Iron County regulation to provide a comparison with a neighboring county's regulation, not because it is applicable at the Ranch.

3.2 COMMENTS ON SITING

3.2.1 General Comments on Siting

Summary: Commentors stated that solar facilities should be sited in areas with low impact—on previously disturbed lands, near urban areas, and near existing transmission corridors; the facilities should be sited away from wilderness and important cultural resources, and scattered development should be avoided.

Response: The BLM has worked extensively throughout development of the Solar PEIS to identify appropriate areas for solar development on BLM-administered lands, including the identification of priority areas for development (SEZs) to avoid scattered development over large areas. In the Draft Solar PEIS, the BLM identified many categories of lands for exclusion from utility-scale solar energy development, including lands with known resources, resource uses, or special designations identified in local land use plans (e.g., ACECs, critical habitat areas, many SRMAs, no surface occupancy and ROW exclusion and avoidance areas). Through the Supplement to the Draft Solar PEIS and the Final Solar PEIS, the lands to be excluded were further refined in response to comments and through coordination with other agencies and stakeholders. Particularly, the BLM worked with the National Park Service (NPS) and the U.S. Fish and Wildlife Service (FWS) between the release of the Supplement and the Final Solar PEIS to exclude additional lands in close proximity to NPS units and overlapping priority desert tortoise connectivity habitat.

In the process of identifying the proposed SEZs, the BLM used siting criteria, working to locate the SEZs near existing transmission lines or designated corridors, on disturbed public lands where possible (e.g., in burned areas or damaged grazing lands), and in areas with low potential for impacts on natural or cultural resources. Through further investigation and consultation with stakeholders, seven of the originally proposed 24 SEZs were eliminated from further consideration, and the size of many of the SEZs was reduced because serious resource concerns were identified. The BLM used the knowledge gained through investigating the proposed SEZs and through modifying the exclusion areas in developing the SEZ identification protocol and the variance process for siting projects outside of SEZs that are presented in the Final Solar PEIS (see Section A.2.6 of Appendix A and Section 2.2.2.3 in the Final Solar PEIS, respectively).

3.2.2 Exclusion Areas

Summary: Many comments requested specific categories of the public lands be excluded from solar development. Some of these requested exclusion categories were citizen proposed wilderness areas; areas with high concentrations of archaeological resources or of significance to Native Americans; national parks, wilderness areas, national monuments, national historic trails, and areas near these specially designated areas; connectivity areas for desert tortoise as defined by the USFWS; desert wildlife management areas; golden eagle foraging and nesting habitats; conservation lands in California that were donated to the BLM; areas with highly erodable soils; riparian areas; and areas with the potential for adverse impacts on military operations.

Conversely, some comments stated that the exclusion criteria should be used to guide future solar development, and not as categorical exclusions. Comments stated that ROW avoidance areas specific in BLM land use plans and proposed critical habitat should not be exclusions categories. Some counties stated that there were too many exclusions and requested that more land be made available.

Comments were received on the application of exclusions only to siting of utility-scale solar energy generation facilities and not to any required linear infrastructure (i.e., new roads and transmission lines). Some commentors stated the exclusions should be applied to linear infrastructure. One commentor observed that the application of the 5% slope criteria to transmission lines and roads was not practicable. Some commentors noted the uncertainty introduced because the BLM lacked sufficient data to map all the exclusion categories, and urged the BLM to seek to digitize as much exclusion zone data as possible. There was also a question about why non-development areas within SEZs were not designated as exclusion zones.

Response: The BLM initially had 25 exclusion categories in the Draft Solar PEIS. Some of the exclusion categories requested by commentors, such as national monuments and national parks, are excluded from development by law and were never included as lands proposed to be available for solar development. Some additional requested exclusion categories were incorporated as Solar Energy Program exclusions through the Supplement to the Draft Solar PEIS or through the Final Solar PEIS (see Tables 2.2-2 of these documents for the specific exclusions). The BLM has continued to work with the NPS and the USFWS to exclude additional lands of concern.

The identification of exclusion areas allows the BLM to support the highest and best use of public lands by avoiding potential resource conflicts and reserving for other uses public lands that are not well suited for utility-scale solar energy development. Due to the size and scale of utility-scale solar energy development (typically involving a single use of public lands), the BLM is proposing to exclude a broader set of categories than would be identified in a land use plan for other types of ROWs. The exclusions proposed through the Solar PEIS include (1) *explicit* exclusions that will be delineated in the Solar PEIS ROD by a land base that would not change except by future land use plan amendment; and (2) *implicit* exclusions that will be defined in the Solar PEIS ROD by the presence or absence of a specific resource or condition where the land base may change over time (e.g., critical habitat). Implicit exclusions will be based on information in applicable land use plans as amended, Species' Recovery Plans, or

similar planning or guidance documents, and verified by site-specific information as necessary. Even with the exclusions that have been applied through the Final Solar PEIS, the total variance land area far exceeds the amount projected to actually be developed under the reasonably foreseeable development scenario (RFDS) (19 million acres [76,890 km^2] versus less than 300,000 acres [1,214 km^2]).

Although the BLM is continuously adding to and updating its spatial (GIS) data for managed lands, it has not been possible to completely map all of the exclusion categories for the variance areas. Exclusion areas that could not be mapped due to lack of data would be identified during pre-application consultations with local BLM staff or site-specific evaluation of individual ROW applications. For the SEZs, extensive work has been done to identify additional areas within them that are not suitable for development (and will be excluded from such development), so that uncertainty about subsequent identification of additional areas unsuitable for development has been considerably reduced. (Note**:** the term "non-development area" within an SEZ indicates an area that will be excluded from development).

While the Solar PEIS considers the impacts of constructing, operating, and decommissioning the related infrastructure needed to support utility-scale solar energy development, such as roads, transmission lines, and natural gas or water pipelines, the land use plan decisions to be made (e.g., exclusions, SEZs, etc.) will be applicable only to utility-scale solar energy generation facilities. Management decisions for supporting infrastructure would continue to be made in accordance with existing land use plan decisions and current applicable policy and procedures. Siting of supporting infrastructure would be fully analyzed in project-specific environmental reviews in accordance with NEPA. Such reviews would be completed in combination with solar generation facility environmental reviews as appropriate.

3.2.2.1 Requests To Add Exclusion Areas

Summary: These comments included requests to exclude specific areas from solar development, for example, culturally important sites within the Genesis Project area, the Ivanpah Valley, the Pisgah Valley, House Rock and the Arizona Strip in Arizona, conservation lands in California donated to the BLM, lands within the proposed Mojave Trails National Monument in California, and others.

Response: The BLM worked to incorporate some of the specific requested exclusions through the Supplement to the Draft Solar PEIS and through the Final Solar PEIS (e.g., Pisgah Valley, Ivanpah Valley, and the proposed Mojave Trails National Monument).

3.2.2.2 Requests To Add Buffer Zones

Summary: Comments were received on the Draft Solar PEIS and Supplement to the Draft Solar PEIS stating that the exclusion of 0.25 mi (0.4 km) from the centerline of National Historic Trails was insufficient. Similarly, comments were received stating that an exclusion corridor for water features should be established; the U.S. Environmental Protection Agency

(EPA) specifically recommended a 100-ft (30.5-m) buffer zone for protection of ecological resources. An interim buffer zone of 25 mi (40 km) for National Parks was requested by the NPS. An exclusion area of 2 mi (3.2 km) either side of any railroad ROWs was requested by a railroad company.

Response: The BLM agrees with the comments regarding the exclusion width for National Historic Trails, and therefore the exclusion for trails in the Final Solar PEIS has been restated to exclude the trails and any trail management corridors identified for protection through applicable land use plans. The specific exclusion of 0.25 mi (0.4 km) from the centerline of trails has been removed. For solar projects located in the viewshed of a National Historic Trail, the programmatic design features require that an inventory to determine the area of possible adverse impact on resources, qualities, values, and associated settings of the trail be conducted to prevent substantial interference and to determine any areas unsuitable for development. Controlling impacts on trails using this requirement will more accurately identify locations that require protective measures than using an arbitrary distance.

Although the identified non-development area for significant washes in SEZs has been identified as about 264 ft (80 m) from the centerline of the wash, this exclusion is just part of the protective measure identified for washes. The programmatic design features presented in Section A.2.2 of Appendix A require that adequate distance and measures be put in place to preserve the hydrological and ecological function of water features.

In response to concerns expressed by the NPS regarding impacts on NPS units, the BLM identified an additional 821,000 acres (3,322 km^2) of land to be excluded from the variance area; much of this area was within 25 mi (40 km) of NPS units. A specific exclusion was not added for railroad ROWs. Where applicable, railroad company concerns would be considered in preliminary meetings and coordination activities for applications in variance areas.

3.2.2.3 Wildlife Habitat Exclusions and SRMA Exclusions

Summary: Many comments expressed support for solar energy development, but only if wildlife and special status species could also be protected from adverse impacts. Some comments requested specific exclusions for certain wildlife habitats (e.g., DWMAs, tortoise connectivity areas). The USFWS recommended that SRMA areas in Nevada be designated as exclusion areas in Nevada because of concerns that displacing OHV users from SRMA areas would move those users into ecologically fragile areas, indirectly affecting wildlife. However, the Silver State project in Nevada, which is partially within an SRMA, was stated to be compatible with the recreational use intended for that area.

Response: The BLM has included many exclusions and required design features in its proposed Solar Energy Program for the protection of wildlife and special status species. Exclusions include designated and proposed critical habitat for special status species, DWMAs, sage-grouse habitat, fringe-toed lizard habitat, Mojave ground squirrel habitat, and so on. In addition, 515,000 acres (2,084 km^2) that overlap with priority desert tortoise connectivity habitat has been excluded from the variance area in the Final Solar PEIS. The design features include

requirements for pre-disturbance surveys to identify the presence of special status species, and avoid, minimize, and/or offset impacts on special status species if found to be present.

SRMAs are excluded in all states except Nevada. Development in SRMAs in Nevada would require assessment of the potential direct and indirect impacts on recreation and wildlife through the variance process.

3.2.2.4 Requests to Exclude Lands with Wilderness Characteristics

Summary: Commentors requested that lands with wilderness characteristics be excluded from solar energy development, including citizen-proposed wilderness areas.

Response: WAs and WSAs identified through the National Landscape Conservation System (NLCS) are excluded from solar development. Although citizen-proposed wilderness areas have not been categorically excluded from utility-scale solar energy development, the BLM has a system in place to evaluate the wilderness character of all proposed development locations and protect as appropriate such values where they exist. This process is described as part of the programmatic design features.

3.2.3 Environmental Concerns Related to Siting

Summary: Many comments expressed concern over a variety of adverse environmental impacts that could be associated with solar development.

Response: The agencies (BLM and DOE) have proposed actions that incorporate extensive protective measures to avoid, minimize, or offset adverse environmental impacts from solar energy development. See Sections 2.2 and 2.3 of this Final Solar PEIS for the details of these programs.

3.2.4 Concerns Related to Siting Solar Facilities near Residences

Summary: These comments requested that solar energy development be sited away from residential areas.

Response: Although some commentors were concerned about adverse impacts on residences near solar facilities (in terms of visual impacts, property values, traffic, and increased dust levels), many other commentors expressed support for siting near population centers in order to minimize transmission impacts. The BLM has not excluded development near residential areas, although few BLM-administered lands are in close proximity to highly populated residential areas. To sufficiently gather information on potential issues and barriers and/or opportunities related to a ROW application in a variance area, the BLM will require that a minimum of one public meeting be held as part of the variance process to allow for participation by all interested parties. The public meeting shall be located in close proximity to the community

most affected by the proposal and be adequately noticed. The BLM will also make information regarding ROW applications in variance areas available to the public online via the BLM Web site (www.blm.gov) and the Solar PEIS project Web site (http://solareis.anl.gov). In addition, in preparing selected parcels within SEZs for competitive offer, the BLM would be required to review all existing analysis for the SEZ and work with appropriate federal, state, and local agencies, and tribes, as necessary to ensure that potential environmental, cultural, or other resource conflicts are considered in the review, including the concerns of nearby residents.

In its proposed environmental guidance for solar energy development, the DOE has included recommendations for early contact with local officials to identify unique concerns for individual solar power generation projects, including concerns of local residents.

3.2.5 Concerns Related to Siting Solar Facilities near National Parks

Summary: Many comments opposed siting of solar facilities near units of the national parks system; most specified impacts on national parks as the main concern.

Response: The variance process described in Section 2.2.2.3 includes required coordination with the NPS for applications that could affect the viewsheds or recreational value of a national park or other NPS units. Such coordination will begin during required preliminary meetings, during which concerns of the NPS would need to be adequately addressed in order for the application process to proceed. NPS concerns would also be considered during the process of identifying new SEZs (Section A.2.6 of Appendix A). In addition, 821,000 acres (3,322 km^2) of land that coincides with NPS-identified areas of high-potential conflict have been eliminated from the variance area in the Final Solar PEIS (i.e., proposed for exclusion).

Three of the proposed SEZs (Riverside East in California, Fourmile East in Colorado, and Amargosa Valley in Nevada) have the potential for impacts on nearby national parks. These impacts have been partially addressed by changes in the SEZ boundaries, moving them further from the national parks. In addition, in preparing selected parcels within SEZs for competitive offer, the BLM would be required to review all existing analysis for the SEZ and work with the NPS, as necessary, to ensure potential impacts on national parks were considered.

In its proposed environmental guidance for solar energy development, the DOE has included recommendations for early contact with federal agencies to identify unique concerns for individual solar power generation projects, including concerns for impacts on national parks.

3.2.6 Slope and Solar Insolation Exclusions

Summary: Some commentors from industry stated that the exclusions for solar insolation and slope were unnecessarily restrictive, because technology advances might make development in those areas feasible and attractive over the 20-year study period covered by the Solar PEIS. Since the exclusions were not based on environmental concerns, the commentors thought they were inappropriate. An environmental group stated opposition to eliminating these

exclusion criteria, saying that the result would be the addition of about 23 million acres (93,077.7 km^2) to the variance area; the additional lands would introduce the possibility of development on upland slopes critical for climate change adaptation and in habitat areas that had not been addressed in the Solar PEIS.

Response: Lands with solar insolation levels less than 6.5 kWh/m^2/day and lands with slopes greater than 5% have been excluded from the lands available for solar application (variance lands) under the BLM's preferred alternative. The identification of exclusion areas allows the BLM to support the highest and best use of public lands by avoiding potential resource conflicts and reserving for other uses public lands that are not well suited for utility-scale solar energy development. Because of the size and scale of utility-scale solar energy development, the BLM is proposing to exclude a broader set of categories than would be identified in a land use plan for general ROWs.

Higher insolation values provide significant benefits for solar generation facilities. For instance, a reduction of 1 kWh/m^2/day in insolation is equivalent to approximately a 10% reduction in efficiency and, in turn, a proportional increase in costs and the land use footprint (because of the need for additional solar collection equipment to provide the same quantity of energy). Further, areas with higher slope can be more environmentally sensitive than areas with lower slope. In the Final Solar PEIS; however, the BLM has indicated that applications may include some lands with up to a 10% slope where higher-slope inclusions meet all of the following criteria: (1) they are proximate to variance lands in the application; (2) they are not otherwise excluded from development; (3) they allow for the avoidance or minimization of resource conflicts; and (4) they do not create any significant new or additional conflicts. In such cases, a land use plan amendment would have to be adopted as part of the project-specific analysis to permit the slope exception.

Consistent with existing regulations, applicants may request that the BLM amend a land use plan to allow for an otherwise nonconforming proposal (*BLM Land Use Planning Handbook* H-1601-1, 3.VII(B)). For example, an applicant may request a land use plan amendment for development in areas with higher slope or lower insolation than previously identified in order to avoid a potential resource conflict or to maximize the use of existing transmission. In addition, in an effort to provide flexibility to address possible technology advances, the BLM has considered the option of developing on higher slope or lower insolation lands in its SEZ Identification protocol (Section A.2.6 of Appendix A).

3.3 COMMENTS ON DESIGN FEATURES AND MITIGATION

3.3.1 Design Features

Summary: Many comments were received regarding the general and specific aspects of the programmatic design features presented in Section A.2.2 of Appendix A and the SEZ-specific design features presented in Chapters 8 through 13 of the Draft Solar PEIS (e.g., comments regarding design features for water use, wildlife migration corridors, protection

of railroad ROWs, recreation, dust suppression, grazing, transportation). Several comments stated that the design features should be mandatory and required (i.e., stated as "shall" rather than "should"). Other commentors stated that the design features were too restrictive and costly and should not be required for all projects.

Comments were also received stating that the design features included requirements for too many plans and that they should be consolidated into one plan addressing all requirements for protection of all resources. There was also a statement that the evaluation of the effectiveness of the design features needs to be included in the Solar PEIS.

Response: In preparation of the mitigation measures and design features included in the Draft and Final Solar PEIS, best management practices (BMPs) for renewable energy development compiled by the BLM and other agencies were considered (e.g., "Best Management Practices and Guidance Manual: Desert Renewable Energy Projects," Nov. 2010, REAT Report, available at http://www.energy.ca.gov/2010publications/REAT-1000-2010-009/REAT-1000-2010-009-F.PDF). In addition, the BMPs included in some of the National Environmental Policy Act of 1969 (NEPA) documents for fast-track and priority projects that became available during preparation of the Solar PEIS were reviewed for consistency.

The potentially applicable mitigation measures presented in Chapter 5 of the Draft Solar PEIS were taken in their entirety and proposed as required design features in Section A.2.2 of Appendix A of the Draft Solar PEIS. Based on input received through the Draft Solar PEIS and additional outreach conducted between the publication of the Supplement to the Draft PEIS and the Final PEIS, the BLM has modified the proposed design features presented in the Final Solar PEIS. For example, the number of required plans has been reduced, although the elements of all of the previously proposed plans must be considered in the Plan of Development submitted to the BLM for individual projects.

Because of site-specific circumstances, not all design features as written will apply to all projects (e.g., a resource is not present on a given site). Some design features may require variations from what is described (e.g., a larger or smaller protective area). In some cases, multiple options for addressing a potential resource conflict are provided. Applicants will be required to work with the BLM to address proposed variations in the design features and to discuss selected options for avoidance, minimization, and/or mitigation of potential resource conflicts. Variations in programmatic design features will require appropriate analysis and disclosure as part of individual project authorizations. Programmatic design features that do not apply to a given project should be described as part of the project case file along with an appropriate rationale. Additional mitigation measures may be identified and required during individual project development and environmental review.

Each SEZ resource section includes an assessment of the effectiveness of the programmatic and SEZ-specific design features in avoiding or minimizing the impacts of solar development on that resource. To accommodate the flexibility described in the BLM's program objectives and in light of evolving technologies and environmental conditions, the BLM has removed some of the prescriptive SEZ-specific design features presented in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS (e.g., technology restrictions, height restrictions on

technologies used to address visual resource impacts, and no wet-cooling for several SEZs). Instead of including the prescriptive design features, the BLM will give full consideration to any outstanding conflicts in SEZs as part of the competitive process being developed through rulemaking (see Section 2.2.2.2.1 of the Final Solar PEIS). For applications outside of SEZs, potential impacts and corresponding additional required design features will be given consideration through the variance process.

Specific details on applying the programmatic design features will be developed at the project level and coordinated through the appropriate agencies. Many of the design features that commentors requested to be added were quite specific; such specific requirements would be identified in the required project-specific plans that will be reviewed and approved by the BLM. The design features were developed for the protection of resources; the design features as presented in the Final Solar PEIS will protect those resources and additional modifications would not substantively add to resource protection.

3.3.2 Regional Mitigation Planning

Summary: Commentors requested that the Final Solar PEIS include additional information about how compensation for unavoidable impacts on resources (e.g., special status species, wetlands, migration corridors, grazing, recreation such as OHV use, public safety services) would be made for solar energy projects on public lands. Many questioned whether private lands would be purchased or public lands set aside and held in an undeveloped state to compensate for habitat loss elsewhere. Although some commentors were in favor of this traditional means of habitat loss mitigation, concerns were also expressed that such practices would result in adverse impacts on counties through loss of tax revenue. Commentors stated that the amount of land required for such mitigation was not available. In addition, concerns over adverse impacts on recreation due to loss of recreation locations were expressed, regardless of whether the mitigation lands would be on public or private lands. Some comments supported mitigation in the form of fees that would be used for funding conservation and habitat restoration efforts. With respect to impacts on National Historic Trails, there was a request to mitigate impacts through, among other things, new trail easements, development of interpretive sites, and establishment of alternative trail corridors to maintain the integrity of the trail networks. The need for explicit mitigation plans for the SEZs was stated, as well as for regional mitigation plans. It was stated that such plans should be designed consistent with existing wildlife management plans and policies. The regional mitigation plans should first focus on avoidance, then on minimization of impacts, and finally on offsetting impacts.

Response: The BLM's proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address impacts—avoidance, minimization, and offset of unavoidable impacts. Avoidance will be achieved through siting decisions and the identification of priority development areas (i.e., SEZs). Minimization will be achieved through siting decisions as well as through the application of programmatic and SEZ-specific design features and review and coordination activities under the proposed variance process. For those impacts that are not fully avoided or minimized, the BLM will determine whether measures to offset or mitigate negative impacts would be appropriate and may recommend such measures following

consultation with affected stakeholders. To help accomplish this goal, the BLM proposes to establish regional mitigation plans for development in SEZs (see Section A.2.5 of Appendix A). The framework outlined in the Final Solar PEIS incorporates many of the components suggested in the comments received, including allowing mitigation on both public and private lands, considering the full range of mitigation tools available (including changing land designations and restoration), ensuring adequate funding over time, acquiring third-party-managed mitigation funds, monitoring, and using adaptive management strategies to certify that mitigation is adequate relative to impacts over time. Such plans will establish priority mitigation activities and locations based on, and consistent with, existing conservation objectives, resource management plans, and other Federal, state and/or local goals. See Section A.2.5 of the Final Solar PEIS for additional details.

3.4 COMMENTS ON THE REASONABLY FORESEEABLE DEVELOPMENT SCENARIO (RFDS)

3.4.1 General Comments on the RFDS

Summary: The following bullet points represent the body of comments received on the RFDS presented in the Draft Solar PEIS.

- The assumptions used to derive the RFDS were not valid. This comment particularly was raised with respect to the assumption that 75% of solar development in the six-state study area would take place on BLM-administered lands; commentors were concerned that this assumption would not adequately represent the distribution of development on state, tribal, or private lands.

- The RFDS did not account for distributed generation potential and thus overestimated the amount of utility-scale solar energy development that would be needed in the future to meet energy demands.

- The RFDS underestimated the amount of utility-scale solar energy that will be developed in the future, assuming that state renewable portfolio standards (RPSs) will be raised, thus driving the market for more renewable energy development overall. (Incorrectly, some comments noted that the recent increase in the California RPS to 33% was not incorporated into the RFDS calculations; as clarified in Table E.2-1, footnote b, of Appendix E, the calculations assumed 33% renewable energy by 2020.)

- The PEIS cumulative impacts assessment would not be valid should the level of utility-scale solar development exceed the levels projected by the RFDS over the 20-year study period.

- The RFDS should be estimated in terms of megawatt-hours instead of using nameplate capacity in megawatts.

- A sufficient amount of land would be made available in the proposed SEZs to support the RFDS, making selection of the SEZ program alternative appropriate.

Response: The RFDS for the Solar PEIS was established to help define the potential magnitude of solar energy development that could occur within the six-state study area over the next 20 years. The RFDS is used to estimate potential cumulative impacts and to inform decision making. In an effort to capture all potential cumulative impacts, the RFDS represents an upper-end-of-the-range estimate. For example, it was assumed that 50% of all renewable energy in the six-state study area would come from utility-scale solar energy development. The agencies recognize, however, that it is possible that wind, geothermal, and hydropower may ultimately account for more than 50% of the renewable energy produced and that distributed generation could also meet some of the demand for renewable energy development.

The most up-to-date renewable portfolio standards were used to generate the estimates of megawatts of nameplate capacity required in each state. These methods resulted in an estimate of approximately 30,000 MW of utility-scale solar power on a corresponding 300,000 acres (1,214 km^2) of land (assumed about 10 acres/MW [0.04 km^2/MW]) in the six-state study area, including non-BLM-administered lands. The assumption that 75% of solar development would occur on BLM-administered lands (corresponding to about 24,000 MW and 214,000 acres [866 km^2] developed) did not affect the overall estimate of 30,000 MW across the six-state study area, but established an upper-range estimate for development on BLM-administered lands.

The RFDS was estimated in terms for nameplate capacity (megawatts) instead of megawatt-hours because nameplate capacity is the most comparable to existing information about planned projects. The unit megawatt-hours takes into account the operational time of facilities and how much power is actually produced (accounting for hours when the sun is not shining and solar facilities are not producing power). However, as detailed in Appendix E of the Draft Solar PEIS, the average operational time of solar facilities was taken into account in deriving the RFDS, so that the production time of solar facilities was factored into the estimates.

The RFDS generation and acreage estimates were used in the evaluation of cumulative impacts provided in Section 6.5 of the Draft Solar PEIS. A separate cumulative impact assessment for the individual SEZs was conducted for the individual SEZs that did not rely on the RFDS as an indicator of overall solar development in the vicinity, but instead looked at existing and proposed development of all types. If the overall RFDS of 30,000 MW is exceeded prior to the end of the 20-year study period or if development on BLM-administered lands exceeds 24,000 MW, the BLM and DOE would need to re-evaluate the cumulative impacts of such development through additional NEPA analyses.

3.4.2 Appropriateness of the RFDS

Summary: Some commentors stated that the assumption that 75% of solar energy would be met through development on BLM-administered lands was incorrect, because it did not account for the contribution of distributed generation on rooftops.

Comments were also received comparing the state-level RFDS estimates to the land made available for development in a state through SEZs, particularly in Nevada. Commentors from Lincoln County stated that area of the Dry Lake Valley North SEZ should be reduced because the RFDS for Nevada could be met with less land than was included in the proposed SEZ.

Response: The purpose of the assumptions that 50% of the RPS-based requirement for renewable energy production would be provided from solar energy and that 75% of the solar development would occur on BLM-administered lands was to meet the NEPA requirement to estimate an upper bound of impacts on BLM-administered lands and other lands from utility-scale solar development. To meet this requirement, high end estimates of utility-scale solar development on BLM-administered and other lands were purposely used, so that the impacts would not be underestimated. Similarly, the selection of the RPS method to estimate the RFDS rather than the Renewable Energy Deployment System (ReEDS) method (see Section 2.5 of the Draft Solar PEIS) was largely based on the fact that the RPS method generated larger RFDS estimates. The Solar PEIS text describing the RFDS methodology states that the estimates are likely to be conservatively high. The use of these assumptions in the Solar PEIS in no way limits the actual amount of distributed generation development that will occur over the 20-year study period. The assumption that a high proportion of utility-scale development would occur on BLM-administered lands was intended to result in a conservative assessment on which the BLM could base management decisions. However, the cumulative impact assessment presented in Section 6.5 of the Draft Solar PEIS and the Final Solar PEIS considers the total estimated development in the six-state study area, on both BLM-administered and other lands. Thus the proportion of the development assumed to occur on BLM-administered lands does not limit the assessment, but mainly was used to generate a conservative assessment of potential impacts on BLM-administered lands.

Through the Supplement to the Draft Solar PEIS, the area of the Dry Lake Valley SEZ was substantially reduced, but not to the 10,000 acres (40.5 km^2) recommended by the Lincoln County commentors. Additional acreage in SEZs above the amount corresponding to the state RFDS is needed to account for future identification of non-development areas in any of the state's SEZs, and also to account for possible export of power between states in the study area (i.e., the RFDS is applicable in total for the study area, not just for individual states).

3.5 INFRASTRUCTURE: TRANSMISSION AND ROADS

3.5.1 Transmission Line Assumptions and Capacity Constraints

Summary: Transmission line losses were a concern for many commentors, who generally stated that connecting remote solar facilities to the transmission grid would be a waste of resources, because of the high costs and inefficiencies of transmitting over long distances. The opinion was that transmission costs would be lower under the SEZ alternative because fewer transmission lines would need to be built. The DoD stated that constructing new lines or upgrading existing lines could have a large impact on its mission, depending on the location.

There were many comments regarding the assumptions used for the transmission analysis in the Draft Solar PEIS, mainly that the assumption of connecting the SEZs to the transmission grid through the nearest existing transmission line was not realistic, because those lines were unlikely to be available and/or would not have adequate capacity. Commentors on the Draft Solar PEIS requested that the following assessments should be added: the impacts (including land disturbance and costs) of constructing lines along actual routes of transmission from the SEZs to load centers, the available capacity on existing lines, the numbers of the substations required, the need for new or expanded corridors, and the wildlife impacts of new transmission lines. Some specific comments were that the identification of nearest existing transmission lines for some of the proposed SEZs was incorrect.

Response: In the Draft Solar PEIS, background information about transmission line configurations and regulations was given in Section F.4 of Appendix F. In terms of impact assessment, the Draft Solar PEIS included an assessment of the need for additional corridors to support development in SEZs (Appendix G), a generic assessment of the impacts on resources (e.g., water, wildlife, visual resources), and potential health and safety issues associated with use of public and private lands for construction and operation of transmission lines (Chapter 5). With respect to the selection of the SEZ locations, it was recognized that siting the SEZs near to existing transmission lines or designated corridors was important to facilitate actual development; all the SEZs are located either adjacent to or close to existing lines or corridors. The identification protocol for new SEZs also highlights the importance of transmission in identifying new SEZs. Because the BLM and DOE do not have a transmission planning mission, they have no jurisdiction over actual construction or upgrading of transmission lines. The BLM can, however, help to facilitate transmission by siting corridors on public lands.

The BLM acknowledges that the assumption of tie-in to the nearest transmission lines for the SEZs used in the Draft Solar PEIS was overly simplistic and did not adequately estimate the possible impacts of required new transmission. Therefore, in the Final Solar PEIS, the environmental impact assessment in the Draft Solar PEIS was enhanced with an upper-bound assessment of the potential impacts that would result from constructing all new transmission lines and substations for complete routes from SEZs to load centers, assuming the new lines would follow the routes of existing transmission lines. Because of the programmatic nature of the Solar PEIS and the fact that the routes for these lines are hypothetical, only a generic assessment of the total land disturbance and costs of constructing transmission from SEZs to load

centers was provided to supplement the generic impact assessment provided in Chapter 5 of the Draft Solar PEIS. This transmission impact assessment would necessarily be followed by location-specific analyses for actual new or upgraded transmission associated with future solar development.

The issue of transmission line losses was acknowledged in the Draft Solar PEIS, and some methods for reducing line losses were discussed (see Section F.4.3.2 of Appendix F). However, it appears to be transmission industry consensus that the line losses (estimated at up to 5% over longer transmission distances) would be tolerable in order to bring valued generation sources to market).

Where applicable, the updated SEZ sections in the Final Solar PEIS corrected errors regarding the locations of the nearest existing transmission lines (see the "Development Assumptions for the Impact Analysis" sections for the SEZs in Chapters 8 through 13 of this Final Solar PEIS).

3.5.2 Substations

Summary: A few commentors requested that the number, size, and cost of substations required to support solar development in SEZs should be provided in the Solar PEIS transmission analysis.

Response: The SEZ transmission analyses included in Chapters 8 through 13 of this Final Solar PEIS include an estimate of the number, size, and cost of substations required to bring electricity from each SEZ to a load center or centers.

3.5.3 Access Road Assumptions

Summary: Comments stated that existing access roads should be used where possible to minimize land disturbance. Several comments were received specific to individual SEZs, stating that an existing smaller road should be used and upgraded rather than constructing a new road in a different path.

Response: The proposed programmatic design features state that existing roads should be used where possible. In the Final Solar PEIS, the road location assumption for the Dry Lake Valley North SEZ was changed in response to these comments, to assume the access road would follow an existing county road path.

3.5.4 Updated Transmission Analysis Methods and Impact Assessment

Summary: These comments focused on the proposed revised transmission analysis methodology presented in Section C.7.1 of Appendix C of the Supplement to the Draft Solar PEIS, and the Brenda SEZ test case analysis that was made available on the project Web site at

the same time. Comments stated that the mid-range analysis of spare capacity on existing lines was flawed because it did not consider contractual availability of the existing transmission lines. In addition, comments stated that the analysis was flawed because it did not take into account multiple SEZs or other generation and transmission projects in the queue, and could lead to the conclusion that no new transmission lines were needed for certain SEZs. It was requested that the Final Solar PEIS assess expanded and new transmission corridors to accommodate SEZ development.

Response: The overall scope and approach for the transmission analysis in the Final Solar PEIS was guided by an extensive review of comments on the Draft Solar PEIS and the Supplement to the Draft Solar PEIS, and by input from staff at the BLM, the DOE, National Renewable Energy Laboratory (NREL), Western Area Power Administration (Western), and the Western Electricity Coordinating Council (WECC). Specifically in response to comments received on the Supplement to the Draft Solar PEIS, the agencies made significant changes to the transmission analysis, which are included in the Final Solar PEIS. The group of reviewers agreed that establishing a reasonable upper-bound estimate for transmission requirements and impacts (referred to as the dedicated-line transmission [DLT] analysis) would provide the analysis of potential environmental impacts to fulfill the requirements of NEPA for the programmatic scope of the Solar PEIS. This upper-bound analysis (DLT) identified the most likely load centers for power generated at a given SEZ, and estimated the land disturbance and costs associated with constructing all new transmission lines to the load centers along the routes of existing lines. Various transmission line configurations (in terms of circuit and bundle number) were evaluated to determine a range of possible costs. This analysis estimate the upper-bound impacts of transmission construction associated with the SEZs, because it was assumed that no spare capacity on existing lines was utilized.

As presented in the Supplement to the Draft Solar PEIS, the agencies also considered and tested a mid-range analysis, referred to as the shared-line transmission (SLT) analysis, in an attempt to evaluate the available capacity of the existing grid and available information about new planned or proposed transmission lines, some of which may be able to accommodate new solar electricity generation. The SLT methodology was determined to be useful in estimating potential spare capacity on existing lines, but is subject to greater uncertainties than estimating upper bounds as developed through the DLT analysis. While the SLT approach provides reasonable treatments of many transmission system capability factors, it does not capture all the considerations that influence transmission planning. For example, some of the technical representations that are typically addressed with greater precision in full-scale load flow studies were beyond the scope of this study (such as simulating all generation sources, all loads, and all transmission elements dynamically to determine how new generation sources influence system-wide balances). Based on these considerations, feedback on the methodology, and comments on an initial SLT test case, the SEZ-specific results of the SLT analyses have not been included in Chapters 8 through 13 of this Final Solar PEIS.

While the agencies expanded the scope of the transmission analysis in this Final Solar PEIS to include an upper-bound scenario for transmission development, adequacy of NEPA analysis, is very different from actually planning and constructing transmission lines to SEZs. The agencies recognize that the Solar PEIS itself can only go so far to address the real needs of

industry, but are committed to facilitating transmission to SEZs as an essential part of the ongoing program.

The BLM is committed to developing a set of guiding principles and corresponding process steps that will help ensure that current and future SEZs have the transmission infrastructure necessary to support full-scale project development. These steps will be a component of the established Solar Energy Program. Facilitating transmission to SEZs will require the BLM to more actively engage in regional transmission planning efforts coordinated through WECC and the California Independent System Operator (CAISO).

3.5.5 Transmission Corridors

Summary: Comments requested that new transmission corridors be designated through the Solar PEIS and that impacts from corridor designation be assessed.

Response: The Draft Solar PEIS included an assessment of the need for new corridors to support solar energy development. The assessment identified all BLM-administered lands within the six-state study area that were more than 25 mi (40 km) from existing transmission lines or corridors (termed transmission-constrained areas). The BLM will continue to evaluate transmission needs for the currently proposed SEZs including consideration of available capacity on existing lines and the need for new or modified corridors; efforts will also be made to proactively plan for any new or expanded corridors that may be needed to serve currently proposed SEZs. As part of the identification process for new or expanded SEZs, the BLM will simultaneously evaluate its transmission needs, including the need to designate new corridors or modify existing corridors (e.g., modify widths, modify locations). Corridor modifications or designations may be achieved through a joint land use planning and NEPA process to the extent practicable (see Section A.2.6 of Appendix A).

3.5.6 Transmission Planning, Policies, and Incentives

Summary: Some commentors stated that requirements should be included for generators to develop and share substations and gen-ties (local, generator-developed transmission lines used to connect energy generation facilities with the regional transmission grid), both to efficiently use infrastructure and to avoid geographically stranding some projects. A commentor also noted that solar facilities should share transmission facilities with wind projects where possible.

Other general concerns included coordination with transmission planning agencies (e.g., North American Electricity Reliability Corporation [NERC], WECC, CAISO) and incentives for constructing in SEZs with respect to transmission.

Response: The BLM recognizes that there can be potential problems if substations and gen-ties are not shared by developers with projects in the same SEZ and has included the following item under Section 2.2.2.2.3 (Incentives for Projects in SEZs) of this Final Solar PEIS: "In preparing parcels in SEZs for competitive offer, the BLM will seek to make the most

efficient use of existing corridors, consider opportunities for co-location, and avoid geographically stranding future projects from key transmission interconnection points." The possibility of sharing transmission lines or substations between wind and solar projects would be evaluated at the project-specific level. The BLM and the DOE have worked extensively to incorporate suggestions for improving the transmission planning, policies, and incentives for solar development (particularly within the SEZs), within the capacities of their jurisdictions. For example, the BLM requested that the currently proposed SEZs be reviewed as a case study by the Transmission Expansion Planning Policy Committee (TEPPC) of the WECC as part of the 2012 Study Program (the case study would examine system performance impacts associated with introducing power from the SEZs). The Draft 2012 TEPPC Study Program shows that request has been prioritized as high, meaning that it will be studied in the first round of TEPPC cases. Additional incentives for development in the SEZs are presented in Section 2.2.2.2.3 of this Final Solar PEIS.

3.6 PUBLIC INVOLVEMENT AND NEPA COMPLIANCE

3.6.1 Public Involvement

Summary: Many comments received during scoping for the Draft Solar PEIS requested that meetings be held in locations that would be affected by the Solar PEIS and requested that the public be kept informed of PEIS updates through the Internet, local papers, and local broadcasts. Other comments recommended that the BLM reach out to local communities (including local government, sportsmen, ranchers, and farmers) and tribes and provide opportunities for local involvement.

Some public comments received on the Draft Solar PEIS stated that scoping comments had not been adequately considered in preparation of the Draft. Commentors argued that if the BLM made substantial changes to the proposed action, it must publish a Supplement as opposed to a Final PEIS; commentors stated that new information could not be included in the Final PEIS and ROD and that the public had not been given the opportunity to comment on that information. Many comments requested an extension to the comment periods for both the Draft and the Supplement because of the documents' size.

Commentors on the Supplement to the Draft Solar PEIS requested that they be able to review the adaptive management plan and programmatic design features discussed in that document before they would be published in the Final PEIS. Many commentors felt that the BLM was responsive to public comments and recommendations made by the public, appreciated the publication of the Supplement to the Draft Solar PEIS to allow public comment on the revised alternatives, and appreciated that geospatial data were made available on the project Web site. In particular, commentors appreciated the changes to SEZs and variance lands that BLM made in the Supplement to the Draft PEIS.

Commentors requested that, after publication of the ROD for the Solar PEIS, all variance requests be made available online to the public and that all data used for decisions, monitoring,

and variance processes also be made available in a timely manner. Commentors requested that new data on the SEZs also be made available.

Response: The BLM and the DOE have made extensive opportunities for involvement and comment available to the public throughout the NEPA process of preparation of the Solar PEIS. A project Web site for the public was made available at the beginning of the scoping process to make relevant project information available, and the public was offered the opportunity to subscribe through the project Web site to receive e-mail updates of important project milestones. The agencies conducted scoping for the PEIS from May 29, 2008, through July 15, 2008, during which time members of the public could provide comments on the scope and objectives of the PEIS through the Solar PEIS Web site, by mail, or orally at public meetings. Public meetings were held at 11 locations during the scoping period. In June 2009, the BLM announced the availability of maps of the solar energy study areas and initiated a 90-day public comment period with respect to the study areas. After publication of the Draft Solar PEIS, there was a 90-day comment period that was extended for an additional 30 days and then extended a final time for an additional two weeks. Fourteen public meetings were held during the comment period on the Draft Solar PEIS. After consideration of comments, the BLM made significant changes to the Draft Solar PEIS including the elimination of seven SEZs from further consideration. In October 2011, the BLM published a Supplement to the Draft Solar PEIS and initiated a 90-day comment period with plans for four public meetings. In response to requests, the BLM added an additional public meeting in the San Luis Valley in January 2012. In addition, in response to requests to allow the public an opportunity to see key new or revised materials prior to release of the Final Solar PEIS, several key elements of the BLM's Solar Energy Program (i.e., proposed programmatic design features, the proposed Solar Long-Term Monitoring and Adaptive Management plan, and the proposed Regional Mitigation Framework were made available through the project Web site (http://www.solareis, anl.gov) in April 2012. The BLM has continued to work with stakeholders throughout the preparation of the Final Solar PEIS. In particular, the BLM worked with cooperating agencies between the release of the Supplement and the Final Solar PEIS to exclude additional lands in close proximity to NPS units and overlapping priority desert tortoise connectivity habitat.

Although the BLM considered all comments submitted during public comment periods, not all comments resulted in changes to the PEIS. The project Web site is available to inform the public of PEIS updates and information. The Web site includes all project documents including public meeting transcripts, the full Draft Solar PEIS, Supplement to the Draft Solar PEIS, and Final Solar PEIS; documents to support solar energy development; GIS data for the lands available under the various BLM alternatives; interactive mapping tools; panorama views of each SEZ; ethnographic analyses for nine proposed SEZs; BLM solar and renewable energy policies; and additional resources about solar energy technologies.

3.6.2 Government-to-Government Consultation

Summary: Many commentors requested that federal agencies comply with the Section 106 process and engage in government-to-government consultation when reviewing individual proposed projects; they opposed approval of utility-scale solar projects before

completion of Section 106 and government-to-government consultation processes. There were concerns that government-to-government consultation with tribes was not adequate to identify specific information about project impacts on traditional cultural properties. One commentor requested that BLM consult with tribes to identify additional areas that should be excluded from solar energy development. Commentors requested that the BLM and the DOE discuss more explicitly how impacts on tribal or cultural resources will be avoided or mitigated, consistent with Executive Order (E.O.) 13175, "Consultation and Coordination with Indian Tribal Governments" (*Federal Register* 65[281]:67249–67252), Section 106 of the National Historic Preservation Act, and E.O. 13007, "Indian Sacred Sites" (*Federal Register* 61[104]:26771–26772.

Commentors also recommended that BLM and DOE identify the most effective ways of establishing meaningful consultation and collaboration with tribal officials. One commentor recommended that BLM and DOE work with the Bureau of Indian Affairs to engage tribal governments to determine whether there is interest in developing future SEZs on tribal land. A comment was made that the scope of the PEIS is too large to conduct meaningful tribal consultation. Another commentor was disappointed that there was no coordination between the tribes and the local BLM field offices. There was a request that BLM complete the Section 106 process before the ROD is signed for the PEIS. One commentor requested that tribes be made partners as power providers.

Response: In response to concerns over BLM tribal consultation practices, Instruction Memorandum (IM) No. 2012-032, *"*Native American Consultation and Section 106 Compliance for the Solar Energy Program Described in Solar Programmatic Environmental Statement*,"* was issued in December 2011 to improve tribal consultation procedures for the solar program (see Section A.1 of Appendix A) The BLM will consult with federally recognized Indian tribes early in the planning process to identify issues and areas of concern regarding any proposed solar energy project. Such consultation is required by the National Historic Preservation Act of 1966 (NHPA) and other authorities (such as E.O. 13175, "Consultation and Coordination with Indian Tribal Government," E.O. 13007, and the like) and is necessary to determine whether construction and operation of a project is likely to disturb traditional cultural properties or sacred sites, impede access to culturally important locations, disrupt traditional cultural practices, affect movements of animals important to tribes, or visually affect culturally important landscapes. Such consultation shall cover planning, construction, operation, and reclamation activities. The BLM will work with tribes during consultations to establish reasonable schedules for their input on important projects, recognizing their limited resources and the time necessary to thoroughly review a project. Agreements or understandings reached with tribes shall be carried out in accordance with the terms of memorandums of agreement (MOAs) or State Specific Procedures as defined within the Solar Programmatic Agreement (PA). The BLM will also consult with Indian tribes under the terms of the Native American Graves Protection and Repatriation Act (NAGPRA). Consultation will continue beyond the ROD for this Final Solar PEIS.

BLM IM No. 2011-061, "Solar and Wind Energy Applications—Pre-application and Screening," issued in February 2011, describes the pre-application and screening procedures required for solar and wind energy applications. Agency policy requires at least two pre-application meetings with the applicant. Their purpose includes the identification of needed

cultural resource studies. Tribes will be asked to participate. Screening criteria encourage responsible BLM line officers to prioritize the processing of applications for areas with the lowest potential for conflicts, including cultural resource concerns.

Appendix K summarizes the government-to-government tribal consultation efforts undertaken by the BLM throughout the development of the Solar PEIS. Consultation in the form of correspondence, phone conversations, e-mail, and transmission of maps, documents, and reports has occurred with more than 65 tribes. Face-to-face meetings with at least 16 tribes have led to the exchange of information and concerns that have shaped the outcome of this PEIS process.

Ethnographic studies were also completed for several SEZs in Nevada and Utah, and the results have been incorporated into this Final Solar PEIS. The completed ethnographic report is available in its entirety on the project Web site (http://solareis.anl.gov). In a letter sent to all tribes with cultural and/or historical ties to SEZ and/or variance areas in October 2011, the BLM asked whether they shared concerns similar to those expressed in the ethnographic report. The BLM inquired whether, for those areas of cultural and historical importance to tribes, there are landscape features, sites, or resources of cultural, historical, or sacred importance that the BLM should consider in the environmental review process. The BLM asked whether there are published or unpublished ethnographic accounts or other studies that tribes would recommend the BLM review when evaluating sacred landscapes or traditional cultural properties in areas subject to solar development. Additional cultural and ethnographic work is also being conducted for the SEZs in Colorado, as indicated in the Colorado SEZ sections of the Final Solar PEIS. As money becomes available, it is possible that additional ethnographic studies could be funded within the remaining SEZs in the future.

Regarding future applications, government-to-government and project-specific consultations with tribal staff usually provide adequate opportunities for tribes to identify traditional cultural properties or sacred sites. However, there may be times when responsible line officers need new ethnographic research to adequately consider the effects of solar development on issues and resources of concerns to tribes. BLM Field Office cultural staff, including specialists assigned to Renewable Energy Coordination Offices where present, in consultation with their Deputy Preservation Officer, will recommend to responsible BLM line officers whether new ethnographic data are required for a given solar application. Should new ethnographic research, studies, or interviews be judged as necessary, the BLM cultural staff, in consultation with tribal officials, will recommend to BLM line officers the appropriate scope of the study, as well as provisions for safeguarding data confidentiality if requested by the tribe.

3.6.3 Cooperators and Local Government Participation

3.6.3.1 Cooperators and Government Participation

Summary: Comments were received on both the Draft Solar PEIS and the Supplement to the Draft Solar PEIS from most of the cooperating agencies (see Section 1.6 of this Final Solar

PEIS for the list of cooperators). The comments expressed various concerns relating to the cooperators' input to the BLM's Solar Energy Program. The NPS requested that it have a role in determining the appropriateness of applications in variance areas in proximity to NPs and National Historic Trails. Subsequent to publication of the Supplement, the USFWS and the NPS submitted detailed GIS information to the BLM requesting that specific areas near NPS units and desert tortoise connectivity areas be eliminated from the variance area footprint. Lincoln County in Nevada provided extensive comments on the Draft Solar PEIS with rationale for exclusion of the proposed Delamar Valley and East Mormon Mountain SEZs and for a reduction in size of the Dry Lake Valley North SEZ; Lincoln County also requested that it be involved in the development of regional mitigation plans. The California Energy Commission (CEC) recommended cooperation between the BLM and CEC in order to better site solar projects. Commentors urged the BLM to develop policies to encourage interagency coordination (e.g., MOUs), including specific guidance on coordination with military and civilian aviation and radar concerns. Esmeralda County in Nevada stated that the BLM should have considered some locations in the county for SEZs. The Nevada Department of Wildlife requested more participation in providing information and data relating to wildlife and the desert tortoise variance process requirements.

Response: The BLM worked extensively with the cooperating agencies throughout preparation of the Solar PEIS. Pre-publication versions of the main sections of both the Draft and Final Solar PEIS were provided to the cooperators, and their comments were considered in preparation of the published versions. In many cases changes were made to the Solar PEIS in response to concerns expressed by cooperators (e.g., changes made in response to Lincoln County comments). In addition, the BLM worked with the NPS and the USFWS between the release of the Supplement and the Final Solar PEIS to exclude some additional lands in close proximity to NPS units and overlapping priority desert tortoise connectivity habitat.

3.6.3.2 Local Government Participation

Summary: Many commentors urged that the BLM work with local governments at the beginning of the application process when developing solar energy, because it is greatly affected by decisions made concerning the management and development on federal land. Commentors expressed concern that the PEIS did not include stronger language when referring to coordination with local governments and their regulatory requirements. Inyo County in California requested additional coordination with the BLM to resolve inconsistencies between the PEIS and its General Plan, including potential areas for renewable energy development. Other commentors were also concerned with consistency between BLM and local plans and policies. There were concerns from local governments about potential lost economic opportunities (tourism, mining, grazing, and recreation) and that there is not clear guidance on how local governments can have economic impacts addressed and mitigated. There were also concerns that costs to local government from increased infrastructure and need for public services were not fully addressed. One commentor requested that the BLM allow counties to have a role in designating future SEZs, while another requested that local governments be included in the assessment of energy need. Another commentor recommended that the BLM—not local and state government—fund monitoring programs. One comment recommended that

discussions with state and local governments be conducted before SEZs were eliminated from consideration, while another recommended that the new SEZ protocol include a requirement that all petitions for new SEZs have support from the state and county. A comment was received requesting that local governments be required to attend at least one pre-application meeting and that consultation with the state and local government occur during the variance process. A few commentors argued that their comments had not been adequately addressed.

Response: The BLM has identified many opportunities for local governments to participate in the Solar Energy Program and has provided opportunities for coordination among local stakeholders. As outlined in its planning criteria, the BLM will coordinate with federal, state, and local agencies and tribal governments in the PEIS and plan amendment process to strive for consistency with existing plans and policies, to the extent practicable. The SEZ Identification Protocol allows new SEZs to be identified and analyzed through state or local land use planning efforts, and the BLM will encourage local land use planning efforts to consider the need for, and identify as appropriate, new SEZs as part of regular land use plan revisions. In addition to the land use planning and NEPA processes, the BLM will utilize local Resource Advisory Councils (RACs) as a venue for sharing information and engaging in a meaningful dialogue with interested stakeholders. The BLM will require prospective applicants in variance areas to schedule and participate in two preliminary meetings with the BLM before filing a ROW application in a variance area; the aim of the second preliminary meeting is to initiate and ensure early coordination with federal (e.g., NPS and USFWS), state, and local government agencies and tribes. Finally, BLM's proposed programmatic design features includes many opportunities for local government involvement and consultation including the following: (1) make early contact with local officials, regulators, and inspectors to explore all applicable regulations and address concerns unique to solar power generation projects; (2) emphasize early identification of, and communication and coordination with, stakeholders, including, but not limited to, federal, state, and local agencies; special interest groups; Native American tribes and organizations; elected officials; and concerned citizens; (3) consult with local agencies regarding potential impacts of development within, adjacent, or close to state or local special use areas such as parks; (4) avoid lands identified as incompatible for renewable energy development by local governments; (5) compare preliminary site grading, drainage, erosion, and sediment control plans with applicable local jurisdiction requirements; (6) consult federal, state, and local "water-wise" guidelines, as applicable, for project development in the arid Southwest; (7) site facilities to maximize local, regional, and statewide economic benefits and utilize coordination with local and state entities such as state and county commissions, planning departments, and so on; and (8) site projects to minimize adverse effects on area housing markets and local infrastructure (e.g., schools and other public services) and to ensure adequate housing vacancy rates and local infrastructure support for workers and their families.

3.6.3.3 State and Regional Participation

Summary: Many commentors recommended that future solar development in the California desert should be closely coordinated with the DRECP development and implementation. Comments requested that the PEIS incorporate solar energy development and conservation areas identified through other federal and state solar energy planning efforts such as

the DRECP and Arizona Restoration Design Energy Project (RDEP); the PEIS should also indicate that additional requirements may apply under the DRECP and the Arizona RDEP that could supersede those presented in the Solar PEIS.

There were also recommendations that the BLM defer BLM land use plan amendments for the lands identified that are outside of the SEZs pending the outcome of the DRECP planning effort. Commentors recommended that the BLM adopt a plan of avoiding known key habitats in the California Desert Conservation Area (CDCA) pending completion of the DRECP. There was a recommendation that the Final Solar PEIS should consider how federal policies will be coordinated with the mitigation measures that will be developed as part of the California DRECP and those in the recently issued USFWS guidance on the Bald and Golden Eagle and Migratory Bird Treaty to ensure that developers are not subject to multiple mitigation standards.

Recommendations were made that the BLM should consider policies, recommendations, and findings from state and regional stakeholders including the CEC`, Nevada's electric utility agency, Public Utilities Commission of Nevada (PUCN); Arizona's Arizona Corporation Commission (ACC); water managers in Nevada, Arizona, and California; the California Transmission Planning Group; the State of Nevada's Renewable Energy Transmission Access Advisory Committee; the Nevada State Engineer; the Utah Office of Energy Development; the Nevada Department of Wildlife; the State of Nevada Energy Office; and the Western Governors Association. Commentors urged the BLM to work with these groups because groups at the state level might be in a better position to address potential conflicts based on regional knowledge unavailable to a federal agency. Similarly, comments argued that SEZs were identified based on state-by-state evaluations rather than regional relationships and do not take into account federal, state, and local plans and initiatives and that regional planning must occur in the identification of new SEZs. A recommendation was made that the Solar PEIS encourage or mandate the BLM to issue MOUs detailing agency specific responsibilities with affected state and local agencies when siting future solar facilities on BLM lands. Commentors recommended that there be coordination with state issues such as land use conflicts such as mitigation target areas.

Comments recommended that environmental reviews be administered through the local field offices and that field offices determine the siting for solar energy projects. One comment recommended that BLM offices in Nevada and California need to jointly process applications in the Amargosa region where development on both sides of the state line may have effects on regional groundwater systems. Finally, comments urged BLM to consider regional conservation strategies.

Response: The BLM has identified many opportunities for local governments to participate in the Solar Energy Program and has provided opportunities for coordination among local stakeholders. As outlined in its planning criteria, the BLM will coordinate with federal, state, and local agencies and tribal governments in the PEIS and plan amendment process to strive for consistency with existing plans and policies, to the extent practicable. The SEZ Identification Protocol allows new SEZs to be identified and analyzed through state or local land use planning efforts and the BLM will encourage local land use planning efforts to consider the need for, and identify as appropriate, new SEZs as part of regular land use plan revisions. In addition to the land use planning and NEPA processes, the BLM will utilize local RACs as a

venue for sharing information and engaging in a meaningful dialogue with interested stakeholders. BLM's proposed landscape approach aims to promote coordinated partnership actions at the landscape and local levels.

The BLM will give consideration to ongoing regional efforts as part of the evaluations of projects in variance areas and the identification of new SEZs. The BLM will require applicant's present information that the proposed project will be consistent with priority conservation, restoration, and/or adaptation objectives in best available landscape-scale information. When evaluating projects in variance areas, the BLM will consider if the proposed project will be located in a priority area identified in an applicable BLM land use plan for solar energy development and/or by another related process such as the California DRECP (e.g., Development Focus Areas) or Arizona RDEP (e.g., Renewable Energy Development Areas). Further, as described in the variance process, the Renewable Energy Action Team (REAT) agencies will be engaged in evaluating variance applications submitted in the DRECP planning area to maintain consistency between the PEIS and the DRECP's goals and objectives. This need for consistency with the DRECP goals and objectives and other ongoing regional efforts is also highlighted in the identification protocol for new SEZs.

3.6.4 Adequacy of NEPA Analysis

Summary: Many commentors thought that the purpose and need was too narrow and that the PEIS failed to consider a full range of alternatives. Alternatives suggested by commentors included distributed energy, nonfederal lands, and conservation. Commentors also claimed that the PEIS did not adequately assess environmental impact, impacts of transmission line upgrades, and the cumulative impacts of widespread energy development. Specifically, commentors thought that the PEIS failed to provide a quantitative analysis of cumulative impacts and that there was not enough baseline information to develop a Final PEIS.

Other commentors were concerned that the design features were too broad and could be interpreted or applied inconsistently. Other commentors similarly requested that the language in Appendix A be stronger and that the PEIS include unresolved, deferred, and inadequate mitigation measures.

Commentors suggested that standards and guidelines be established for project-specific EISs, that the PEIS should be revised every 5 years, and that there be a discussion of the appeals process. At least one commentor indicated that the PEIS failed to adequately evaluate the suitability of the SEZs. Other commentors recommended that the Amargosa Valley, Millers, and Brenda SEZs be evaluated in the cumulative impacts sections for the California SEZs because issues with water, listed species, and viewsheds could have an impact in multiple states.

Response: As described in the Final Solar PEIS, the BLM expects to make planning-level decisions through the Solar PEIS, such as land use designations and design features. The program elements adopted via planning-level decisions will provide the basis for future project-specific utility-scale solar energy development decisions. The Solar PEIS appropriately evaluates the potential direct, indirect, and cumulative environmental, social, and economic effects of

establishing broad Solar Energy Program elements and strategies across the six-state study area. Because the proposed program involves environmental effects over a broad geographic and time horizon, the depth and detail of the impact analysis are fairly general, focusing on major impacts in a qualitative manner.

The Solar PEIS reasonably enumerates and quantifies past and ongoing actions that affect the environment in Chapter 6 and in the individual SEZ chapters. However, given the high level of uncertainty in both the ultimate level of development and the locations of development, it would not be appropriate to speculate on the specific contributions of such development to cumulative impacts, but rather to make assessments as to whether such contributions on the whole would be small, moderate, or large, as the Solar PEIS does. It is not possible at this time to perform a meaningful quantitative analysis of cumulative effects, for example, employing biological thresholds that could portent disproportionate effects. The level of cumulative effects analysis performed in the Solar PEIS is appropriate for the current level of understanding of foreseeable solar development and for informing the decision for which the analysis was performed.

3.6.5 Need for Supplementation of the Draft Solar PEIS

Summary: Commentors were concerned that the Draft Solar PEIS was did not provide enough site-specific analysis to ensure the best management of public resources. One commentor recommended that a second Draft Solar PEIS be issued before a Final Solar PEIS that would be broader in scope and include more detailed analysis than the Draft Solar PEIS included. One commentor was concerned that many of the proposed design features, mitigation measures, and monitoring plans presented in the Draft Solar PEIS were too broad in nature, and called for greater detail in the Final Solar PEIS. Regarding the Supplement to the Draft Solar PEIS, a few commentors stated that if the additional data identified as needed in the Supplement to the Draft would constitute significant new information relevant to environmental concerns, the BLM must publish another Supplement to the Draft Solar PEIS instead of a Final Solar PEIS, and circulate the Supplement to the public for review.

Response: The program elements of the Solar PEIS to be adopted by the BLM via planning-level decisions will provide the basis for future project-specific utility-scale solar energy development decisions. The Solar PEIS appropriately evaluates the potential direct, indirect, and cumulative environmental, social, and economic effects of establishing broad Solar Energy Program elements and strategies across the six-state study area. 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 modifications to the BLM proposed Solar Energy Program made through the Supplement to the Draft Solar PEIS and the Final Solar PEIS address many of the concerns raised by the commentors.

The SEZ action plans in the Supplement to the Draft Solar PEIS described additional data that could be collected for individual SEZs and proposed data sources and methods for the collection of those data. Work is under way by the BLM to collect some of the additional data as

specified under these action plans (e.g., additional data collection to support evaluation of cultural, visual, and water resources has begun). The BLM intends to make additional data for the SEZs that are obtained subsequent to issuance of the Solar PEIS available to interested stakeholders through the Solar PEIS Web site (solareis.anl.gov). Notices of new data availability will be sent to Web site subscribers. However, note that additional data and analysis will help facilitate development in SEZs, but the BLM is not required to identify an area as an SEZ as part of the Solar Energy Program.

3.7 POLICY

3.7.1 Need for an Energy Plan

Summary: Comments requested that the agencies review their missions in light of a national energy policy in order to address issues such as how much solar power is needed, how large the facilities should be, the technologies that should be used, and where they should be located (e.g., near demand).

Response: This Solar PEIS was undertaken to address the direction of Congress to facilitate renewable energy development (in this case solar), both on private and public lands. The amount of solar energy production evaluated (the RFDS) is based on each of the six states' legislated demand for renewable power. It is not the mission of the agencies or the Solar PEIS to determine issues such as which of the available technologies should be used or a maximum facility size. The Solar PEIS does delineate the potential adverse impacts of the technologies, identifies particularly sensitive lands, and develops appropriate and protective corresponding required mitigation measures (design features).

3.7.2 Equity/Local Impacts

Summary: Many comments on the Draft Solar PEIS stated that there should be some benefits to towns and counties from solar development on nearby public lands. Comments on the Supplement to the Draft Solar PEIS stated that there should be a substantial benefit to the local and regional communities near solar developments and that local residents should be hired to work at the solar facilities. Some comments favored a phased approach to development to avoid boom/bust cycles and to promote permanent jobs.

Response: Revenues from ROW authorizations on the public lands, including solar energy ROW authorizations, are deposited in the General Fund of the Treasury. There is no authority under the Federal Land Policy and Management Act (FLPMA) or other laws that provides for any other distribution of revenues to state or local governments. Special legislation would be required to provide for any other distribution of revenues, and this is outside the scope of the Solar PEIS. The BLM does intend to consider the social and economic impacts associated with the build out of SEZs through the development of regional mitigation plans for SEZs.

Some local revenues would be generated through local sales tax on materials, equipment, and supplies for solar facilities purchased locally and from purchases and expenses by solar facility employees in the local area. In addition, utility-scale solar energy development could result in local and regional economic benefits in terms of both jobs and income created. The associated transmission system development and related road construction would also translate into new jobs and income. These benefits would occur as both direct impacts, resulting from the wages and salaries, procurement of goods and services, and collection of state sales and income taxes, and indirect impacts, resulting from new jobs, income, expenditures, and tax revenues subsequently created as the direct impacts circulate through the economy. Increasing the pace of solar energy development would cause these economic benefits to be realized at a faster pace as well.

3.7.2.1 Impacts on the San Luis Valley Community

Summary: Several comments were received indicating a preference for small-scale development on private lands in the San Luis Valley. Commentors were in favor of phased development that would promote sustainable economic growth and reduce impacts. There were also concerns that equitable revenue sharing was not analyzed in the Solar PEIS and requests that the Solar Program require hiring of local residents. Commentors stated that a plan for the energy produced in the valley is needed, and that some or all of the electricity generated should stay in the valley. Concerns were expressed about transmission constraints within the San Luis Valley (e.g., limited possible routes in and out).

Response: Decisions on utility-scale projects on public lands do not preclude smaller developments on private lands, if there is market interest. Revenues from ROW authorizations on the public lands, including solar energy ROW authorizations, are deposited in the General Fund of the Treasury. There is no authority under FLPMA or other law that provides for any other distribution of revenues to state or local governments. Special legislation would be required to provide for any other distribution of revenues, and this is outside the scope of the Solar PEIS.

Programmatic design features for environmental justice (see Section A.2.2.19 of the Final Solar PEIS) require projects on BLM-administered lands to evaluate environmental justice issues and to minimize and/or mitigate potential environmental, economic, cultural, and health impacts on low-income and minority populations. For example, design features include consideration of establishing vocational training programs in communities to promote the development of skills required at solar facilities. While the BLM is not authorized to require revenue sharing with local communities, it would encourage developers to communicate with local communities and attempt to address their concerns. Further, the BLM does intend to consider the social and economic impacts associated with the build out of SEZs through the development of regional mitigation plans for SEZs which will include extensive involvement of local stakeholders (see Section A.2.5 of Appendix A). Also, because the BLM will offer lands in SEZs through a bureau-driven competitive process, it will be in a position to phase development in SEZs overtime.

It is not within the authority of the BLM to make requirements on where electricity generated at facilities on public lands would be distributed. Additional NEPA analysis would be required for new transmission lines to take solar-generated electricity out of the San Luis Valley (if needed). The transmission analyses included for each of the four SEZs in the Valley (Sections 10.[1,2,3, and 4].23 in the Final Solar PEIS) assume that new transmission lines would follow the path of existing transmission to avoid potential conflicts from construction of new transmission lines in undisturbed sensitive areas.

3.7.3 Variance Process

Summary: Many comments on the Draft Solar PEIS favored minimizing the numbers of ROWs granted outside of zones, the need for a stringent pre-application screening process, and the need for the BLM to clarify its ability to reject applications. For the Supplement to the Draft Solar PEIS, many comments reiterated that applications for lands outside of SEZs should only be processed for areas with low resource conflicts and only if land available within solar energy zones was insufficient. It was stated that the BLM should exhaust processing of all pending applications and fully develop SEZS prior to granting ROWs in variance areas. If significant conflicts are identified for specific variance areas, these areas should be excluded from development. Comments requested involvement of the public at the pre-application phase and requested that the description of the variance process be clear on the requirements for applications in variance areas. It was specifically requested that the process for minimizing impacts on holders of grazing rights be clarified.

Response: Many of the suggestions on the Draft Solar PEIS were implemented through the development of a variance process in the Supplement to the Draft Solar PEIS. For the Final Solar PEIS, additional appropriate revisions were made to the variance process, for example, to clarify policies for coordination with state and local government agencies. Some clarifications to the description of the variance process made for the Final Solar PEIS include additional text to indicate that the most current data and best science will be used when applications in variance areas are reviewed and a requirement for two preliminary meetings with the BLM and other federal, state, and local government agencies and for a pre-NEPA public meeting as part of the variance process. Details on the procedures for minimizing impacts on grazing rights holders have been added to the ROW authorization policies, applicable to both applications within SEZs and in variance areas (see Section 2.2.1.1 of the Final Solar PEIS, under Due Diligence – Plan of Development). In addition, revisions to the variance process make clear that impact assessment for transmission must be included as part of the overall evaluation of a proposal.

Regarding limiting processing of applications outside of zones, one objective of the BLM's proposed Solar Energy Program is to provide flexibility to the solar industry to consider a variety of locations for development. Variances may be needed in the near term because the lands identified as SEZs might be insufficient to accommodate demand for utility-scale solar development or may not have access to adequate transmission capacity to facilitate such development. In addition, there might be market, technological, or site-specific factors that make a project appropriate in a non-SEZ area. The BLM will consider ROW applications for utility-scale solar energy development in variance areas on a case-by-case basis based on environmental

considerations; coordination with appropriate federal, state, and local agencies and tribes; and public outreach. The responsibility for demonstrating to the BLM and other coordinating parties that a proposal in a variance area will avoid, minimize, and/or mitigate, as necessary, sensitive resources will rest with the applicant.

3.7.4 Conflicts with Existing or Proposed ROWs

Summary: These comments included requests for the BLM to acknowledge in the Solar PEIS that existing ROWs within SEZs (e.g., railroad ROWs) would not be affected by the identification of an area as an SEZ in the applicable land use plan. Comments noted that existing ROWs within SEZs place additional restrictions on development within SEZs, which in some cases may significantly restrict development within an SEZ. In instances in which an application has been made for a ROW but action is still pending, the BLM should confirm that the designation of an SEZ will not prohibit BLM granting additional ROWs for facilities (e.g., transmission facilities) within an SEZ. Also, there were questions on whether applications for new ROWs within SEZs would be processed.

Response: The priority and processing of ROWs within SEZs was addressed in Section 2.2.2.2 of the Supplement to the Draft Solar PEIS, and the text is repeated in the same sections of the Final PEIS. The text reads as follows: "ROWs for utility-scale solar energy development in SEZs would be given priority over all other ROWs. The BLM may decide to authorize ROWs for other uses that are found to be compatible with utility-scale solar energy development such as shared access roads and transmission lines. The identification of an area as an SEZ will not affect previously authorized ROWs, whether or not construction has been initiated on those ROWs. The BLM will consider the processing of pending ROW applications in identified SEZs on a case-by-case basis."

Recognizing the railroads have unique concerns with respect to solar energy developments near their existing ROWs, the BLM has included a requirement for coordination with the railroad industry to determine potential for impacts on railroad ROWs and operations under its variance process (described in Section 2.2.2.3.1 of this Final Solar PEIS).

3.7.5 Long-Term Monitoring and Adaptive Management

Summary: Comments on the Draft Solar PEIS indicated that the BLM should determine whether the required design features under its proposed Solar Energy Program would be effective in mitigating adverse impacts through a long-term monitoring program. In establishing a long-term monitoring program, the BLM should build on monitoring programs that have been developed by other federal agencies and nongovernmental organizations. The BLM should define the outcomes that it will require, particularly for indicators of species impacts and water use impacts. The requirements for monitoring and reporting to the public should be made clear. The conservation and adaptive management measures to be taken if adverse impacts are identified through monitoring should be specified. Commentors requested that funding

mechanisms for long-term monitoring be discussed and that the monitoring and adaptive management requirements be included in the ROD for the Solar PEIS.

Although the Supplement to the Draft Solar PEIS provided additional details on the implementation of long-term monitoring, additional requests were received, including that the BLM include a firm commitment to monitoring and adaptive management for key resources in the Final Solar PEIS, that monitoring protocols be standardized on the basis of an optimal set of indicators, that an adaptive management review team be established, that all monitoring data be publicly available, and that plans for public comment on adaptive management and monitoring be included. Comments again pointed out that funding opportunities for responsive adaptive management would need to be identified.

Response: The framework for a solar long-term monitoring and adaptive management plan (LTMP) to be followed for the BLM's Solar Energy Program is presented in Section A.2.4 of Appendix A of this Final Solar PEIS. This framework is based on the BLM's Assessment, Inventory, and Monitoring (AIM) strategy and includes discussion of development of conceptual models that drive the selection of core and supplemental indicators for monitoring. The framework discusses the intent of the BLM to build an interdisciplinary team to ensure successful implementation of the LTMP and states that stakeholders including the general public would be engaged throughout the process. The framework states that the objectives of the LTMP must be SMART (Specific, Measureable, Achievable, Relevant, and Time sensitive) by indicating the desired amount of change (specific), level of confidence for the measured change (measurable), funding and capacity requirements (achievable), relationship to the management question (relevant), and time frame during which the measurement occurs to effectively inform management (time sensitive).The LTMP will include an adaptive management loop to determine whether the results of monitoring require modification of requirements for specific projects or adoption of new or revised SEZ-specific design features. The BLM is proposing to pilot-test the AIM-based LTMP in a limited fashion initially with BLM staff; other federal, state and local partners; and interested stakeholders. The BLM will make adjustments as necessary to the AIM-based Solar LTMP based on the pilot test prior to implementing it across all six states covered by the Solar Energy Program.

3.7.6 New Policy Recommendations

Summary: Several comments suggested new policy guidelines for development, for example, that a portion of each SEZ be set aside for research and development to help define BMPs for each of the technologies; that the BLM have consistent implementation of science-based analysis to use in decision-making, including basing decisions on resource consumption per annual megawatt-hour and compatibility with the existing grid; and that the BLM redirect ROW applicants to RePower America lands (i.e., contaminated lands).

Response: Some of the policy recommendations are outside of the scope of the Solar PEIS, but the BLM and DOE are working toward them through other programs. For example, the DOE is supporting assessment of the feasibility of solar development on RePower America

lands. In addition, BLM and DOE programs are supporting various research and development projects to help define best management, including long-term monitoring pilot projects.

The suggestion to provide facility descriptions and information in terms of megawatts (instead of megawatt-hours) in the Solar PEIS was based on the most prevalent available information for comparison with information in the literature; in this case information on existing or under-construction solar facilities was often available only in terms of the nameplate megawatt rating.

3.7.7 BLM Land Use Planning

Summary: Comments on the Draft Solar PEIS emphasized that the RMPs and LUPs be updated to fully address renewable energy development on public lands; there was concern about relying on out-of-date RMPs to guide solar development (particularly with respect to wildlife impacts). Questions were raised as to whether the LUP amendments would allow for other types of development (e.g., wind facilities) within SEZs.

In comments on the Supplement to the Draft Solar PEIS, The Wilderness Society requested that LUP amendments include language from the recent IMs and policy elements. On a related note, the society stated that the Solar PEIS ROD should incorporate a process for updating LUPs regularly, for example when new exclusion areas are identified through long-term monitoring and adaptive management. It was requested that IMs, intended to be interim in nature, not be used to implement policy that should be done through LUP amendments. The USFWS requested that the LUP amendments (1) require exclusions to protect mitigation lands; (2) accept compensation habitat with conservation easements; and (3) require the designation of exclusion areas in unused portions of ROW application sites.

Response: The land use plan amendments to be made to implement the solar program will include the following decisions to establish the foundation for a comprehensive Solar Energy Program: (1) land use plan amendments that identify exclusion areas for utility-scale solar energy development in the six-state study area; (2) land use plan amendments that identify priority areas for solar energy development that are best suited for utility-scale production of solar energy, that is, SEZs; (3) land use plan amendments that identify variance areas for utility-scale solar energy development in the six-state study area; and (4) land use plan amendments that establish design features (i.e., mitigation requirements) for solar energy development on public lands to ensure the most environmentally responsible development and delivery of solar energy (some may be SEZ-specific, as necessary). Land use plans that are undergoing revision or amendment concurrent with the Solar PEIS will be reviewed to identify and resolve inconsistencies between the Solar PEIS and individual planning efforts.

In addition to the planning-level decisions outlined above, the BLM's Solar Energy Program will include a number of policy components, such as the variance process to address ROW applications for utility-scale solar energy development outside of SEZs, and incentives for projects proposed in SEZs. These components will be reflected in the Record of Decision (ROD) for the Solar PEIS; the BLM will issue subsequent IMs, as necessary, to formally establish such

policies. Where applicable, the BLM retains the ability to change policies associated with its Solar Energy Program through existing policy-making tools rather than through a future land use planning process.

As part of the BLM's proposed monitoring and adaptive management plan (Solar LTMP), the BLM will establish meaningful, measureable objectives and impact thresholds. Monitoring information will be evaluated against established objectives and thresholds, and specific management changes will be required if such objectives or thresholds are not met or are exceeded. The BLM will use information derived from the Solar LTMP to adaptively manage projects, the Solar Energy Program, Solar LTMP conceptual models and the Solar LTMP more generally. For example, Solar LTMP outputs can aid BLM in efforts to review project-level construction compliance activities and adjust future project compliance decisions. Information may be used to amend BLM's Solar Energy Program by adopting new or revised SEZ-specific design features or SEZ boundaries, developing new or revised programmatic design features, or establishing new or revised exclusions. Any changes to the BLM's Solar Energy Program will be subject to appropriate environmental analysis and land use planning and the related requirements for public involvement.

Regarding the question of BLM approval of other uses within SEZ, the priority and processing of ROWs within SEZs was addressed in Section 2.2.2.2 of the Supplement to the Draft Solar PEIS, and the text is repeated in the same sections of this Final Solar PEIS. The text reads as follows: "ROWs for utility-scale solar energy development in SEZs would be given priority over all other ROWs. The BLM may decide to authorize ROWs for other uses that are found to be compatible with utility-scale solar energy development such as shared access roads and transmission lines. The identification of an area as an SEZ will not affect previously authorized ROWs, whether or not construction has been initiated on those ROWs. The BLM will consider the processing of pending ROW applications in identified SEZs on a case-by-case basis."

3.7.8 Treatment of Climate Change in the Solar PEIS

Summary: Comments stated that in the Solar PEIS the BLM should include a discussion and analysis of the program's impact on the climate change adaptation capability of wildlife, as well as the impacts of rapid onset climate change on plant and wildlife communities. Some comments stated that climate change trends and projections should be built into the Affected Environment section of the Solar PEIS and that local climate change from darkening the areas above and beneath panels should be considered.

Comments also stated that the Draft Solar PEIS provided no scientific evidence that large-scale solar will reduce net greenhouse gas emissions once manufacturing of components, construction, transmission, and the disruption of carbon-sequestering ecosystems are taken into account, and that it did not take into account the cost and greenhouse gas (GHG) impacts from backup generation that is needed to support intermittent solar energy production.

Response: The Solar PEIS does estimate GHG emissions that may be avoided if the solar power generated in SEZs were to replace fossil fuel generation sources (see the Air Quality assessments for the SEZs in Chapters 8 through 13). Climate change was addressed in several sections of the Draft Solar PEIS (Section 4.11.3 on GHG emissions and climate change; Section 5.11.2.4 on albedo effects [see below]; Section 5.11.4 on the impacts of GHG emissions; Section 6.5.1.2.2 on trends in climate change and corresponding effects on ecosystems; and Section 6.5.2.10.2 on the cumulative impacts on global climate change from solar development). Changes in regional precipitation and temperature attributed to climate change and leading to reduction in total water supplies is acknowledged in Section 6.5.2.8 of the Draft Solar PEIS. It is beyond the scope of the Solar PEIS to conduct the life-cycle type assessments that would quantify total GHG emissions associated with all components of solar energy productions; however, the DOE is supporting research in this area through other programs.

Large-scale absorption of sunlight on solar panels or the reflection of sunlight off of troughs or heliostats could decrease or increase the fraction of solar radiation reflected back into space (this fraction is termed albedo). The potential impact of these albedo effects on climate change was discussed in Section 5.11.2.4 of the Draft Solar PEIS. In the Solar PEIS, CO_2 emissions from heavy equipment and backup generators are considered to be minor because this equipment is used infrequently and/or for short periods during construction. Finally, hybrid solar projects are acknowledged in the Solar PEIS. The PEIS impact evaluations would be applicable for the solar portions of those facilities, while the fossil-fuel portions of the facilities would require separate environmental analyses.

Prior to the authorization of solar development, there would be additional analysis of climate change and additional or changed factors would be considered.

3.7.9 Rental Policy and Lease Rates

Summary: Comments ranged from recommendations for BLM to increase and to decrease its lease rates. Some commentors urged that the BLM modify rental policies to be less restrictive for solar developers, although comments were also received that requested industry pay development costs relating to the permitting process. In addition, there were comments that suggested rental rates should be higher for land with greater ecological or cultural concerns. In addition, there was a suggestion for the BLM to modify rental policies to be less expensive but offset the reduction in revenue with a megawatt capacity fee.

Response: The details of BLM's current rental policy, including rent and megawatt capacity fees, can be found in IM No. 2010-141, "Solar Energy Interim Rental Policy" (see Section A.1.2 of this Final Solar PEIS for additional detail). Through its rulemaking process, the BLM is considering necessary changes or adjustments to its rental policies. The draft rule is expected by the end of 2012 and will consider adjustments to rental policies to be incorporated into the BLM's regulations.

3.7.10 ROWs and Leases

Summary: Comments called for the BLM to demonstrate how a ROW grant differs from a lease and suggested that the BLM lease solar energy development rights rather than using the ROW system. Comments were also received requesting the BLM to identify and evaluate the regulatory hurdles necessary to change from the existing solar ROW authorization process to a competitive leasing approach.

Response: Under current regulations, there is no difference between the terms *lease* and *ROW*. FLPMA is BLM's Organic Act and is the authority for the BLM to authorize ROWs on public lands. The term *right-of-way* is defined in FLPMA as an easement, lease, permit, or license to occupy, use, or traverse public lands granted for the purposes listed in Title V of FLPMA (thus ROWs include leases). Solar energy development projects are approved under Title V of FLPMA, and systems for generation, transmission, and distribution of electric energy are also granted ROWs under Title V of FLPMA.

The BLM is expecting to offer lands in SEZs through a competitive process; a regulatory rulemaking effort is under way to define this competitive process, which includes a public review and comment period (see Section 2.2.2.2.1 of this Final Solar PEIS). The Advanced Notice of Proposed Rulemaking was published on December 29, 2011, and the BLM intends to have a Proposed Rule available for comment by the end of 2012. This rulemaking process may further refine terms such as ROW and lease.

3.7.11 Competitive Leasing

Summary: Comments included requests for a competitive leasing process to ensure that the public's resources are valued and administered appropriately. Some commentors were concerned that the competitive bid process would result in an increased cost of electricity to consumers and suggested that the BLM should instead set a fixed price for land that would be consistent for all developers. Several conservation groups suggested that the BLM establish pilot approaches to competitive leasing and select the system that best protects taxpayers without unnecessarily burdening project proponents. The Society for American Archeology recommended 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. At least one comment argued that competitive leasing, when combined with high rental rates, bonds, and other costs, might make the cost to the developer prohibitively high. The solar industry comments expressed opposition to competitive leasing, saying that the process makes development on private land more attractive and that competitive leasing would make the cost to the developer prohibitively high. Comments stated that the BLM should clarify how a competitive leasing process would work and should not adopt competitive leasing without providing for public review and comment.

Response: The BLM has initiated a rulemaking to establish a competitive process for offering public lands for solar development within designated leasing areas. The Advanced Notice of Proposed Rulemaking was published on December 29, 2011, and the BLM intends to

have a Proposed Rule available for comment by the end of 2012. The proposed rule could include provisions such as a call for nominations, review of nominations, notice of competitive offer, issuance of competitive ROW lease authorizations, and administration of competitive ROW leases (see Section 2.2.2.2.1 of this Final Solar PEIS for additional details).

3.7.12 Solar PEIS Consistency with BLM Policy Instruction Memoranda

Summary: Comments on the Draft Solar PEIS requested that the BLM clarify the relationship between policy IMs and the policies set forth in the Solar PEIS, including how the Solar PEIS would modify the memoranda. In addition, commentors asked for the content of IMs to be included in Appendix A and in the land use plan amendments issued as a result of the Draft Solar PEIS. Comments on the Supplement to the Draft requested that the PEIS be consistent with IMs and that variance applications be processed in accordance with IM No. 2011-061, "Solar and Wind Energy Applications—Pre-application and Screening."

Response: While the BLM's existing policy IMs formed the foundation of the policies proposed in the Solar PEIS, the concepts contained in such IMs have been modified in the Final Solar PEIS to reflect experience gained through processing of solar applications as well as consideration of comments received on the Draft Solar PEIS and the Supplement to the Draft Solar PEIS. The ROD for the Solar PEIS will formally establish the policies for the Solar Energy Program and in some cases may replace policies identified in existing policy IMs. The rulemaking process under way to define a competitive process for offering public lands for solar development within designated leasing areas may further modify BLM's policies related to solar energy ROWs.

3.7.13 Bonding and Reclamation

Summary: Many comments argued for reclamation bonds to be established so that in the event that a solar energy facility closes, the land would be restored to its original condition. In addition, commentors wanted to know how BLM would ensure that applicants are financially capable of development, and what would occur if an applicant sold its interest in a specific project after extensive authorization work had been accomplished, and the new owner changed the project technology or configuration.

Response: Bonding reviews are based on the Reclamation Cost Estimate provided as part of the Decommissioning and Site Reclamation Plan, which is part of the Plan of Development (POD). This Reclamation Cost Estimate is public information and can be reviewed by any member of the public.

Policy guidance has been provided on bonding requirements (IM 2011-003), and the BLM's current policy regarding bonding is outlined in Section 2.2.1.1 of this Final Solar PEIS. The bonding requirements consider site- and project-specific needs, including measures necessary to address bonding for maintaining translocated species such as desert tortoise. Additional bonding requirements or adjustments to current bonding requirements will be

considered through the rulemaking process that is currently under way to define a competitive process for offering public lands for solar development within designated leasing areas.

3.7.14 SEZ Authorizations and Incentives

Summary: Comments on the Draft Solar PEIS and Supplement to the Draft Solar PEIS included that the authorization process description should discuss the terms of ROW grants (e.g., length) and methods for preserving the ROW beyond the initial time granted. Comments stated the need for additional incentives for development in SEZs, such as priority processing (including increased agency staffing and specific timelines), surcharges for applications outside of SEZs, and cost sharing between applicants and the BLM. The State of Utah suggested many financial incentives for development in SEZs (phase-in period for rental payments, fixed megawatt capacity fee, limited base acreage rental payments). The USFWS encouraged offering incentives for applications within SEZs. Nye County in Nevada requested clarification on when cultural surveys would need to be done and if they would be required before a POD would be approved.

Response: In response to concerns expressed in comments on the Draft Solar PEIS, the Supplement included a description of how the BLM would process applications in SEZs and in variance areas, including a description of incentives for developing within SEZs. The Final Solar PEIS modified the description of the SEZ authorization process based on comments received. The requirements of the NHPA will be met for any development within SEZs in accordance with the PA; PODs would be required to address the need for additional archeological and/or ethnographic data, but the surveys would not need to be completed prior to approval of the POD. Terms of the SEZ ROWs and financial incentives are being given consideration in BLM's ongoing rulemaking efforts as well (see Section 2.2.2.2.1 of this Final Solar PEIS).

3.7.15 Solar ROW Authorization Policies

Summary: Comments on the Draft Solar PEIS included many requests for clarification of the ROW policies that would be applicable for ROW applications both within SEZs and outside of SEZs. A set of comments reviewed many of the design features presented in Section A.2.2 of Appendix A of the Draft Solar PEIS with respect to ROW policies, and some comments compared them with the requirements of existing BLM IMs. There were requests that ROW terms should be flexible because the life of many solar facilities would exceed the proposed 30-year term. Commentors stated that applications not worthy of continuation should be identified and dismissed through pre-application meetings with the BLM (prior to the start of NEPA analysis). A solar industry commentor requested that for collocated ROWs, any adverse impacts on existing facilities within the ROW as a consequence of collocation should be mitigated by the party seeking collocation (this would be applicable for cases of shared infrastructure between solar projects, most likely to happen within SEZs). The comments also stated that the PEIS should consider issuance of testing and monitoring ROWs for solar, as short term (3 to 4 year) low impact land rights.

Comments on the Supplement to the Draft Solar PEIS requested clarification of BLM's treatment of the transfer of ROW grants. A comment stated that the BLM should review ROW grants if ownership of the grant changes to ensure the ability of a project to be successfully completed is not adversely affected.

Response: The Final Solar PEIS presents in detail the policies that would be applicable for all solar ROWs, including ROWs in SEZs, and in variance areas (see Sections 2.2.1, 2.2.2.2, and 2.2.2.3, respectively, in this Final Solar PEIS). All solar energy ROW authorizations are issued with terms that provide for the right of renewal. Renewal provides an opportunity to review the terms and conditions of the authorization and provides for the protection of public land resources. Renewal is subject to the ROW holder's compliance with the terms and conditions of the authorization.

The ROW policies also address transfer of ROW grants. In order to approve ROW authorizations, the BLM is required to ensure the assignee has assumed the full responsibilities for compliance with the terms and conditions of the ROW authorization, which may include a review of the economic and technical viability of the assignee.

With respect to collocated ROWs, the BLM has now added the following text regarding incentives for development within SEZs: "In preparing parcels in SEZs for competitive offer, the BLM will seek to make the most efficient use of existing corridors, consider opportunities for co-location, and avoid geographically stranding future projects from key transmission interconnection points." (in Section 2.2.2.2.3 of the Final Solar PEIS).

Finally, the BLM at this time sees no need to establish a site-testing ROW for solar projects similar to the 3-year site testing authorizations for wind energy projects areas. However, the BLM can issue short-term ROW authorizations for short-term activities. Casual use activities on public lands do not require an authorization.

3.7.16 Solar PEIS Consistency with Local Plans

Summary: Comments on the Draft Solar PEIS included local government units requesting conformity of the Solar PEIS ROW authorization policies with local planning efforts. One commentor requested that BLM exclude lands from development that had been identified by the local government as regional linkages in the Habitat Conservation Plan. Some local governments were concerned that the Draft Solar PEIS and the Supplement to the Draft Solar PEIS had identified exclusion areas that locally were considered to be good locations for solar development. Similar concerns about coordination with local planning policies were received on the Supplement to the Draft Solar PEIS. Commentors were concerned that a requirement does not exist for BLM to evaluate projects against local plans, development codes, or ordinances. There was also a question about which entity would be responsible for the NEPA analysis for SEZs identified subsequent to the Solar PEIS process and analyzed through state or local land use planning efforts.

Response: Requirements for coordination with local agencies are now included under the authorization policies for applications both within SEZs and in variance areas (see Sections 2.2.1, 2.2.2.2, and 2.2.2.3 of the Final Solar PEIS). Furthermore, the protocol for identifying new SEZs includes consideration of relevant local land use plan decisions (see Section A.2.6.3.2 of Appendix A).

The BLM will endeavor to assess the need for new or expanded SEZs a minimum of every 5 years in each of the six states covered by the Solar PEIS. The process for identifying new or expanded SEZs will be open and transparent, with opportunities for substantial involvement of multiple stakeholders including local governments and entities. The BLM will identify new or expanded SEZs at the state or field office level as an individual land use planning effort or as part of an ongoing land use plan revision.

3.7.17 Withdrawal of SEZ Lands

Summary: Comments received on this topic were all on the Draft PEIS. One comment noted that the long-term withdrawal of lands from potential conflicting uses (aka segregation of the lands) to support solar energy development could result in speculative solar development applications prior to the segregation on the lands proposed for segregation. Another commentor noted that FLPMA requires that withdrawals of more than 5,000 acres (20 km^2) from mineral entry require a mineral report and review by Congress; this requirement would apply to most of the SEZs. Finally, there was a request to identify specific parcels within SEZs as being suitable for disposal and to include an analysis of the impacts of disposal.

Response: As is clarified in the Final Solar PEIS (Section 2.2.2.2.4), only the SEZs are being proposed for long-term withdrawal, which is consistent with the BLM's intent to prioritize solar development within the SEZs. There are currently no plans to dispose of lands within the SEZs; the Final Solar PEIS clarifies that lands within the SEZs are expected to be offered competitively for solar development. The procedures for evaluating pending applications both within and outside of the SEZs ensure that speculative applications will be identified and closed within a reasonable timeframe. The required withdrawal analysis for the proposed SEZs has been included in the Final Solar PEIS (see SEZ sections in Chapters 8 through 13 of the Final Solar PEIS), including mineral potential assessment reports that meet the standards set forth in 43 CFR Part 2300 and *BLM Manual 3060.* The proposed withdrawal will be for a period of 20 years. The Secretary of the Interior's decision regarding the withdrawal will be made based on the analyses provided in the Solar PEIS.

3.7.18 Solar PEIS Relation to the California Desert Protection Act and Plan

Summary: Several comments on both the Draft Solar PEIS and the Supplement to the Draft Solar PEIS stated that the BLM and DOE should revise the Solar PEIS to exclude utility-scale solar energy development on Class L lands within the CDCA. Specifically, the BLM was requested to remove the Vinagre Wash Special Management Area from the variance area and to

consider the Quechan Tribe's concerns regarding development on Class L lands. Comments were also received stating that the Solar PEIS should address the legal status of the CDCA.

Response: The BLM has eliminated some of the lands of concern within the CDCA planning area (e.g., Vinagre Wash, some lands near the Quechan Tribal lands; see Table 2.2-2 of this Final Solar PEIS). The allowance for future solar development within the CDCA planning area will be addressed through the variance process in coordination with the California REAT agencies (see Section 2.2.2.2.6 in Chapter 2 of this Final Solar PEIS). Appropriate changes to the CDCA management plan will be made in conjunction with the DRECP planning efforts, considering decisions made in the Solar PEIS.

3.7.19 Small-Scale Solar Projects on Public Lands

Summary: Comments on both the Draft Solar PEIS and the Supplement to the Draft Solar PEIS stated that BLM's solar program should favor (or, at least, evaluate the benefits of) smaller scale solar systems on public lands to mitigate environmental impacts and facilitate local economic development.

Response: The PEIS does not express a preference for development projects greater than 20 MW over development of smaller projects. In Chapter 1, the scope of the Solar PEIS is defined as applicable to projects larger than 20 MW. The PEIS addresses only utility-scale solar projects, because the footprints of these large projects and environmental impacts are potentially much more significant. Decisions on projects that are less than 20 MW would continue to be made in accordance with existing land use plan requirements, current applicable policy, and individual site-specific NEPA analysis.

3.7.20 Tiering of Future NEPA Analysis to the Solar PEIS

Summary: Comments on the Draft Solar PEIS and on the Supplement to the Draft Solar PEIS expressed concern that the process of tiering future environmental assessments from the Solar PEIS was not described in enough detail. Some commentors expressed support for tiering future solar energy projects to the Solar PEIS such that those projects could be accomplished through environmental assessments, rather than EISs. Other commentors expressed concern that such tiering would not provide adequate assessment of potential environmental impacts.

Response: The BLM has conducted a thorough environmental review of the proposed SEZs so that future reviews of projects within SEZs can tier to the existing NEPA analysis, thereby limiting the required scope and effort of additional project-specific NEPA analyses. The extent of tiering will vary by project and location, as will the necessary level of NEPA documentation. Tiered analyses for projects in SEZs are expected to be narrowly focused on those issues not already adequately analyzed in the Solar PEIS (see Section 2.2.2.2.2). Future projects in variance areas would also tier to the Solar PEIS through application of the authorization policies and design features incorporated into the ROD for the PEIS.

3.7.21 Visual Resource Management Strategies

Summary: Comments on the strategies for managing impacts on visual resources presented in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS both favored the strategies and opposed them. Opposition to the design features that were part of the strategies stated that they were too prescriptive (e.g., in specifying height limits for technologies used) and would not allow developers flexibility in addressing visual resource impacts. Some environmental groups also stated opposition to the strategies presented in the Draft and the Supplement, stating that the BLM should not put in place proscriptive height and technology restrictions and that the visual resources impacts should be addressed on a project-by-project basis.

Response: In order to accommodate the flexibility described in the BLM's program objective and in light of anticipated changes in technologies and environmental conditions over time, the BLM has removed some of the prescriptive SEZ-specific design features presented in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS for visual resource impacts (i.e., height and technology restrictions). Instead of including the prescriptive design features, the BLM will give full consideration to any outstanding conflicts in SEZs as part of the competitive process being developed through rulemaking (see Section 2.2.2.2.1 of this Final Solar PEIS). For applications outside of SEZs, potential impacts on viewsheds, including comments from stakeholders regarding those impacts, will be given consideration through the variance process.

3.7.22 Policy Regarding Desert Tortoise Connectivity Areas

Summary: Comments received on the Draft Solar PEIS requested that tortoise connectivity areas be identified as exclusion areas. The USFWS provided data requesting that extensive specific locations identified as connectivity areas be excluded. The Supplement to the Draft Solar PEIS requested comments on whether to consider all variance applications within desert tortoise connectivity areas on a case-by-case basis in coordination with the USFWS (option 1) or to require that such applications demonstrate that tortoise densities within the project area would be within specific limits, that the number of translocations required would be less than or equal to 35, and other requirements (option 2). Comments received on the Supplement options from the solar industry were in favor of option 1, stating that option 2 had several unsupported, rigid requirements with no foundation in scientific evidence. However, other commentors, including the USFWS, continued to recommend that the Mojave desert tortoise habitat linkages identified in the 2011 Revised Recovery Plan for the species be identified as exclusion areas.

Response: The focus of the proposed variance process, including factors related to desert tortoise, is on collecting the right data and evaluating it with the right parties to assess the appropriateness of a given proposal, rather than on a prescriptive set of measures that would be established at the programmatic level. The BLM believes that this approach allows flexibility to adapt as data and science improves, recognizes the variability and trade-offs associated with individual applications, and allows for satisfactory protection of resources of concern.

The BLM and the USFWS have continued consultation regarding desert tortoise connectivity areas throughout preparation of the Final Solar PEIS. Through this consultation process, an additional 515,000 acres (2,084 km^2) of lands that coincide with priority desert tortoise connectivity habitat have been excluded from the variance lands, and the additional data collection and evaluation measures for desert tortoise and priority connectivity habitat that will be required for applications in the remaining variance lands have been outlined (see Section 2.2.2.3.1 on the Variance Process in the Final Solar PEIS). Developers that propose utility-scale solar energy projects in variance areas that overlap priority desert tortoise connectivity habitat identified on USFWS maps will be required to meet with the BLM and USFWS early in the process as part of the previously mentioned preliminary meetings to receive instructions on the appropriate desert tortoise survey protocols and the criteria the BLM and USFWS will use to evaluate results of those surveys. The USFWS will also make additional information regarding the evaluation of impacts on desert tortoise and priority desert tortoise connectivity habitat available on a public Web page.

3.7.23 Work Identified in SEZ Action Plans

Summary: Comments were received regarding the SEZ action plans presented in the Supplement to the Draft Solar PEIS, most in favor of the concept of ongoing characterization of the SEZs. A prevalent concern was the lack of clarity on whether BLM or developers would fund the data collection and on when the data would be obtained.

Response: The SEZ action plans in the Supplement to the Draft Solar PEIS described additional data that could be collected for individual SEZs and proposed data sources and methods for the collection of those data. Additional data collection for SEZs would likely be conducted by the BLM; however, the agency will consider opportunities for partnerships to collect such information. Work is under way by the BLM to collect some of the additional data as specified under these action plans (e.g., additional data collection to support evaluation of cultural, visual, and water resources has begun). The BLM will prioritize the collection of additional data and analysis in those SEZs that are most likely to be developed in the near future. The BLM intends to make additional data for the SEZs that are obtained subsequent to issuance of the Solar PEIS available to interested stakeholders through the Solar PEIS Web site (solareis.anl.gov). Notices of new data availability will be sent to Web site subscribers.

Note that additional data and analysis will help facilitate development in SEZs, but the BLM is not required to identify an area as an SEZ as part of the Solar Energy Program. Some of the data gaps identified in the SEZ action plans will likely need to be addressed by developers.

3.8 NEW SEZS AND RELATED PROJECTS

Summary: Comments on the Draft Solar PEIS asked for clarification of the process to change proposed SEZs, remove proposed SEZs, or propose additional new SEZs, and requested that the impacts of those changes be evaluated in the PEIS and that exclusion criteria be identified. Comments also requested that landscape assessments be used to identify new SEZs

and that degraded and private lands should be prioritized when new SEZs are identified. Comments on the Supplement to the Draft requested clarification of the role of local governments as well as the role of BLM land use plans and land use plan revisions in the SEZ identification process. Commentors also recommended that the identification of additional SEZs should be based on market conditions and the need for power and should rely on results from the California DRECP, the BLM West Chocolate Mountain EIS, and BLM's RDEP in Arizona.

Response: In response to comments on the Draft Solar PEIS, a proposed Identification Protocol for New Solar Energy Zones was presented in the Supplement to the Draft Solar PEIS (Appendix D). The protocol that was further modified in response to comments and is presented in this Final Solar PEIS (Section A.2.6 of Appendix A). The BLM recognizes the need for a process to identify new and/or expanded SEZs as a critical component of the BLM's overall approach to solar energy development. The protocol describes a process to assess the need for additional SEZs at least every 5 years in each of the six states (Section A.2.6.1 of Appendix A). The protocol also addresses the use of landscape-scale information in the identification of new SEZs (Section A.2.6.3.4 of Appendix A). As described in the protocol, the BLM will consider petitions for new zones or scoping comments suggesting new SEZs as part of regular planning efforts. The Final Solar PEIS includes more defined roles for state and local government involvement and consideration of local plans and policies. The protocol emphasizes the consideration of degraded, disturbed, and/or previously disturbed lands as part of all future processes to identify new or expanded SEZs. Although it is the BLM's goal that an assessment of the need for new or expanded SEZs will be take place a minimum of every 5 years, stakeholders can petition to consider new zones at any time.

3.8.1 Recommendations for Specific New SEZs and SEZ Expansions

Summary: Many commentors recommended that BLM consider areas for new SEZs. Comments included the following recommendations: (1) use Utah Renewable Energy Zone Phase I and II reports that identify solar energy development zones in Utah; (2) consider areas recommended by the CEC and CDFG, including lands adjacent to proposed SEZs; (3) consider lands identified by Pima County in Arizona for the Solar America Communities grant; (4) include an SEZ in the western Mojave Desert and western Riverside County in California; (5) propose solar development along the Central Arizona Canal; and (6) add additional SEZs near the cities of Pueblo and Colorado Springs in Colorado. A few commentors requested that the BLM consider specific proposed project locations as potential SEZs or variance areas. Most of the comments received on the Draft Solar PEIS and Supplement to the Draft Solar PEIS argued that the new zones they recommended were suitable for development because of proximity to transmission infrastructure, disturbed land, and population centers. Some commentors suggested that the SEZ Identification Protocol should include the REDP in Arizona, the Chocolate Mountains EIS, and the DRECP in Arizona, without regard to the "need" requirement outlined in the Supplement to the Draft Solar PEIS. Comments also recommended that SEZs be identified in the West Mojave and Imperial Valley in California.

Response: While the BLM decided not to identify additional SEZs as part of the Solar PEIS, the BLM considers the future identification of additional SEZs an essential element of its

overall approach to solar energy development on public lands. The BLM has identified a need for additional SEZs in some states, particularly in Arizona and California. The BLM has initiated efforts to identify new SEZs in these states. Such efforts are taking place outside of the Solar PEIS process but consistent with the principles outlined in the SEZ identification protocol presented in the Final Solar PEIS (see Section A.2.6 of Appendix A). The BLM believes that the future identification of new SEZs will most appropriately be managed at the BLM state and/or field office levels where there is a better understanding of need and potential resource conflicts. As described in the protocol, the BLM will consider petitions for new zones or scoping comments suggesting new SEZs as part of regular planning efforts. Although it is the BLM's goal that an assessment of the need for new or expanded SEZs will take place a minimum of every 5 years, stakeholders can petition to consider new zones at any time.

The Final Solar PEIS includes more defined roles for state and local government involvement and consideration of local plans and policies. Current ongoing efforts that may result in the identification of new SEZs and that are highlighted in the Solar PEIS include the Arizona RDEP, the California DRECP, and the California West Chocolate Mountains Renewable Energy Evaluation Area (REEA) planning effort. In addition, the BLM will encourage local land use planning efforts to consider the need for, and identify as appropriate, new SEZs as part of land use plan revisions.

3.8.2 The California DRECP

Summary: Many commentors recommend that the BLM use the results of the DRECP to identify additional SEZs or to adjust proposed SEZs. Other commentors indicated that there might be a potential conflict between the conservation planning efforts of the DRECP and the Solar PEIS preferred alternative, and suggested that BLM approve only those projects in the California desert that are consistent with the developing conservation strategy within the DRECP planning area. Comments urged the BLM to publish a Final PEIS that allows the flexibility of incorporating the DRECP planning effort into California BLM land use plans as an amendment. Commentors recommended that since the DRECP is creating a process in California in which new SEZs will be identified, there is no need for a variance process and it should be dropped from the PEIS. Commentors suggested that the BLM should defer approval of the Solar Energy Program for those areas that will also be governed by the DRECP until after the DRECP process identifies the off-limit areas. At that time, the BLM will be more prepared to designate areas that are suitable for solar development and that will protect cultural resources. Finally, there was opposition to the DRECP, citing too much development in the area and Council on Environmental Quality (CEQ) violations.

Response: The California BLM intends to use the DRECP as the foundation for possible amendments to the CDCA plan and three additional RMPs. The DRECP is also being designed as a Habitat Conservation Plan. Through potential land use plan amendments, the DRECP may be used to identify priority areas for renewable energy development and associated reserve areas within the DRECP planning area. Any applications filed in SEZs and variance lands within the DRECP planning area will be evaluated by the REAT agencies to maintain consistency between the PEIS and the DRECP's goals and objectives.

Because of its refined and regional focus, the DRECP planning effort will likely result in further adjustment to the decisions for utility-scale solar development made in the Solar PEIS, such as modified Development Focus Areas or SEZs, new Development Focus Areas or SEZs, and/or additional exclusions that support the reserve design. The DRECP would tier to the NEPA analysis in the Solar PEIS, to the extent practicable, to take advantage of the work already completed for the CDCA planning area.

3.8.3 The Arizona RDEP

Summary: Many commentors suggested that the approach being analyzed in Arizona BLM's RDEP (i.e. solar development on degraded lands and across multiple jurisdictions) should be applied for areas outside the SEZs in all six states. Other commentors recommended that the BLM consider soliciting the public for identification of disturbed lands to identify new SEZs and variance areas, using an approach similar to that employed for the Arizona RDEP. At least one commentor preferred the SEZ only alternative in combination with the RDEP. Another recommendation suggested that the BLM identify a more robust set of exclusion criteria, such as those being applied in the RDEP to identify new SEZs. Finally, the results of the RDEP in Arizona, the Chocolate Mountains EIS, and the DRECP in California to identify lands that would be suitable for solar development should be incorporated as SEZs.

Response: For utility scale-solar development, the RDEP will serve as a step-down analysis to the Solar PEIS. The RDEP will consider the identification of an additional SEZ, consider increasing the Arizona acreage identified for renewable energy, and may help to streamline the variance process for some of the variance areas potentially identified through the Solar PEIS ROD. It is anticipated that applications proposed in renewable energy development areas identified in the RDEP may comply with some elements of the proposed variance process and therefore could qualify for priority processing. This will serve as an additional incentive for developers.

3.8.4 West Chocolate Mountains SEZ Possibility

Summary: Commentors requested that the BLM consider adding an SEZ and prioritize development in the Chocolate Mountains area, options that have not been evaluated in the PEIS. Commentors recommended that the results of the Chocolate Mountains EIS that identifies lands suitable for solar development should be incorporated as SEZs in the Solar PEIS.

Response: The BLM is evaluating the potential environmental impacts associated with renewable energy testing and development on public lands within the West Chocolate Mountains REEA, including solar, wind, and geothermal. The planning effort is expected to result in amendments to the CDCA Plan of 1980 to identify sites within the West Chocolate Mountains REEA as suitable and not suitable for solar and wind energy development and for geothermal leasing and development. It is anticipated that utility-scale solar energy applications proposed in suitable areas for solar energy development may comply with some elements of the proposed variance process and therefore could qualify for priority processing. The West Chocolate

Mountains REEA is also considering the identification and evaluation of an SEZ as part of the planning process.

3.8.5 West Mojave SEZ Possibility

Summary: Commentors requested that the BLM consider adding an SEZ and prioritize development in the West Mojave area. Comments claimed that the conservation community, solar industry, and local elected officials have expressed interest in a BLM analysis of appropriate lands in the West Mojave, but the area has not yet been evaluated in the Solar PEIS.

Response: The SEZ Identification Protocol recognizes the need for a process to identify new and/or expanded SEZs on an as-needed basis as part of the BLM's overall approach to solar energy development. The California BLM intends to use the DRECP as the foundation for possible amendments to the CDCA plan and three additional RMPs. The DRECP is also being designed as a Habitat Conservation Plan in accordance with the ESA and a Natural Communities Conservation Plan in accordance with the California Natural Communities Conservation Planning Act. Through potential land use plan amendments, the DRECP may be used to identify priority areas for renewable energy development (potentially through the identification of Development Focus Areas, similar to SEZs but open to renewable development beyond solar) and associated reserve areas within the DRECP planning area. The West Mojave area is part of the DRECP planning area.

3.9 PURPOSE AND NEED FOR THE SOLAR PEIS

Summary: About 40 comments were received regarding the BLM's purpose and need statement for the Solar PEIS, which is based on The Energy Policy Act of 2005 (Public Law 109-58), which seeks approval of 10,000 MW of renewable energy generation on Public Lands by 2015; E.O. 13212, "Actions to Expedite Energy Related Projects, which directs executive departments and agencies to "take appropriate actions, to the extent consistent with applicable law, to expedite projects that will increase the production, transmission, or conservation of energy"; and several other E.O.s or Secretarial Orders (see Section 1.3.1 of this Final Solar PEIS). Most of the comments were from environmental groups and expressed the opinion that the BLM should not interpret Public Law 109-58 as a mandate to permit utility-scale solar facilities on public lands. Commentors stated that the narrowly drawn purpose and need statement precluded the discussion of alternatives for distributed generation and use of privately owned and degraded lands. Conversely, an industry representative stated that the Solar PEIS failed to meet the purpose of and need for expediting solar energy projects, because the proposed design features presented in the Draft Solar PEIS would prevent development within SEZs.

Response: A purpose and need statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action (40 CFR 1502.13). It is clear that the Congress's intent in Public Law 109-58 was to direct the use of some portion of the public lands for renewable energy development in an environmentally responsible manner (whether a mandate or not, it is direction that the BLM must

follow). The BLM has identified utility-scale solar energy development on public lands as a potentially important component in meeting the nation's energy goals and objectives and applicable Congressional direction.

The BLM has identified 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 and to ensure consistent application of measures to avoid, minimize, and mitigate the adverse impacts of such development. The BLM is therefore considering replacing certain elements of its existing solar energy policies with a comprehensive Solar Energy Program that would allow the permitting of future solar energy development projects to proceed in a more efficient, standardized, and environmentally responsible manner. On the basis of the states' legislated RPSs, the BLM has scoped the Solar PEIS RFDS to consideration of 24,000 MW of generation on public lands in the six-state study area, or up to about 214,000 acres (866 km^2). While the BLM is allowing application on approximately 19 million acres (76,890 km^2) of public lands, if development on public lands could exceed 24,000 MW during the 20-year study period assessed, the BLM will need to re-evaluate the cumulative impacts of such development through additional NEPA analyses.

Alternatives incorporating distributed generation with utility-scale generation, or focusing exclusively on distributed generation, do not respond to the agencies' purpose and need for agency action in this Solar PEIS. The applicable federal orders and mandates providing the drivers for specific actions being evaluated in this Solar PEIS compel the agencies to evaluate utility-scale solar energy development. The Energy Policy Act of 2005 (P.L. 109-58) requires the Secretary of the Interior to seek to approve non-hydropower renewable energy projects on public lands with a generation capacity of at least 10,000 MW of electricity by 2015; this level of renewable energy generation cannot be achieved through distributed generation systems. In addition, Order 3285A1 issued by the Secretary of the Interior requires the BLM and other DOI agencies to undertake multiple actions to facilitate large-scale solar energy production. Accordingly, the BLM's purpose and need for agency action in this Solar PEIS is focused on the siting and management of utility-scale solar energy development on public lands.

The proposed programmatic design features will apply to all BLM-administered lands regardless of whether those lands are within variance areas or SEZs. However, based on the extensive upfront data collection and environmental analysis that has been completed for SEZs, the BLM expects that many of the requirements associated with programmatic design features will be met or substantially met for lands in SEZs. For example, as part of the Solar PEIS, the BLM has undertaken groundwater modeling for some of the SEZs. The programmatic design feature that requires the collection of such groundwater information therefore will have already been at least partially met. Further, because SEZs have been sited to avoid potential resource conflicts, the BLM expects that many design features will not be triggered.

Based on input received through the Draft Solar PEIS and additional outreach conducted between the publication of the Supplement to the Draft Solar PEIS and the Final Solar PEIS, the BLM has modified the proposed design features presented in the Final Solar PEIS. The proposed design features are intended to result in the avoidance, minimization, and/or mitigation of potential resource conflicts . Some design features may require variations from what is described

(e.g., a larger or smaller protective area). In some cases, multiple options for addressing a potential resource conflict are provided. Applicants will be required to work with the BLM to address proposed variations in the design features and to discuss selected options for avoidance, minimization, and/or mitigation of potential resource conflicts. Variations in programmatic design features will require appropriate analysis and disclosure as part of individual project authorizations. Programmatic design features that do not apply to a given project should be described as part of the project case file along with an appropriate rationale.

3.10 CONCERNS REGARDING LOSS OF MULTIPLE LAND USE

Summary: Commentors requested that the BLM explore all options to allow the SEZs to be multiple use because once these lands become industrial, they will be permanently changed. Comments included requests to allow the SEZs to be multiple-use areas and to co-exist with grazing, wind energy, agriculture, and recreation. Strengthening the permitting and leasing process was mentioned as a method to conserve public land and balance multiple uses. Several comments cited the FLPMA and its mandate that public lands be managed without permanent impairment and that projects that eliminate one or more designated uses be reported to Congress. A concern was also expressed that lands that might be set aside for mitigation of the impacts of solar development would further lessen the amount of land available for multiple uses.

Response: The BLM is charged with managing public lands under a multiple-use mandate, but as recognized in Section 103(c) of FLPMA, multiple uses may not always occur on the same piece of land and uses may shift over time. The BLM balances various uses and land classifications through its land use planning process to ensure an appropriate mix of uses is provided. The need to accommodate solar energy resource development on the public lands has necessitated examination and rebalancing of competing uses.

ROWs for utility-scale solar energy development in SEZs would be given priority over all other ROW applications. The BLM may decide to authorize other ROWs or uses in SEZs, however, that are found to be compatible with utility-scale solar energy development, such as shared access roads or transmission lines or other generation sources, such as geothermal. The identification of an area as an SEZ will not affect previously authorized ROWs, regardless of whether construction has been initiated on those ROWs. The BLM will consider the processing of pending Solar ROW applications in identified SEZs on a case-by-case basis.

The BLM will coordinate with any potentially affected grazing permittee/lessee to discuss how a proposed solar project may affect grazing operations and to address possible alternatives as well as mitigation and compensation strategies. Upon acceptance of a POD that is likely to adversely affect a current livestock grazing operation, the BLM authorized officer will send a certified letter to the permittee/lessee to serve as the 2-year notification of the BLM's potential decision to cancel the permit/lease, in whole or in part, and devote the public lands to a public purpose that may preclude livestock grazing, as required by 43 CFR 4110.4-2(b). The intent of the 2-year notification is to provide the grazing permittee/lessee time to make any necessary financial, business, or management adjustments should the permit/lease be cancelled

(in whole or in part). The letter will also inform the permittee/lessee of his or her ability to unconditionally waive the 2-year prior notification.

For those impacts on BLM-administered lands resulting from solar energy development that are not avoided or minimized, the BLM must implement effective measures to offset (or mitigate) impacts and to ensure viability of resources over time. To help accomplish this goal, the BLM proposes to establish regional mitigation plans for development in SEZs (see Section A.2.5 of Appendix A). Projects outside of SEZs would also be required to follow the mitigation hierarchy: avoid, minimize, mitigate. In accordance with NEPA, the impacts of solar development projects and all associated mitigation measures (if any), as well as any further impacts caused by the mitigation measures themselves, must be analyzed. This will include impacts on other land uses cause by mitigation measures. The anticipated effectiveness of any mitigation measures in reducing or avoiding adverse impacts must also be considered.

3.11 APPLICATIONS FOR SOLAR ENERGY ROWS

3.11.1 Fast-Track Projects

Summary: Commentors disapproved of the fast-track projects, citing inadequate consultation with tribes and the impacts on sacred sites and landscapes. Comments included requests for the BLM to publicly acknowledge the deficiencies of the current fast-track process and commit to improve it. One commentor stated that there is no scientific evidence for the assertion that reduced GHG emissions offset the negative environmental impacts of utility-scale solar projects, thus allowing them to push through approvals.

Response: The term "Fast Track" was used by the BLM to indicate priority processing of projects in previous years. The BLM now refers to such projects as "Priority Projects." The BLM, in coordination with other DOI agencies, will apply the due diligence and screening criteria requirements of IM 2011-060 and IM 2011-061, or other policies that the BLM might adopt in the future, to determine priority projects. Designation as a "priority" project means that the BLM and other DOI agencies have agreed to prioritize processing and review of the application. Priority projects are subject to all regulatory and statutory requirements, including full NEPA review. Designation of a project as priority does not confer any decrease in permitting time.

Applications for utility-scale solar energy facilities on BLM-administered lands, whether granted priority status or not, are processed on a project-by-project basis as ROW authorizations issued in accordance with Title V of FLPMA and BLM's ROW regulations (43 CFR Part 2800). When the BLM authorizes the construction of utility-scale solar energy generation facilities on BLM-administered lands, it must comply with NEPA, the Endangered Species Act (ESA), the National Historic Preservation Act of 1966 (NHPA), and other applicable statutes and regulations. The BLM's project-specific environmental analysis must address all applicable components of the solar energy generation facility, including, as appropriate, the installation and maintenance of solar collectors, the availability and consumption of water for steam generation

and cooling, oil or gas backup generators, the creation and use of thermal or electrical storage, turbines or engines, access roads, electrical inverters and transmission facilities, and water or natural gas pipelines. In addition, solar energy development must be in conformance with the existing, approved land use plan (see Section 1.3.4). The BLM's existing solar energy policies and proposed Solar Energy Program, if adopted, will help the BLM prevent unnecessary damage to the environment, including unnecessary or undue degradation of the public lands, and otherwise meet the objectives of BLM's ROW regulations (43 CFR 2801.2), by establishing sound environmental policies, procedures, and siting and mitigation strategies for solar energy development on the public lands.

3.11.2 Pending Applications

Summary: Some commentors stated that active applications should not be reviewed until a ROD is issued and that processing applications beforehand interferes with the purpose of the Solar PEIS. There were also comments that any existing applications that are located outside of areas where development is allowed under any alternative can be discarded, and that applicants can resubmit under the new program and relocate into the SEZs.

Response: The BLM defines "pending" applications as any applications (regardless of place in line) filed within proposed variance and/or exclusion areas before the publication of the Supplement to the Draft Solar PEIS (October 28, 2011), and any applications filed within proposed SEZs before June 30, 2009 (see Section 1.3.3.2 of this Final Solar PEIS). Pending applications will continue to be processed in accordance with due diligence and siting requirements under the BLM's existing policies and regulations and will not be subject to any new program elements adopted through the ROD for this Solar PEIS. The BLM has cataloged 91 first-in-line solar applications that meet the definition of pending; as of May 31, 2012, 13 of these first-in-line pending applications had been closed (denied or withdrawn). The BLM will process second-in-line and subsequent applications as pending applications if they otherwise meet the criteria for pending and the corresponding first-in-line application is closed (denied or withdrawn).

3.11.3 New Applications

Summary: Many commentors argued that the Solar PEIS fails to address how existing solar applications will be managed, and many recommendations were made as to how BLM should process these applications. Many of the comments received did not differentiate between pending and new applications; instead, they either recommended or questioned the date on which applications would be processed according to the terms in the ROD or continue to be processed under current guidelines. Commentors also questioned how applications filed before issuance of a ROD and before RMP amendments will be treated. Some commentors recommended that all existing solar applications outside of the SEZ should be rejected. Other commentors argued that the BLM should process applications according to criteria set forth in BLM IM 2011-059 dated February 7, 2011. There were recommendations that ROW applications submitted after June 30, 2009 should not be processed. At least one commentor recommended that applications filed after

March 1, 2011 be prioritized and that the BLM maintain publically available lists of active solar applications and incorporate these data into the Final Solar PEIS. Other commentors requested that all new ROW applications should not receive further processing until after the ROD is signed.

Response: The BLM defines "new" applications as any applications filed within proposed SEZs after June 30, 2009, and any applications filed within proposed variance and/or exclusion areas after the publication of the Supplement to the Draft Solar PEIS (October 28, 2011). All new applications will be subject to program elements adopted by the Solar PEIS ROD, which may include a competitive process for projects in SEZs (see Section 2.2.2.2.1 of this Final Solar PEIS) and a variance process for projects proposed in variance areas (see Section 2.2.2.3).

3.12 SOLAR ENERGY TECHNOLOGY SELECTION AND IMPACT EVALUATION

Summary: Various technologies have different problems (e.g., noise for dish engine, bird mortality for power towers). There were concerns that the assessment of impacts of the various technologies in the Solar PEIS would become outdated quickly, and that technologies at utility scale are untested in desert environments. Commentors wanted the Solar PEIS to state how changing technologies would be incorporated in the BLM's Solar Energy Program.

It was stated that only low-water-use technologies should be employed and that wet cooling should not be allowed. Some commentors specified PV should be the only technology granted BLM ROWs because of low water use and low height of the panels. A request was received for the Final Solar PEIS to expand the analysis of water usage for the proposed SEZs. Several comments criticized technology information provided in Appendix F of the Draft Solar PEIS.

Response: The Solar PEIS included assessments of the technologies currently in use in the United States or other parts of the world. If ROW applications employing significantly different technologies with different potential impacts are received by the BLM over the 20-year study period, then additional analysis will be required to evaluate those impacts. In addition, a detailed comparison of the efficiencies of the various technologies was considered beyond the scope of the Solar PEIS, for which the assessment was limited to the potential environmental impacts of the technologies.

The jurisdiction of the BLM does not include the granting of water rights or permits to pump groundwater. Such jurisdiction is complex and the permitting agencies vary from state to state. To accommodate the flexibility described in the BLM's program objectives and in light of anticipated changes in technologies and environmental conditions over time, the BLM has removed some of the prescriptive SEZ-specific design features presented in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS, including specifically disallowing wet or dry cooling for the proposed SEZs). For the Final Solar PEIS, detail was added to the groundwater analysis for the proposed SEZs. The maximum amount of water rights likely to be obtainable for each SEZ was estimated and compared with the amount needed for wet- or dry cooling at full

build-out. However, it was recognized that various mixed configurations of projects utilizing various technologies could occur within SEZs that would not exceed the estimated maximum obtainable amount of water. This more complex assessment of groundwater availability in the SEZs was reflected in the modified SEZ-specific design features.

Appendix F of the Draft Solar PEIS provided extensive information on the four technologies assessed, thermal storage technologies, and various configurations of transmission facilities. This information was presented as background for the Solar PEIS impact analyses, but was not needed for the assessments. The information was not updated for the Final Solar PEIS. The project-specific assessments would address impacts from the technologies to be employed, including technologies that had changed or were not included in the Solar PEIS.

3.13 RELEVANT LAWS AND EXECUTIVE ORDERS

Summary: Several comments regarding BLM's authorities under FLPMA and the public land trust doctrine focused on the scale of the utility-scale solar energy developments and their long-term impacts on the environment, and observed that BLM should use all its FLPMA authorities to protect public lands. Other commentors suggested that BLM ensure that local laws and ordinances be included along with Federal and state laws as requirements applicable to applicants, and that the PEIS include noise regulations and policies, laws related to rail transportation, and the Farmland Protection Policy Act. Comments also suggested that all air quality impacts be thoroughly modeled and that BLM include a statement in the Solar PEIS that it will ensure compliance with federal and state air quality standards. Two comments suggested that preparation of the Solar PEIS does not supplant the need for the development and adoption of regulations applicable to solar energy development. The criteria for approving or rejecting solar project applications and the role of public participation were mentioned as needing to be addressed by regulations.

Response: In accordance with FLPMA (Section 103(c)), public lands are to be managed for multiple use that takes into account the long-term needs of future generations for renewable and nonrenewable resources. The Secretary of the Interior is authorized to grant ROWs on public lands for systems of generation, transmission, and distribution of electric energy (Section 501(a)(4)). When the BLM authorizes the construction of utility-scale solar energy generation facilities on BLM-administered lands, it must comply with NEPA, the ESA, NHPA, and other applicable statutes and regulations including federal, state and local laws and ordinances (e.g., air quality, noise, farmland protection, and the like). The BLM's project-specific environmental analysis must address all applicable components of the solar energy generation facility, including, as appropriate, the installation and maintenance of solar collectors, the availability and consumption of water for steam generation and cooling, oil or gas backup generators, the creation and use of thermal or electrical storage, turbines or engines, access roads, electrical inverters and transmission facilities, and water or natural gas pipelines. In addition, solar energy development must be in conformance with the existing, approved land use plan.

The potentially applicable requirements in Appendix H are limited to federal or state laws or county ordinances; applicable regulations and policies have not been included in order to keep

the appendix brief. Rail planning and safety laws were not included but would be considered if applicable for individual projects. Guidance for noise levels is discussed in Section 5.13 of the Draft Solar PEIS. The Farmland Protection Policy Act is included in the list of potentially applicable laws in Table H-9, Land Use, of Appendix H of the Draft Solar PEIS.

The PEIS is not intended to serve as a regulation applicable to utility-scale solar projects; the PEIS, however, may inform the development of regulations. The BLM has decided to undertake rulemaking to establish a competitive process for offering public lands for solar as well as wind energy development within designated leasing areas (i.e., SEZs). The rule will also address other policy elements for solar and wind ROWs, such as bonding and rental rates. When established, the rule may supersede some of the current authorization policies identified in the Solar PEIS (see Section 2.2.2.2.1 for more information). The rule making process allows ample opportunities for public involvement. An Advanced Notice of Proposed Rulemaking (ANPR) was published on December 29, 2011, and a draft rule is expected closely following the release of the Solar PEIS ROD.

3.14 ALTERNATIVES EVALUATED IN THE SOLAR PEIS

3.14.1 SEZ Program Alternative (SEZ Only Alternative)

Summary: Many commentors expressed support for the SEZ Program Alternative. These commentors argued that the SEZ Program Alternative would result in targeted solar energy development in which SEZs would be clearly identified and vetted by all interested parties. Commentors also suggested that the acreage available for solar development in the proposed SEZs would be sufficient to support future solar development according to the RFDS estimates in the PEIS. Commentors were in support of the SEZ Program Alternative because it would minimize impacts on desert ecology, wildlife, wildlife corridors, water resources, cultural and historic resources, and viewsheds, and avoid conflicts with National Parks. Commentors also argued that the SEZ Program Alternative would streamline the environmental review process and reduce the need for additional transmission line infrastructure.

Commentors who opposed the SEZ Program Alternative thought that it would not make available an adequate amount of land to support solar development and would not fulfill the purpose and need of the PEIS. Commentors argued that the SEZ Program Alternative would slow pace of development, and the program would have limited flexibility including siting opportunities to identify appropriate locations for utility-scale solar development. At least one commentor argued that the SEZ Program Alternative would not be compatible with near-term national renewable energy policies, because it would not provide sufficient certainty for long-term development planning.

Response: The BLM agrees that there are many advantages to development in SEZs and has therefore prioritized development within SEZs under its proposed Solar Energy Program and also developed a proposed process for identifying new SEZs if needed (Section A.2.6 of Appendix A). However, development in variance areas may be needed in the near term, because

the lands identified as SEZs might be insufficient to accommodate demand for utility-scale solar development or may not have access to adequate transmission capacity to facilitate such development. In addition, there might be market, technological, or site-specific factors that make a project appropriate in a non-SEZ area. The variance process, however, is intended to be the exception rather than the rule. The BLM will consider ROW applications for utility-scale solar energy development in variance areas on a case-by-case basis based on environmental considerations; coordination with appropriate federal, state, and local agencies and tribes; and public outreach.

3.14.2 Solar Energy Development Program Alternative (BLM Preferred Alternative)

Summary: Commentors who supported the BLM Preferred Alternative did so because they thought it would allow for the most efficient development of utility-scale solar energy and would provide a comprehensive analysis and mitigation recommendations for solar energy. However, some of these commentors noted that additional considerations such as transmission capacity, water availability, coordination with the FAA and military, and other siting concerns could make some of the proposed SEZs difficult to develop. Commentors argued that siting flexibility is critical to the solar industry as technologies develop, and that the current permitting process must be improved to allow expedited development and reduced costs to developers.

Commentors who opposed the BLM Preferred Alternative did so because they felt it was too similar to the no action alternative, would result in a lengthy and expensive environmental review process, and would fragment desert ecosystems. Commentors argued that opening 22 million acres (89,031 km^2) of development is not necessary to achieve the estimated future solar energy requirements in the BLM RFDS analysis. Other commentors were opposed to making large amounts of land available for solar energy development. Commentors were concerned that while the SEZs have been analyzed in great detail, the remaining lands have not and significant environmental and cultural resources impacts could result.

Response: Many of the concerns expressed regarding the BLM Preferred Alternative were addressed through the development of a variance process in the Supplement to the Draft Solar PEIS and its refinement for the Final Solar PEIS (see Section 2.2.2.3). Under the preferred alternative, development in SEZs would be prioritized; however, development in variance areas may be needed in the near term because the lands identified as SEZs might be insufficient to accommodate demand for utility-scale solar development or may not have access to adequate transmission capacity to facilitate such development. In addition, there might be market, technological, or site-specific factors that make a project appropriate in a non-SEZ area. The variance process, however, is intended to be the exception rather than the rule. The BLM will consider ROW applications for utility-scale solar energy development in variance areas on a case-by-case basis based on environmental considerations; coordination with appropriate federal, state, and local agencies and tribes; and public outreach.

To address the possibility that additional restrictions to development in the currently proposed SEZs might be needed based on future analysis and that there may not be adequate development capacity in the currently proposed SEZs, a protocol for identifying new SEZs on

BLM-administered lands has been included in the Final Solar PEIS (Section A.2.6 of Appendix A).

3.14.3 BLM No Action Alternative

Summary: Commentors in favor of the No Action Alternative argued that it would require a more thorough review of impacts and slow the project approval process in comparison with the action alternatives, and thus would be more protective of the environment. In addition, commentors argued that all projects should be subject to a full NEPA review, regardless of their location.

Commentors who opposed the No Action Alternative thought that project-by-project approvals would fail to protect public lands and that the impacts would be greater and more widespread under the o Action Alternative. Commentors also argued that under the No Action Alternative, there would be greater uncertainty, conflicts and delays in the permitting process.

Response: Regardless of the alternative selected, applications for utility-scale solar energy facilities on BLM-administered lands will be processed as ROW authorizations issued in accordance with Title V of FLPMA and BLM's ROW regulations (43 CFR Part 2800). When the BLM authorizes the construction of utility-scale solar energy generation facilities on BLM-administered lands, it must comply with NEPA, ESA, NHPA, and other applicable statutes and regulations. The BLM project-specific environmental analysis must address all applicable components of the solar energy generation facility, including, as appropriate, the installation and maintenance of solar collectors, the availability and consumption of water for steam generation and cooling, oil or gas backup generators, the creation and use of thermal or electrical storage, turbines or engines, access roads, electrical inverters and transmission facilities, and water or natural gas pipelines. In addition, solar energy development must be in conformance with the existing, approved land use plan (see Section 1.3.4). The BLM's existing solar energy policies and proposed Solar Energy Program, if adopted, will help the BLM prevent unnecessary damage to the environment, including unnecessary or undue degradation of the public lands, and otherwise meet the objectives of BLM's ROW regulations (43 CFR 2801.2), by establishing sound environmental policies, procedures, and siting and mitigation strategies for solar energy development on the public lands.

3.14.4 BLM Modified SEZ Alternative

Summary: Many commentors recommended that the agencies modify their preferred alternative to facilitate efficient and environmentally responsible permitting for project developers. Some commentors suggested that individual SEZs be modified or eliminated to avoid sensitive resources. Commentors provided specific recommendations including boundary revisions and exclusion areas; areas where additional analysis is needed; sensitive resources that will need to be addressed with further site-specific, project-level review; opportunities for responsible development; and mitigation measures. Commentors also recommended a more robust and efficient process to designate new SEZs in the future, and an alternative that would

limit development to the SEZs identified in the Final Solar PEIS and additional SEZs that may be identified in the future.

Other commentors expressed concern about identifying new SEZs in addition to those identified in the Final Solar PEIS and about the variance process, which could allow environmental effects across 20 million acres (80,937 km^2) of public land even though the RFDS indicates additional lands would not be needed. Commentors recommended that the BLM tighten the variance process to provide adequate incentives to drive development in the SEZs. Other commentors supported the changes made to the program alternative through the Supplement to the Draft Solar PEIS, arguing that the changes offered flexibility but also ensured protection of sensitive lands.

Response: The BLM has made further modifications to the program alternative that was presented in the Supplement to the Draft Solar PEIS based on comments and concerns raised by the public, stakeholders, and cooperating agencies.

On the basis of input received from the public, stakeholders, cooperating agencies, and tribes on the Supplement to the Draft Solar PEIS, the list of proposed exclusions was modified, including some state-specific exclusions (see Table 2.2-2 of the Final Solar PEIS). The identification of exclusion areas allows the BLM to support the highest and best use of public lands, avoiding potential resource conflicts and reserving for other uses public lands that are not well suited for utility-scale solar energy development.

Many of the suggestions on the Draft Solar PEIS were implemented through the development of a variance process in the Supplement to the Draft Solar PEIS. To accommodate the flexibility described in the BLM's program objectives, the program alternative also proposes a collaborative process to identify additional SEZs. The BLM proposes to identify lands outside of proposed exclusion areas and SEZs as variance areas for utility-scale solar energy development. Variance areas would be open to application but would require developers to adhere to the proposed variance process (detailed in Section 2.2.2.3.1 of the Final Solar PEIS). Variances may be needed in the near term because the lands identified as SEZs might be insufficient to accommodate demand for utility-scale solar development or may not have access to adequate transmission capacity to facilitate such development. In addition, there might be market, technological, or site-specific factors that make a project appropriate in a non-SEZ area. The BLM will consider ROW applications for utility-scale solar energy development in variance areas on a case-by-case basis based on environmental considerations; coordination with appropriate federal, state, and local agencies and tribes; and public outreach. The responsibility for demonstrating to the BLM and other coordinating parties that a proposal in a variance area will avoid, minimize, and/or mitigate, as necessary, sensitive resources will rest with the applicant.

For the Final Solar PEIS, additional appropriate revisions were made to the variance process, for example, to clarify policies for coordination with state and local government agencies. Some clarifications to the description of the variance process made for the Final Solar PEIS include additional text to indicate that the most current data and best science will be used when applications in variance areas are reviewed and a requirement for two preliminary

meetings with the BLM and other federal, state, and local government agencies and for a pre-NEPA public meeting as part of the variance process. Details on the procedures for minimizing impacts on grazing rights holders have been added to the ROW authorization policies, applicable to both applications within SEZs and in variance areas (see Section 2.2.1.1 of the Final Solar PEIS, under Due Diligence—Plan of Development). In addition, revisions to the variance process make clear that impact assessment for transmission must be included.

3.14.5 Development on BLM-Administered Lands

Summary: Commentors opposed solar development on public land and requested that a more environmentally preferred option be considered that would not allow utility-scale solar development on BLM-administered lands. One commentor argued that restricting solar development to public lands unfairly limits development to rural communities. Most commentors were in favor of solar development on previously disturbed sites or on a smaller scale through distributed generation.

Response: Alternatives based on suggestions that BLM not allow utility-scale solar development on public lands would not respond to the purpose and need for agency action in this PEIS and would not meet the objectives established for the BLM by the Energy Policy Act of 2005 and Secretarial Order 3285A1, both of which require the BLM to facilitate renewable energy development on public lands (see Section 1.3.1 of this Final Solar PEIS).

3.14.6 DOE's Proposed Program

3.14.6.1 DOE's Program and Guidance

Summary: Comments on the Draft Solar PEIS requested that DOE strengthen the description of its solar-related programs and include its programmatic environmental guidance in the Solar PEIS. Other comments suggested that DOE establish which program offices would utilize the Solar PEIS and the new guidance in their decision-making processes; that DOE clarify how future environmental analyses would be streamlined through use of the guidance; that DOE support water monitoring and conservation efforts; and that DOE support only projects for which thorough cultural resource consultation has been completed.

Comments on the Supplement to the Draft Solar PEIS provided suggestions for changes/additions to the draft guidance that DOE presented in the Supplement. Various comments requested that DOE's proposed guidance be revised to increase the emphasis on early and continued local involvement, to clarify whether the guidance would be applied as recommendations or requirements, to clarify who would use it; and to include programmatic mitigation and monitoring measures.

Response: In response to comments, the DOE published proposed guidance in the Supplement to the Draft Solar PEIS. The proposed guidance is meant to encourage the support of

projects that are planned and designed to avoid significant environmental impacts. In response to the comment that the DOE should clarify what is meant by the intention to streamline future environmental analysis and documentation, the DOE stated that it intended this to mean, as explained in Section 3.3.1 of the Supplement to the Draft Solar PEIS, that use of the proposed guidance would better enable the DOE to comprehensively determine where to make technology and resource investments to minimize the environmental impacts of solar technologies for DOE-supported solar projects and, as a result, streamline future environmental analysis and documentation.

The DOE included additional text in Section 1.4 of the Final Solar PEIS describing the breadth of the various DOE programs that could potentially fund solar projects and the variety of program goals, which make it impractical to define a single DOE Solar Energy Program that could meet all needs adequately. This breadth of funding programs and variety of goals also makes any attempt to define an RFDS highly speculative. DOE projects and activities are subject to the appropriate NEPA review, at the site-specific level, and these activities would be included in any subsequent cumulative impacts analysis. In addition, any project-specific monitoring and mitigation and all necessary consultations with other federal agencies would be addressed in a project-specific NEPA review.

In addition to including the proposed guidance in the Supplement to the Draft Solar PEIS and the Final Solar PEIS, the DOE has added language to Sections 1.4 and 2.3 of the Final Solar PEIS to clarify use of the guidance. The DOE clarified that the guidance contains recommendations, not requirements. Section 1.4 of this Final Solar PEIS clarifies that the proposed guidance would be available for consideration during development of projects and proposals by both federal entities and the general public, and by decision makers when the decision to implement any solar energy project is being evaluated.

The DOE has considered all suggested revisions to the proposed guidance and, within the scope of this document, the authority of DOE, and as appropriate to the proposed action, has modified the proposed guidance. More specifically, the DOE has revised the proposed guidance in this Final Solar PEIS to incorporate some suggestions, including adding the phrases “and rangelands,” “microphyll woodlands,” “lands identified as incompatible for renewable energy development by local government,” “state wildlife agencies,” “critical wildlife habitats and migrations corridors,” “National and Historic Scenic Trails,” and “State Natural Heritage ranks G1 and G2” to various parts of Section 2.3.2. The DOE added the bullet “Consider visual effects of project location and components on nearby units of the National Park System and other areas under National Park System management” and the bullet “Coordinate with the U.S. Army Corps of Engineers to discuss the reach and extent of waters of the United States on the proposed project site. As appropriate, present a reasonable range of on-site and off-site alternatives and an analysis that evaluates alternatives to avoid impacts on waters in compliance with Section 404 of the Clean Water Act.” DOE’s proposed guidance in the Final Solar PEIS emphasizes coordination with the Federal Aviation Administration (FAA) and DoD for development in proximity to airports. Also, DOE’s proposed guidance emphasizes consideration of water resource issues and early interaction with the USFWS, state and tribal agencies, and local jurisdictions. Further, in response to the comment that the DOE should commit to supporting only those projects for which thorough cultural resource consultation has been completed, the

DOE would like to clarify that it would not fund or proceed with a solar energy project unless it has fulfilled all environmental and other related requirements, including Section 106 of the NHPA. However, DOE's proposed guidance is intended to be applicable to a wide range of projects and locations; therefore, it does not include site-specific directives.

The DOE anticipates that the proposed guidance, if adopted, would allow the DOE to further integrate environmental considerations into its analysis and selection of proposed solar projects. The DOE believes this would allow the appropriate project-specific NEPA review to proceed more efficiently, including development of appropriate project-specific mitigations, and the application of BLM requirements to appropriate projects. Any of the DOE program and field offices that support solar energy projects may take advantage of the analysis in the Solar PEIS and use the proposed guidance. It is not limited to particular offices within the DOE.

3.14.6.2 Siting of DOE-Supported Projects

Summary: The DOE should support distributed generation and siting of solar projects on previously disturbed lands and in low-conflict areas. In addition, it was requested specifically that the DOE support siting on previously disturbed tribal lands.

Response: While distributed energy is outside the scope of this Solar PEIS, the DOE did include additional text in Section 1.4 of the Final Solar PEIS describing the breadth of the various DOE programs that could potentially fund solar projects and the variety of program goals, which make it impractical to define a single DOE Solar Energy Program that could meet all needs adequately. The DOE also included additional information in Section 1.2 of the Final Solar PEIS detailing why both utility-scale and distributed generation solar power are needed.

In addition, commentors suggested that the DOE give preference to projects on previously disturbed lands. DOE's proposed guidance in the Final Solar PEIS recommends that DOE "maximize use of previously disturbed lands" (see Section 2.3.2.3). DOE's proposed guidance recognizes the importance of siting projects in low-conflict zones (specifically, see the recommendations contained in Section 2.3.2.3, Land Use, of the proposed DOE guidance). Further, DOE anticipates that the proposed guidance, if adopted, would allow the DOE to further integrate environmental considerations into its analysis and selection of proposed solar projects. All DOE projects, whether on federal, state, private, or tribal lands, undergo project and site-specific analysis, as appropriate, under NEPA.

The DOE continues to explore opportunities to engage in meaningful dialogue with the tribal nations to enhance interactions and relationships regarding solar energy development. DOE's proposed guidance encourages early interactions with Native American tribes and organizations. However, because the DOE may be asked to fund projects on federal, state, private, or tribal lands, the guidance is not location-specific.

3.14.7 Distributed Generation Alternative

Summary: Commentors recommended that BLM and DOE include a distributed generation alternative that would eliminate or reduce the need for SEZs. Commentors suggested that limiting action alternatives to an SEZ-only alternative comprising 700,000 acres (2,833 km^2) and a Solar Program alternative encompassing 22 million acres (89,031 km^2) would not constitute a reasonable range of alternatives. Commentors argued that a distributed generation alternative would be comparable in efficiency and cost to a utility-scale solar development alternative and should be considered. In addition, commentors argued that an alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in an EIS if it is reasonable.

Response: As discussed in Section 1.2, the scope of the 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. 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 of the Final Solar PEIS), current research indicates that the development of both distributed-generation and utility-scale solar power will be needed, along with other energy resources and energy efficiency technologies. Because these systems typically do not include electricity storage, they cannot provide power during the evenings or at night, and the power output can fluctuate significantly during cloudy weather. As a result, buildings equipped with roof-top PV systems remain dependent on the transmission grid, and electric utilities must maintain adequate generating capacity to provide electricity to customers when needed. Ultimately, both utility-scale and distributed-generation solar power will need to be deployed at increased levels, and the highest penetration of solar power overall will require a combination of both types.

Alternatives incorporating distributed-generation with utility-scale generation, or focusing exclusively on distributed generation, do not respond to the agencies' purpose and need for agency action in this Solar PEIS. As discussed in Section 1.1, the Energy Policy Act of 2005 (P.L. 109-58) requires the Secretary of the Interior to seek to approve nonhydropower renewable energy projects on public lands with a generation capacity of at least 10,000 MW of electricity by 2015; this level of renewable energy generation cannot be achieved through distributed-generation systems. In addition, Order 3285A1 issued by the Secretary of the Interior requires the BLM and other DOI agencies to undertake multiple actions to facilitate large-scale solar energy production.

The evaluation of distributed-generation systems does fall within the scope of DOE's mission; however, it is being handled in other initiatives separate from this Solar PEIS. The DOE recognizes that the present electric grid, built decades ago, was based on a centralized generation approach and was not designed to handle high levels of distributed renewable energy systems. In 2007, DOE launched the Renewable Systems Interconnection (RSI) study to identify the technical and analytical challenges that must be addressed to enable high penetration levels for distributed energy systems, with a particular emphasis on solar PV

systems (see Section 2.5.1 of the Final Solar PEIS). As a result of the RSI study, in 2008, the DOE initiated the Solar Energy Grid Integration Systems (SEGIS) program to further develop electronics and build smarter, more interactive systems and components. In addition, in 2011, the DOE launched the Rooftop Solar Challenge to accelerate significant improvements in market conditions for solar PV projects.

Through these efforts, the DOE is actively pursuing the expansion of distributed-generation systems and their contribution to the country's electricity supply. While distributed generation of solar energy clearly is an important component of DOE's SunShot Initiative and Solar Energy Technologies Program, inclusion in this analysis of an alternative incorporating distributed generation does not address the DOE's purpose and need to satisfy both E.O.s and respond to this congressional mandate and 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 (see Section 1.4.1).

3.14.8 Other Suggested Alternatives

Summary: Commentors recommended other alternatives in addition to the alternatives considered in the Solar PEIS. Suggestions included a disturbed lands alternative, an alternative that excludes public land from solar energy development, a conservation protection alternative, a demand-side management alternative, and an alternative that includes SEZs at a scale commensurate with the RFDS. One commentor suggested an alternative that recognizes that transmission infrastructure may not be constructed and therefore SEZs might not be developed as proposed. A recommendation was made to include an alternative that restricts the range of solar energy technologies to promote technologies that minimize water use. Commentors suggested that the PEIS identify more alternatives, including alternatives with different levels of solar energy development and the implementation of smaller scale projects, given the rapidly changing technology and economics of solar energy development. One commentor suggested that BLM consider land exchanges with local governments as an additional alternative, while another recommended that BLM consider an SEZ alternative that continues to process existing ROW applications that have been screened according to exclusion criteria. Commentors recommended an alternative that establishes renewable energy zones, rather than limiting zones to solar energy exclusively. Other commentors suggested that the DOE consider a broader range of alternatives because it is not limited to development on public land. A few commentors disagreed with all of the alternatives because the large impacts from solar energy development cannot be mitigated enough to adequately protect water, wildlife, and other natural resources.

Response: Parts of some of the suggested alternatives have been considered in the Solar PEIS. For example, the development capacity available through the SEZs in comparison with the RFDS is evaluated in the Draft and Final Solar PEIS (see Section 6.2.7), and development constraints due to lack of transmission are discussed in Section G.4 of Appendix G. Potential development limitations in the SEZs due to water constraints are discussed in individual SEZ sections in Chapters 8 through 13. In addition, the BLM has decided to leave small, in some cases isolated, parcels in the variance land base to allow for the opportunity to combine federal and nonfederal lands (that may or may not be disturbed or degraded). The proposed Solar Energy

Program does allow processing of pending ROW applications. Consideration of a distributed generation alternative was not included; see Response number 3.14.7 above.

The BLM and the DOE have considered an adequate range of alternatives and impacts in the Solar PEIS.

3.15 TECHNICAL RESOURCE AREA ASSESSMENTS

3.15.1 Lands and Realty

3.15.1.1 Design Features for Lands and Realty

Summary: These comments addressed design features that will be applied at the time of design and construction of approved solar facilities. One comment addressed the issue of collocation of project infrastructure for single or multiple projects (design feature LR2-1 in the Final Solar PEIS), requesting that the requirement for consolidating access and other supporting infrastructure should be qualified to apply only where feasible and safe. Another addressed whether some preconstruction activities could be permitted prior to the protection of Evidence of the PLSS (design feature LR2-1). A comment requested that relocation of monuments be addressed as a BMP, and another said that the Solar PEIS should acknowledge the full scope of possible ROW conflicts (e.g., ROWs for water, power, and telecommunications in addition to electricity transmission). Finally, one comment stated that effects on prime and unique farmland should be considered.

Response: The design features will be considered by the BLM Authorized Officer prior to approving a solar energy ROW. The direction to the authorized officer is to maximize the efficient use of public land and to minimize impacts. Accomplishing this goal would require recognizing the long-term management needs of the area and would logically include safety and feasibility issues. The second and third comments are addressed by the LR2-1 design feature that addresses PLSS monuments, including a change in wording that specifies that protection of PLSS evidence will be required "prior to commencement of ground disturbing activity." The design features for ands and realty address conflicts that could occur with any existing ROWs within solar energy development areas, not just existing transmission ROWs (see LR1-1, for example). A design feature requiring consideration of effects on prime and unique farmland has been included in design feature LR1-1 in the Final Solar PEIS. The BLM Authorized Officer will have discretion to consider site specific situations in implementing the design features.

3.15.1.2 Multiple-Use Concerns

Summary: This comment articulates the concern that lands currently classified for multiple use in the California desert would be converted to the single-purpose use of solar energy power generation. The comment also describes a concern that lands that might be set aside for

mitigation of the impacts of solar development would further lessen the amount of land available for multiple uses.

Response: The BLM is charged with managing public lands in the California desert under a multiple-use mandate, but as recognized in Section 103(c) of FLPMA, multiple uses may not always occur on the same piece of land and uses may shift over time. The BLM balances various uses and land classifications through its land use planning process to ensure an appropriate mix of uses is provided. The need to accommodate renewable energy resource development on the public lands has necessitated examination and rebalancing of competing uses.

For those impacts on BLM-administered lands resulting from solar energy development that are not avoided or minimized, the BLM must implement effective measures to offset (or mitigate) impacts and to ensure viability of resources over time. To help accomplish this goal, the BLM proposes to establish regional mitigation plans for development in SEZs (see Section A.2.5 of Appendix A). Projects outside of SEZs would also be required to follow the mitigation hierarchy - avoid, minimize, mitigate. In accordance with NEPA, the impacts of solar development projects and all associated mitigation measures (if any), as well as any further impacts caused by the mitigation measures themselves must be analyzed. This will include impacts on other land uses caused by mitigation measures. The anticipated effectiveness of any mitigation measures in reducing or avoiding adverse impacts must also be considered.

3.15.1.3 Impacts on Adjacent Lands

Summary: Comments in this category focus on the potential impact of SEZs or solar projects on legal access to adjoining federal, state, and private lands, on nearby state and private lands, and on existing ROWs both within and adjacent to solar developments. One comment requested that the role of invasive species in fire hazards be discussed.

Response: All solar facilities would be developed consistent with the protection of valid existing rights including existing ROWs and legal access. Holders of an existing ROW on BLM-administered lands that are under application for solar development will be notified by the BLM of the existence of the application as required in Title 43 of the CFR and as described in design feature LR1-3, and their comments will be solicited. Informal access (not legal access) to private, state, or federal lands could be disrupted by construction of large solar facilities, but the BLM has adopted a design feature that requires identification of legal access to federal, state, and private lands to avoid creating areas that are inaccessible or that would be difficult to manage (LR1-1). Another design feature (LR1-1) also requires consultation with federal, state, and county agencies; property owners; and other stakeholders to identify potentially significant land use conflicts and directs that those issues be addressed in the project specific environmental analysis. While design feature LR1-1 does not specify an outcome of the consultation, it is intended to ensure a full consideration of any potential conflicts between neighboring ownerships.

The Solar PEIS also included a description of the potential conflict between solar energy development and the capacity of designated transmission corridors. In general, solar development and transmission corridor development are not compatible, and approval of solar development or approval of ROWs within corridors will exclude the other use. To adequately consider the future capacity of designated transmission corridors, the BLM has adopted design feature LR2-1, which requires a study of the need for future transmission capacity where any designated corridor intersects a proposed solar energy development.

The role of invasive species in fire hazards is discussed under Vegetation in Section 5.10.1.1 of the Draft Solar PEIS.

3.15.1.4 Use of Previously Disturbed Lands

Summary: These comments have a common theme of not using undisturbed lands for solar energy development. The first comment opposes any conversion of undisturbed public grazing lands and also indicates opposition to conversion of agricultural lands (this generally does not apply to public lands) and agricultural water supplies to support solar energy development. The other two comments recommend using public lands previously disturbed for energy development (e.g., oil and gas) and private agricultural lands that may not have adequate water supplies (example provided is in the San Luis Valley of Colorado).

Response: In response to the identified need to support renewable energy development, the Solar PEIS has reviewed public lands in the six southwestern states for their suitability for solar energy development. As can be seen in the evolution of the amount of land in proposed SEZs and the amount of land available for application outside of SEZs under the variance process, public lands are being eliminated from consideration as well as identified as suitable for solar energy development. At the same time BLM efforts such as the RDEP in Arizona and the review of the fragmented public lands in the West Chocolate Mountains REEA in California are looking at either disturbed lands or lands that are hard to manage for other purposes, to consider their use for renewable energy development. The overall goal is to place renewable energy facilities on public lands where they can best be accommodated while taking into account environmental, social, and economic factors.

The benefits and opportunities associated with the use of areas in, or adjacent to, previously contaminated or disturbed lands for solar energy development is highlighted in the variance process and the Identification Protocol for New SEZs as well as the incentives for SEZs (partnering with suitable nonfederal lands) in the Final Solar PEIS. The BLM has also decided to leave small, in some cases isolated, parcels in the variance land base as an opportunity to combine federal and nonfederal lands in areas that are disturbed,

3.15.2 Specially Designated Areas and Lands with Wilderness Characteristics

3.15.2.1 Inadequate Wilderness Mapping

Summary: A commentor indicated that maps in Appendix N of the Draft Solar PEIS do not clearly show wilderness boundaries near the SEZs, especially critical maps for the proposed Riverside East SEZ and the proposed Iron Mountain SEZ that do not show important "linked" views between wilderness areas adjacent to both SEZs.

Response: The maps in Appendix N were not used to support the discussion of impacts on wilderness and other specially designated areas. Specific maps showing the location of wilderness and other sensitive areas were included for the Riverside East SEZ (Section 9.4.3.2) in which impacts on specially designated areas and lands with wilderness characteristics were described. In addition, discussion of the presence of overlapping viewsheds involving the Iron Mountain and Riverside East SEZs was included in the Draft Solar PEIS. However, the Iron Mountain SEZ has been dropped from further consideration as an SEZ, removing the issue of overlapping viewsheds.

3.15.2.2 Design Features for Specially Designated Areas

Summary: These comments address programmatic design features in Section A.2.2.2 of Appendix A that would affect specially designated areas and lands with wilderness characteristics. Some of the comments concern inventory requirements for wilderness characteristics prior to approval of solar energy facilities, and others indicate that impacts on specially designated areas and lands with wilderness characteristics should be "avoided" not "minimized."

Response: Design features LWC1-1 and LWC2-1 are intended to ensure that consideration is provided to protection of lands with wilderness characteristics consistent with directions to the BLM in FLPMA, the Wilderness Act, and other legislative, regulatory, and policy direction. BLM managers will determine whether there is current information on lands with wilderness characteristics available at the time of consideration of specific solar energy projects to ensure that values for lands with wilderness characteristics can be properly considered in the environmental impact assessment of a proposed solar energy project. The actual age of any inventory of lands with wilderness characteristics is less important than whether the available information is accurate and whether there have been LUP decisions made regarding management of resources of lands with wilderness characteristics. At this time there are numerous, recently completed BLM LUPs that contain decisions regarding management of lands with wilderness characteristics that can be used to meet the requirements of this design feature.

The State of Utah has commented that further review of lands with wilderness characteristics is contrary to state law and must be considered during the governor's consistency review. The comment points out that recent BLM LUPs (Vernal, Price, Moab Monticello,

Richfield, and Kanab) have already reviewed lands with wilderness characteristics and should be exempted. These plans are good examples where the issue of lands with wilderness characteristics has been recently addressed and may not have to be reconsidered in the near future; however, should new information regarding lands with wilderness characteristics be provided now or in the future, a review of all available inventory and management information would be completed at that time. All LUPs and LUP amendments are subject to a governor's consistency review as required by Section 202 of FLPMA. The ROD for this FEIS will be subject to such a review by the governors of all six affected states.

Several comments indicated that impacts on specially designated areas and lands with wilderness characteristics should be completely avoided. The intent of design features LWC1-1 and LWC2-1 is to ensure that indirect impacts on specially designated lands and lands with wilderness characteristics are avoided or minimized if application to construct a solar facility on variance lands is received. However, the BLM is charged with a multiple-use mission that sometimes requires choices between competing, valuable resources. The variance process described in the Final Solar PEIS will ensure that decisions regarding location of solar energy facilities shall avoid or minimize impacts on specially designated areas and shall identify mitigating measures for solar facilities near these areas if needed.

3.15.2.3 Affected Environment Assessment for Specially Designated Areas

Summary: A comment from the NPS stated that additional information is needed in Section 4.3 of the Draft Solar PEIS on non-BLM administered specially designated areas located within the Solar Energy Development Program lands considered in the Solar PEIS including NPS managed lands.

Response: Information in Section 4.3 of the Draft Solar PEIS was intended to describe the general setting within the study area as it applies to specially designated areas and lands with wilderness characteristics. To that end, only a general characterization of what was meant by the heading of the section was required. Figures 4.3-1 through 4.3-7 in the section show the general locations of specially designated areas. Some additional information provided by the NPS has been included in the Final Solar PEIS update to Section 4.3.

3.15.2.4 Specially Designated Areas near Colorado SEZs

Summary: One of the comments mistakenly described areas/features as being within the proposed Antonito Southeast SEZ that are not actually included within the SEZ. Another comment restated some information contained in the Los Mogotes SEZ section of the Draft Solar PEIS, and then mistakenly discussed information not applicable to the proposed Los Mogotes SEZ but possible applicable to nearby areas. A comment on the Draft Solar PEIS supported moving the eastern boundary of the Fourmile East SEZ to the west side of State Highway 150. A comment on the Fourmile East SEZ from the NPS suggested that only low-profile (height) solar facilities be permitted and that power towers be specifically excluded; suggested that lighting in the SEZ be carefully designed to avoid impacts on night sky viewing opportunities from Great

Sand Dunes National Park and Preserve and disagreed with the finding that no special design features are needed to reduce night sky impacts. Further, NPS stated its opinion that the presence of solar energy development along the main access road into the Great Sand Dunes National Park and Preserve and within the viewshed of the park would adversely affect park visitors' recreational experience.

Response: In the Supplement to the Draft Solar PEIS, the eastern boundary of the Fourmile East SEZ was moved to the west to improve the view of the mountains to the east for travelers on State Highway 150 and to reduce the potential impact on travelers heading for the Great Sand Dunes National Park and Preserve. The BLM has decided to not restrict potential solar energy technologies that can be constructed within SEZs as part of this Solar PEIS and is deferring the decision on the types of technologies that might be permissible to be addressed at the site-specific level at which a wide array of technology issues and resource impact information (e.g., water use, impact on surrounding specially designated areas, military and civilian airspace issues, and so on) can best be analyzed. The BLM included a proposed design feature that would reduce or eliminate night sky glow from solar facilities, in Section A.2.2.11.3 of Appendix A.

3.15.3 Livestock and Grazing

3.15.3.1 Compensation for Permittee Losses

Summary: These comments all dealt with suggested compensation of grazing permittees for losses associated with changes in BLM grazing permits. Comments suggest compensation for lost animal unit months (AUMs), water rights, and the invalidation of approved allotment management plans. Comments also included a disagreement with a 2-year Notice of Cancellation and a suggestion that if an allotment is cancelled, an alternative area should be provided to the grazing permittee.

Response: The administration of grazing permits is governed by the regulations contained in 43 CFR Part 4100. Applications for future solar development would require additional NEPA analysis, and potential impacts on grazing privileges and associated water rights would be analyzed at that time. As a first course of action, the BLM will coordinate with any potentially affected grazing permittee/lessee to discuss how a proposed solar project may affect grazing operations and to address possible alternatives as well as mitigation and compensation strategies. In order to eliminate grazing from all or a portion of an allotment, a decision must be issued in accordance with 43 CFR Part 4160. If a proposed allotment modification or closure affects use of authorized range improvements, the BLM must compensate the permittee as provided in Section 402(g) of FLPMA. The requirements for notification of cancellation are defined in 43 CFR 4110.4-2(b) and specify a 2-year advance notice to permittees except under emergency conditions. The compensation for the loss of the permittee's portion of the value of range improvements is defined in 43 CFR 4120.3-6. Although there are no regulatory requirements to provide replacement grazing lands to permittees displaced by new uses of the public lands, the revised Solar Program ROW Authorization

policies described in Section 2.2.1.1 of the Final Solar PEIS provides additional details on how the BLM will address grazing lease cancellations resulting from the approval of solar ROWs, including the requirement that the decision address compensation for range improvements.

3.15.3.2 Disagreement with Livestock Grazing Impact Assessment Methodology

Summary: These comments stated that the grazing impact assessment methodology presented in the Draft Solar PEIS was incorrect and described additional impacts not identified in the Draft. Additional information was also provided on impacts on specific allotments included in the DLVN and Wah Wah SEZs as they were proposed in the Draft Solar PEIS.

Response: The methodology employed in the Draft Solar PEIS was intended to qualitatively identify impacts on grazing operations by artificially equating percentage reductions in authorized AUMs to low, medium, and high impacts. However, based on the comments received, the methodology clearly was not effective in meeting this goal and has been dropped. Revisions have been included in the updated livestock grazing sections for applicable SEZs (Chapters 8 through 13 in this Final Solar PEIS) that better describe the range of potential impacts on individual ranch operations as a result of a loss in grazing, such as a loss in the value of the private lands and water rights associated with the ranch operations. Specific impacts are still not quantified because of the need to analyze the potential impacts of specific solar development proposals on specific ranch operations, but it is believed that the description of qualitative impacts is now more complete.

3.15.3.3 Range Improvements

Summary: These comments are from one organization. Some of the comments were generic, while other referred to specific SEZs. The comments included objections to possibly mitigating a loss of AUMs with range improvements and to the lack of a cumulative impact analysis for the consideration of the mitigation of grazing losses, and suggestions that the NEPA process should consider a range of mitigation activities and that the BLM should consider the relinquishment of lost AUMs rather than mitigation for their loss.

Response: In the Draft Solar PEIS the BLM identified potential impacts that could occur on grazing from the development of solar energy facilities and also indicated potential mitigation measures that could be employed to minimize those impacts. There was no decision made as to what, if any, mitigation measures would be employed. The BLM will coordinate with any potentially affected grazing permittee/lessee to discuss how a proposed solar project may affect grazing operations and to address possible alternatives as well as mitigation and compensation strategies. Site-specific analysis of grazing impacts of specific projects would need to be conducted for 11 future solar projects. Any site-specific analysis of the impacts on grazing would necessarily include consideration of the impacts of any potential mitigating measures that might be employed as well as the impacts from any loss of AUMs. Design Feature RG1-2 for livestock grazing was amended to indicate that retirement of lost AUMs would also be considered.

Cumulative effects of any range improvements proposed for mitigation of lost AUMs would also be considered at the site-specific level.

3.15.3.4 Design Features for Livestock Grazing

Summary: The comments suggested revision of the proposed design feature for livestock grazing (now numbered RG1-1), which would have required that the applicant and the permittee be encouraged to enter into an agreement that addresses mitigation and compensation for the ranch owner's portion of the value of range improvements that would be lost due to construction of solar energy facilities.

Response: The BLM agrees that this provision presented as part of the design feature in the Draft Solar PEIS should be removed. There may be many issues that need to be discussed regarding impacts on grazing operations, and it is inappropriate to single out this one issue. The design feature as presented in the Final Solar PEIS requires evaluation of impacts on rangeland resources and grazing use as part of the environmental impact analysis for the project and consideration of options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM.

3.15.3.5 Comments Opposing Solar Development Due to Grazing Impacts

Summary: Many of these comments suggested that solar development should occur in areas that either are not suitable for grazing or are not being grazed. Some commentors stated that there should be no net loss of grazing AUMs from BLM-administered lands.

Response: Livestock grazing occurs on about 105 million acres (424,920 km^2) of BLM-administered lands within the study area, and consequently there is likely to be conflict between solar energy development and livestock grazing in most suitable solar energy sites. The BLM is charged in FLPMA with managing the public lands for many uses and is frequently allocating or re-allocating lands among the various competing uses. Overall, about 19 million acres (82,964 km^2) are identified as potentially available for application under the program alternative in this Solar PEIS. At the site-specific level, the BLM has dropped or modified boundaries of proposed SEZs, some because of conflicts with grazing use, and has also adopted programmatic design features for livestock grazing that may help avoid or reduce conflicts with grazing in the future. Through this Solar PEIS, the BLM is making reasonable land allocation decisions between competing resources that take into account the many potential uses of the public lands and strike a balance compatible with the mandate in FLPMA. The BLM will coordinate with any potentially affected grazing permittee/lessee to discuss how a proposed solar project may affect grazing operations and to address possible alternatives as well as mitigation and compensation strategies and fully consider potential impacts as part of site-specific environmental analysis.

3.15.4 Wild Horses and Burros

3.15.4.1 Impacts on Wild Horse and Burro Water Sources

Summary: One comment suggested that there is an apparent conflict in two design features related to water sources for wild horses and burros and water sources for facility use.

Response: In the Draft Solar PEIS, one of the design features for wild horses and burros did state that coordination would occur to ensure that impacts on wild horses and burros would be minimized. However, it was not clear whether water sources would be maintained, and while they may be maintained, other solutions to minimize impacts on grazing rights holders may also be identified or, in some cases, the impacts may not be entirely mitigated. In the Final Solar PEIS, the text of the design feature WHB1-1 has been modified to clarify this issue.

3.15.5 Recreation Impacts

3.15.5.1 Multiple-Use Concerns for Recreation

Summary: The comments contained several themes, including (1) the level of analysis of recreation impacts is insufficient; (2) there should be more of discussion of mitigation of recreation impacts and more mitigation should be required; (3) impacts on motorized access (i.e., OHV use) are understated, including a lack of discussion of impacts on those physically unable to use public lands for recreational purposes without motorized access; (4) there is a lack of discussion of the impact on human-powered outdoor recreation; and (5) there was no discussion of the impact on hunting and fishing on lands adjacent to solar energy developments.

Several commentors raised the issue of the potential impact on recreational use associated with acquisition or management of lands for mitigation of impacts on other resources (e.g., desert tortoise mitigation). Commentors also raised the issue of lack of mitigation for impacts on recreational use, particularly where roads designated for motorized (OHV) use might be affected.

Response: The level of recreational analysis in the Solar PEIS is consistent with the scale of the document, and the descriptions in Sections 4.5 and 5.5 adequately characterize both the types of recreational activities on public lands and the nature of the impacts on recreational use that would accompany solar energy development. Both direct and indirect impacts are described. Many types of specially designated areas are excluded from solar energy development (see Table 2.2-2 for the complete list of exclusions), which will avoid direct impacts on recreational use of these areas. It is likely that there are areas that are not designated but that provide important recreational outlets to local or regional populations (e.g., well known rock-hounding areas). These areas have not been identified as exclusion areas as part of this Solar PEIS, but the BLM has adopted design feature R2-1, which would preclude development of such

areas. These types of areas will be identified at the site-specific level by local BLM offices along with local users.

The areas excluded from solar development will protect a large percentage of the existing recreational use on public lands from direct impacts; however, the exclusions do not remove the possibility of direct impacts on dispersed and low-density recreational uses (e.g., back-country driving, hunting, bird-watching) common on BLM-administered lands or indirect impacts on recreation use in adjacent or nearby specially designated areas. In general, impacts would be expected to occur where solar energy development would sever existing routes of travel or is located in areas designated as open to OHV use, potentially affecting both the land within the solar development area and lands that would be accessed via the severed routes. To address these issues, the BLM has adopted design features R1-1 and R2-2, which require that impacts on recreational access be evaluated, that methods of maintaining public access through or around solar developments be considered, and that replacement of acreage lost from OHV use be considered as part of the project-specific environmental analysis. Where solar development is adjacent or near to specially designated areas or other BLM-administered lands that support recreational use, the potential impact on the recreational use of those areas will have to be assessed at the project-specific level when the types of recreation taking place and the size and type of solar energy development are known.

As part of the Solar PEIS process, the BLM evaluated in more detail 24 potential SEZs for the full range of resource values including recreation. The site-specific recreation analysis of all these areas indicated that the anticipated recreational use of the areas was very low. There was no BLM site-specific recreational use information available for any of the areas, largely because the levels of recreational use are thought to be low and the BLM has not expended its scarce resources in quantifying the use. Aside from routes designated for motorized use by the BLM that were found in many proposed SEZs including two SEZs where competitive events have been permitted, there is only one example of an undesignated but well-known and locally important recreational use area that was identified in these analyses. This area was a dry lakebed in the southern portion of the originally proposed Delamar Valley SEZ. No other specific recreational use areas were identified by the public during the comment periods on either the Draft Solar PEIS or the Supplement to the Draft.

In the case of acquisition of lands for impact mitigation, lands previously open to the full array of multiple uses could be designated for management for the benefit of specific resources excluding or restricting recreational and other uses. The potential for impacts from mitigation lands is discussed in the impact evaluations in Section 5.5 and in the SEZ recreation sections. In accordance with NEPA, the impacts of solar development projects and all associated mitigation measures (if any), as well as any further impacts caused by the mitigation measures themselves must be analyzed. This will include impacts on other uses such as recreation caused by mitigation measures. The anticipated effectiveness of any mitigation measures in reducing or avoiding adverse impacts must also be considered.

Potential impacts were identified in several SEZs where roads designated for motorized use might be affected; these impacts could be mitigated through the application of programmatic design feature R1-1. Should potential significant impacts on recreational use be found in the

analysis of a future, specific development proposal, mitigation of those impacts would be addressed as part of the environmental analysis for that project.

3.15.5.2 Impacts on Recreation from the Colorado SEZs

Summary: These comments focused on the potential loss of hunting recreation opportunities if the four proposed Colorado SEZs were developed.

Response: Even with the reduction in the size of three of the four proposed SEZs through the Supplement to the Draft Solar PEIS, there is still the potential for loss of about 16,309 acres (66 km^2) of public land to solar development. While the impact on wildlife populations that might be affected by this level of development is considered to be small, this could still result in an undetermined loss of hunting recreation opportunities. It is anticipated that this loss of recreational opportunity would be small, commensurate with the anticipated loss in wildlife habitat

3.15.5.3 Design Features for Recreation

Summary: These comments deal with three proposed programmatic design features contained in the Draft Solar PEIS: a design feature stating that public access through or around solar facilities shall be retained; a design feature stating that replacement of acreage for lost OHV shall be considered; and a design feature stating that solar facilities shall not be placed in areas of unique or important recreation resources. In the Final Solar PEIS the first two of these design features are combined in design feature R1-1.

Response: Comments on design feature R1-1 indicated that it could be problematic to allow access "through" solar energy development sites because of security and operational issues and proponents may have limited ability to provide access "around" solar facilities. Because of their size, it is likely that solar energy facilities will intersect established public access routes to and through public lands, and design feature R1-1 is intended to ensure that this public access is maintained. It is reasonable that the cost of providing such public access is a legitimate cost of a solar energy project just as in any infrastructure cost, and alternatives of how and where to locate public access could be considered in the environmental analysis of the proposed project. Security and operational needs of the proponents could be valid reasons for allowing the relocation of existing access around facilities.

The next design feature in question addresses situations in which designated OHV routes or use areas would be affected by the development of solar energy facilities. Impacts on these uses and impacts associated with the replacement of these areas would be evaluated as part of the environmental analysis of project-specific impacts. Relocation of use or designation of replacement routes and would be consistent with existing land use plans and with current guidance on designation of routes and use areas.

Comments on the design feature addressing areas of unique recreation resources generally requested a clear definition of "unique or important recreation resources." The intent of this design feature is to recognize that there may be local or regionally significant recreational resources that are not included in the list of areas that are excluded from solar development but that should be considered for protection as part of the process of evaluating a proposed solar energy project (see Table 2.2-2 for the complete list of excluded areas). Areas that might meet this definition could be identified during meetings with BLM staff prior to submitting solar energy development applications or could be identified by the public or others in the scoping portion of a project environmental analysis process. The BLM designated officer could choose to exclude such areas from further consideration for solar development or could choose to analyze the impacts of including such an area(s) in the environmental analysis for the project. One comment suggested that national historic trails should be considered in the context of this design feature. Although national historic trails are included in Table 2.2-2 as exclusion areas, the determination of how far from an national historic trail solar facilities should be located would be made during project-specific analysis of potential impacts.

3.15.6 Military and Civilian Aviation Impacts

3.15.6.1 Design Features for Military and Civilian Aviation

Summary: These comments related to two design features that are now combined into design feature MCA1-1 in the Final Solar PEIS. Some comments concerned supporting the requirements in design feature MCA1-1 that require early coordination between applicants and airport operators. Other comments also apply to this design feature and requested additions to the technical reports that would be required of applicants for issues related to military equipment operations. The remaining comments relate to design feature and concern the assessment of the potential impact of solar energy development on species that might either be displaced onto military reservations or whose existing populations on the reservations might take on increased significance that could adversely affect the operation of the military facility.

Response: Design feature MCA1-1 in the Final Solar PEIS has been formulated to clarify that any type of potential impacts on civilian or military aviation airports or on civilian or military airspace are to be discussed with the airport operators or airspace users very early in the application process. Each consultation between applicants and civilian and military airport and/or airspace operators will focus on the unique conditions presented by a particular solar energy proposal. Rather than specify a particular report that would have to be prepared regarding potential impacts of military systems or of solar facilities, the coordination process itself would be sufficient to determine whether particular studies or reports would be required. Additionally, in preparing selected parcels within SEZs for competitive offer, the BLM would be required to review all existing analysis for the SEZ and work with FAA, DoD and others, as necessary, to ensure the consideration of potential impacts on military and civilian aviation were fully considered.

Additional information regarding the nature of the potential impact on military installations from impacts on special status species from solar energy project construction has been included in Section 5.6.1 of the Final Solar PEIS. In summary, the clarification indicates that the impact on military operations most likely would occur if solar energy facilities created enough disruption of sensitive species habitat that existing habitat for the same species within a military reservation would have to be managed in a more restrictive manner that adversely affected military operations. Displacement of species from a solar energy development onto a military reservation would require the presence of a very highly mobile species and one whose habitat needs could be met on the military reservation, which is not likely to often be the case. The biological evaluations that would analyze impacts on species found within a solar energy development site would likely be sufficient to answer the question of potential impact on military reservations.

3.15.6.2 SEZ-Specific Technology Restrictions

Summary: These comments focused on whether technology restrictions should be adopted in advance of a site-specific proposal. Concerns mentioned were that height restrictions affect only power tower technology and could be hard to change. Two Lincoln County, Nevada, comments supported the military use of airspace in the NTTR but adopted a different position on making decisions on acceptable technology use. An industry comment indicated that the FAA process is established and the requirement for early consultation with the FAA is unnecessary and might not be welcomed by the FAA.

Response: With the exception of the Colorado SEZs and the Gillespie SEZ, the BLM has determined that decisions on which technologies will be acceptable within designated SEZs will be made at the project-specific level. Early coordination with the military and civilian airport operators and military airspace users will be required by design feature MCA1-1 to understand potential conflicts with airport operations or with military airspace use. The requirement for early consultation with the FAA contained in design feature MCA1-2 has also been retained. The FAA will be afforded an early opportunity to review proposed solar projects in order to avoid needless processing of applications that could have been determined to have unacceptable impacts on airspace use earlier in the review process. Additionally, in preparing selected parcels within SEZs for competitive offer, the BLM would be required to review all existing analysis for the SEZ and work with FAA, DoD and others, as necessary, to ensure the consideration of potential impacts on military and civilian aviation were fully considered.

3.15.6.3 General Impacts on Military Operations

Summary: The military offered comments consistently through the analysis process identifying parts of the Draft Solar PEIS and the Supplement to the Draft Solar PEIS that did not accurately reflect its understanding of potential impacts on military operations. Its comments have been both general and site-specific. The military made suggestions on additional types of impacts of solar development on military use of MTRs, SUAs, and testing activities that were not included in the Draft Solar PEIS or the Supplement to the Draft Solar PEIS. Two areas were

identified that have no formal designation as military use areas but could be adversely affected by solar development—the Vinagre Wash complex in California and the Nellis AFB bailout area in the proposed Dry Lake SEZ). Several comments were provided on the potential impacts on the use of military airspace.

Response: The military effectively conveyed its concerns about general and site-specific impacts. Some SEZs of particular concern to the military were dropped from further consideration (Delamar Valley in Nevada) and others were reduced in size partially in response to these concerns (Amargosa Valley, Dry Lake, and Dry Lake Valley North in Nevada). It is clear both from the analysis and the military comments that there is potential to affect the functioning of a widespread system of military training and testing facilities in the western states. Avoiding unintended impacts on this system will require future close coordination in assessing the potential impacts of solar applications on important military uses. The BLM has committed to the military to conduct thorough, early consultation on proposals that might affect military uses of public lands to identify and mitigate potential impacts in both SEZs and variance areas. This commitment is included in design feature MCA1-1. The BLM has determined that at this Solar PEIS level, it is not possible to satisfactorily resolve potential conflicts between solar development and military uses, so site-specific coordination on specific projects will be conducted.

The Vinagre Wash complex in California has been excluded from the development footprint of the BLM Solar Energy Program. A portion of the Dry Lake SEZ has been excluded from the SEZ, but the excluded land is not designated as an exclusion zone, so it will be open to application for future solar energy development.

3.15.6.4 Impacts on the NTTR

Summary: Although many of the comments here were similar to those addressed under the category of general impacts on military operations, it is clear from the analysis and the military comments that the NTTR is a unique asset in that it represents 40% of the Air Force land assets and that it also has an important testing mission. The area is depicted by the military as 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 federal funding. The training and testing environment provided by the NTTR cannot be replicated. … Any development in the Dry Lake Valley North SEZ … will have an immediate adverse impact to [on] current and future DoD operations on the NTTR."

Initially seven of the proposed SEZs were either within or nearby the borders of the NTTR. Two of these were dropped from further consideration, and the size of two others was substantially reduced. The military has continued to request the proposed Dry Lake Valley North SEZ be dropped from further consideration. The military has requested that any solar facilities developed in the remaining Nevada SEZs be restricted to "low-profile, low-glare PV technologies under 50 ft (15 m) AGL similar to the PV I Array at Nellis AFB." Lincoln County, Nevada, has supported the military's request for limiting the height of solar facilities within Lincoln County.

Response: The military has consistently raised concerns about the potential impact on military activities associated with development of all the remaining Nevada SEZs. In most instances it appears that height limitations for solar facilities may meet the military's concerns, but it has enumerated other concerns that need to be considered. The specific concerns of the DoD for individual Nevada SEZs are included in the SEZ-specific evaluations in Chapter 11 of this Final Solar PEIS. Because of the need to pursue development of solar energy production on public lands, the BLM is not prepared at this time to rule out development at the remaining proposed Nevada SEZs; rather, the BLM is committed to early, project-specific consultation on proposed solar facilities located within these SEZs in order to identify and mitigate potential impacts on military airspace use and testing. That commitment is contained in design feature MCA1-1, the variance process, and the SEZ authorization process. For example, in preparing selected parcels within Nevada SEZs for competitive offer, the BLM would be required to review all existing analysis for the SEZ and work with DoD and others, as necessary, to ensure the consideration of potential impacts on military operations were fully considered.

3.15.7 Geologic Setting and Soil Resources

3.15.7.1 Vegetation Clearing

Summary: Several comments expressed concern and questioned the assumption that existing vegetation would be fully removed from SEZs undergoing development; one comment suggested that the BLM and DOE promote conservation practices such as leaving intact patches of vegetation, covering sites with gravel, stabilizing disturbed areas, and reusing topsoil materials quickly. Other comments recommended minimizing soil disturbance (i.e., the project footprint), especially across large expanses of soils that are moderately or highly susceptible to wind erosion, and avoiding areas with desert pavement and biological soil crusts.

Another comment stated that the soils analysis did not cover important details of desert pavement, cryptobiotic soil, sand flow, and carbon fixing with enough depth.

Response: The impacts analysis for soil resources in the Draft Solar PEIS assumed that all existing vegetation would be removed from SEZs undergoing development (as a worse-case scenario); however, projects would employ measures and practices to mitigate the impacts of vegetation removal; these include (as commentors also recommended) minimizing areas of disturbance and avoiding desert pavement and biological soil crusts (to the extent possible). Several other design features to reduce soil erosion have also been proposed; these are presented in Section A.2.2.8 of Appendix A. For at least some solar projects, site vegetation would be cleared for construction purposes (e.g., placing solar panels) but would be encouraged to grow back once the facility installation was complete. Other projects may find it unnecessary to clear vegetation.

Desert pavement, biological soil crusts (including nutrient fixation), and eolian processes/dune development are generally described in the soil resources section of Chapter 4 (Section 4.7.3). A statement on the effects of soil disturbance on the carbon-fixing function of

biological soil crusts (as well as potential carbon release from these and other crusts, such as caliche) was added to the general discussion of soil-related impacts in Section 5.7.1 of Chapter 5. SEZ-specific impacts would be evaluated as part of the project-level NEPA review once the site soil has been fully characterized and project plans (e.g., footprints of disturbed areas) are known.

3.15.7.2 Soil Erosion

Summary: Comments concerning soil erosion requested that BLM (1) require a comprehensive soil integrity control plan to cover all soil-related issues (including ethical issues); (2) consider soil erosion due to surface runoff in the context of climate change (and the increase in more extreme rainfall events); (3) allow all the various required plans to be made part of a POD rather than as separate stand-alone documents; and (4) set stringent guidelines for retaining existing native soils and vegetation at construction sites to minimize dust generation. Other comments requested more discussion on how impacts would vary based on the type of facility construction and clarification of text describing the susceptibility of soils to wind erosion (i.e., whether the erodibility rating provided in the soil sections refers to soils before or after vegetation is removed for development).

One comment suggested that a wind erosion study be conducted to determine the long-term effects of wind erosion (from project areas cleared of vegetation) on patterns of sand deposits, agriculture, and medicinal and food plants used by tribal people.

Response: The various mitigation plans discussed in Section 5.7.4 and listed in Table 5.1-1 are representative of the types of plans project developers would need to prepare during the project planning phase, but they are not prescriptive. The need for project-specific plans and their content will depend on each project's requirements and locations. Authorizing agencies (e.g., the BLM, DOE, or state agencies) will determine the adequacy of the plans for each project.

Guidelines for retaining native soils and vegetation and minimizing dust generation are provided in the form of mitigation measures (Section 5.7.4) and design features (Section A.2.2 of Appendix A)

Technology-specific impacts are presented in Section 5.7.2 of Chapter 5. These impacts are discussed in a general fashion because details of specific projects (such as the size of the project footprint) at the SEZs are not currently known.

The erodibility ratings for soils presented in the SEZ-specific soil resources sections are based on pre-disturbance conditions (see Section 4.7.3.4 for an explanation of wind erodibility ratings). Soil disturbance would increase the erodibility of soils, because it would compromise the factors that function to stabilize soils (e.g., vegetation cover, biological soil crust cover, rock cover, physical crusts, and desert pavement).

The long-term monitoring of solar facilities during their construction and operation will include an air quality component that will monitor particulate matter (i.e., fugitive dust levels).

The monitoring data generated can be used to estimate impact levels at receptor locations in the vicinity of the development.

3.15.7.3 Soil-Related Diseases

Summary: Several comments expressed concern over the potential release of soil-borne diseases and toxins (including the Coccidioides species of fungus and mineral aerosols) in dust generated by wind erosion in areas disturbed by Solar project related construction.

Response: The potential for exposure to soil-borne diseases and toxins, such as the Coccidioides fungus and mineral aerosols, as a result of wind-blown dust in areas of disturbance has been added as a soil-related impact. This potential impact has also been carried through to the air quality and health and safety impact discussions (see Sections 5.11 and 5.21 of the Final Solar PEIS, respectively).

3.15.7.4 Protection of Carbon Capture

Summary: Several comments raised the concern that soil disturbance from solar project-related construction could degrade soil structure, thereby reducing the carbon capture potential of affected SEZ soils and/or releasing carbon to the atmosphere.

Response: The carbon-capture potential of desert soils (playa soils, caliche, and biological soil crusts) has been added as an important aspect of their soil function in the general discussion of soils in Chapter 4.

3.15.7.5 Soil Deposition by Wind

Summary: Several comments (citing references) expressed concern that dust eroded from SEZ development sites and deposited on snowpack of adjacent mountain ranges could accelerate snowmelt and exacerbate the seasonal effects of climate change (e.g., reducing annual flow of the Colorado River). One comment recommended that any solar-related activity causing fugitive dust be catalogued as a way to estimate total dust emissions at project sites.

Response: Wind-eroded dust from solar development sites is a concern for most of the SEZs, and its deposition on snowpack is an issue that has important implications for the water cycle. This impact has been added to the soil-related impacts discussed in Section 5.7.1, Common Impacts, of Chapter 5.

3.15.7.6 Mitigation of Soil-Related Impacts

Summary: Comments concerning mitigation of soil-related impacts included: (1) statements that use of the term *avoid* is too restrictive, especially in relation to land

disturbance in natural drainage systems, hill cuts, unstable slopes, unpaved surfaces, and wet soils in project areas; (2) a request that avoiding 100-year floodplains and areas with high seismic activity not be required for appropriately engineered facilities; (3) a request to clarify the term *adequate* in relation to setbacks from natural washes; (4) a statement that minimizing ground-disturbing activities during the rainy season may be too restrictive; (5) a request to provide examples of acceptable barriers in wildlife-crossing areas; (6) a statement that requiring wind studies (to characterize eolian processes) should not be a design feature because it would not expedite the permitting of solar projects; (7) a statement that site inspections be documented and adaptive management practices be employed; (8) a request that any spill response plans incorporate methods for minimizing surface runoff of contaminants to nearby waterways or drainages; (9) a statement on the preferred type of erosion matting; (10) a request for clarification on how natural revegetation efforts would be monitored; (11) a request to add the use of supplemental water during revegetation to improve success; (12) a request to include measures to prevent burial of biological soil crusts by windblown soil deposition from disturbed sites; and (13) a request to include a citation of DOI's Technical Reference 1730-2 (2001), "Biological Soil Crusts: Ecology and Management" to Chapters 4 and 5.

One comment recommended a mitigation measure requiring that solar projects be aligned perpendicular to prevailing winds to reduce wind erosion, especially across landscapes composed of soils that are highly sensitive to wind erosion. It was also suggested that National Resources Conservation Service (NRCS) soil data be used to identify the soils most susceptible to wind erosion so they may be excluded from development (especially in areas upwind of Class 1 airsheds).

A few commentors were concerned that mitigation measures to address soil-related impacts were not presented in the SEZ-specific chapters; one of these commentors provided four mitigation measures to be incorporated.

Response: Some of the recommended changes were incorporated into the proposed design features presented in Section A.2.2 of Appendix A in this Final Solar PEIS. The terms *avoid* and *minimize* in reference to natural drainage systems, 100-year floodplains, ground-disturbing activities, and so on in project areas are intended to be restrictive (but not prohibitive), especially for project areas in which better options are available, and so those terms have been retained. It is acknowledged that projects can be engineered to accommodate 100-year floods and seismic activity. The term *adequate* was clarified where it is used in the text; other terms, such as *erosion matting* and *monitoring of revegetation efforts* were defined or explained in greater detail. Suggested additions, such as documenting site inspections, modifying spill response plans to include minimizing surface runoff, and using supplemental water during revegetation were incorporated, as appropriate. The BLM has already adopted an adaptive management approach for the solar program (see Section 1.6.2.2 of this Final Solar PEIS), and this approach will be used in its long-term monitoring protocol to ensure its resource management objectives are met.

Reference to DOI's Technical Reference 1730-2 (2001), "Biological Soil Crusts: Ecology and Management," was included in Chapters 4 and 5 of this Final Solar PEIS.

Design details, such as those concerning the optimal shape and orientation of a solar project relative to the prevailing wind direction (to reduce the susceptibility of soils to erosion by wind), will be evaluated and decided at the project level. Note that the SEZ-specific chapters already use NRCS data to identify soils that are sensitive to wind erosion. Although these data were not used to identify exclusion areas within SEZs, they will be an important consideration in evaluating impacts on soil resources during the project-specific NEPA review.

The purpose of the design features is to ensure that solar development occurs on public lands in a way that preserves and protects affected resources. Therefore, the design feature to "determine the need for a study to evaluate the potential impacts of building a solar facility in close proximity to the Great Sand Dunes" (in the case of the Fourmile East SEZ in Colorado) was retained. Applicants may propose variations to the proposed design features for BLM's consideration.

Mitigation measures to address soil-related impacts were presented in Chapter 5 of the Draft Solar PEIS; design features based on these measures are identified in Section A.2.2 of Appendix A. The SEZ-specific sections entitled "SEZ-Specific Design Features and Design Feature Effectiveness" refer the reader to Section A.2.2 of Appendix A for the programmatic design features.

3.15.7.7 Project Design and Geologic Hazards

Summary: Comments specific to project design in relation to geologic hazards included requests to add information on International Building Codes (detailing seismic requirements) and flood hazard class maps for SEZs.

Response: The seismic information presented in the Solar PEIS provided a general characterization of seismicity and related hazards in the SEZ areas; it was not intended to be of sufficient quality and detail to be used as the design basis for specific solar projects. The International Building Code, as well as other relevant state and local codes, will be taken into account during the project design phase and will likely be based on a more detailed seismic study of the area of interest.

Floodplain analyses (or flood hazard maps) do not exist for many of the remote valleys in which the SEZs are located. Exclusion areas based on 100-year floodplains will be identified as part of the action plan proposed in Section C.7.2.2 of Appendix C of the Supplement to the Draft Solar PEIS. This work will involve field surveys, consultations with the Federal Emergency Management Agency (FEMA) and state/local flood control agencies, and hydrologic analyses. Reference to the article by House (2005) was added to Section 4.7.2.3.2 of Chapter 4 as a good example of how geologic information can be used to improve flood-hazard management on alluvial fans in desert areas.

3.15.7.8 Geology of Specific SEZs

Summary: Comments concerning specific SEZs focused on additions and corrections to the site descriptions and included (1) details on the purpose of the V-dikes at the Riverside East SEZ; (2) a request that greater consideration be given to mitigating disturbances of desert pavement in the western region of the Riverside East SEZ; (3) a statement that soils at the Millers SEZ are prone to rutting; (4) observations of soil biological crusts within the Escalante Valley and Milford Flats South SEZs; (5) a statement that Lida Valley is a flashflood plain; (6) a statement that potential impacts on soil, forage, and lava rocks due to disturbance at the Antonito Southeast SEZ make this SEZ unsuitable for development; (7) a statement that caliche covers a lot of Imperial County in California and its disturbance would release carbon to the atmosphere and damage the carbon capture potential of soil; and (8) statements that Delamar Valley SEZ is not suitable for industrial development and vehicle traffic because of the deep water table and the fine-grained (powdery) nature of soils.

Response: All the additions and corrections recommended were fact-checked and incorporated into the SEZ descriptions or impacts analysis, as appropriate. On the basis of public comments received, the Delamar Valley SEZ was dropped from further consideration.

3.15.8 Minerals

3.15.8.1 Mineral Inventory and Impacts of Development

Summary: These comments focused on the need for mineral inventories and the potential long-term impact of solar energy development on mineral resources.

Response: Mineral potential assessments for a 20-year mineral withdrawal have been prepared for each of the 17 proposed SEZs and were reviewed by BLM mineral specialists knowledgeable about the regions in which the SEZs are located. The mineral reports are available on the project Web site (solareis.anl.gov/documents). Notification will be provided to Congress regarding any proposed long-term mineral withdrawal of public lands within SEZs as required in FLPMA Section 204(c)(1) and (2).

The mineral potential assessments found there is low potential for the occurrence of locatable minerals and low potential for mineral development at the 17 SEZs; therefore, the impact of the land withdrawal on mineral resources is considered to be small. Although there are a few active mining claims, oil and gas leases, and areas prospectively valuable for low-temperature geothermal resources within and around the 17 SEZs (and one SEZ within a known geothermal leasing area), none of the SEZs is currently producing minerals nor do they have a history of mineral production other than industrial materials (such as sand and gravel, or scoria). Existing valid mining claims and oil and gas leases within withdrawn lands would represent prior existing rights that would be protected. A few existing mining claims have not been tested to determine their validity, but there is no production on these claims. There is one active mill-site claim that is being used to process mineral material that would also be protected.

3.15.9 Water Resources

3.15.9.1 Water Use

Summary: The comments concerned the quantity and source of water that could potentially be used by utility-scale solar facilities. Commentors mentioned the following: (1) wet cooling uses a large amount of water; (2) non-freshwater sources should be considered for use by facilities; (3) water availability is low in much of the project area; (4) wet cooling should not be allowed in all or most of the project area; (5) the BLM should be asked to adopt stringent restrictions on water use;, (6) the source of the water for cooling should be identified; (7) the Solar PEIS should ensure that solar energy development does not impair future water resources; (8) technologies that require the least amount of water should be used; (9) water conservation measures should be employed; (10) artificial recharge of aquifers could be used to offset groundwater withdrawals; (11) the Solar PEIS does not provide a sufficient analysis of water resources; (12) a detailed assessment of water resources should be performed before designating an SEZ to determine the allowable water use; (13) CEC will not approve a wet-cooling project unless it uses non-potable reclaimed water; and (14) the peak construction year should be scaled back in basins that do not have the water supply to accommodate water use during the peak construction presented in the Solar PEIS. Several commentors mentioned issues with specific SEZs.

Response: Water use by solar facilities is recognized as one of the primary factors that can negatively affect water resources within a basin. The Solar PEIS used existing and proposed water use numbers relating to solar facilities in order to estimate water use requirements for the peak construction year and operation phases. During construction, water is primarily used for dust control and quantities can be substantial if a large area of disturbance is expected. The assumptions regarding peak year construction activities are conservative (meaning they represent a high level of land disturbance). In addition, construction activities occur only over a short time frame, which makes it possible to import water from off-site. In general, these factors suggest that water use for construction is not a primary concern with respect to water resources. The operations phase (20 years) has much greater potential to affect water resources through water use. Water is used for supporting the potable water supply, for cleaning mirrors and PV panels, and for cooling (parabolic trough and power tower technologies only). Incorporated into these water use numbers are many other water uses, such as fire suppression, vegetation maintenance, equipment cleaning, and the like. The scaling factors used in estimated water use numbers are considered conservative, so they include all potential water uses at a solar facility.

Water conservation measures are important to the BLM and stressed in the Solar PEIS. One of the main objectives of the required design features and mitigation measures for water resources is to promote the sustainable use of water resources through appropriate technology selection and conservation practices. Reductions in the size of SEZs (along with some SEZs being dropped) and the identification of non-developmental areas have reduced water use requirements at many of the SEZs. Revised water use estimates are presented in the SEZ sections of this Final Solar PEIS.

Technologies that use wet cooling are of concern because of their high water demand. Impact analyses used a full build-out of wet-cooled facilities to represent a worst-case scenario with respect to water use. Results of this analysis suggested that full build-out of wet-cooled facilities is unfeasible at 16 of the remaining 17 SEZs. Only the De Tilla Gulch SEZ in Colorado, the smallest SEZ at 1,064 acres, could potentially support full build-out of wet-cooled projects. For each SEZ, any proposed wet-cooled facility would be reviewed on a project-by-project basis, would be required to use water conservation measures, and would have to have detailed hydrologic investigations to ensure protection of water resources in the basin.

The Solar PEIS made the assumption that local water resources (surface water and groundwater) would be used for operations. Alternative water resources such as reclaimed municipal wastewater and saline groundwater sources were encouraged in the Draft Solar PEIS, but require site- and project-specific information beyond the scope of the Solar PEIS. The Final Solar PEIS discusses other programs working to promote and assess the use of alternative water resources, such as programs within DOE and the WaterSMART (Title XVI) program of the U.S. Bureau of Reclamation (BOR). Other commentors suggested discussion relevant to water conservations measures, such as managed groundwater aquifer recharge programs and the retiring of water rights in overallocated basins. To the extent possible, existing programs and examples of these types of practices were discussed in the Solar PEIS, but assessing the potential implementation of such programs is beyond the scope of the Solar PEIS.

The BLM acknowledges that several commentors would like the program to ensure that groundwater use in SEZs will not exceed the sustainable yield of the basin. Determining the sustainable yield of a groundwater basin is a difficult task that can mean different things between the scientific and management communities. The design features require hydrologic analyses to be conducted by the developers in order to assist the BLM, along with local and state water management agencies, in setting limits on groundwater use that protect groundwater-dependent resources and other water rights in a basin. The Final Solar PEIS includes information on a water resources inventory for the SEZs, as well as results of groundwater budgets and a simplified one-dimensional groundwater model. This new information on water resources is meant to assist the BLM, along with local, state, and federal water management agencies, in setting limits on water use and reducing impacts on water resources. Given the complexity of hydrology in desert environments, it is acknowledged that not all impacts can be assessed. The BLM is committed to adaptive management and long-term monitoring for projects located on BLM-administered lands; these strategies are additional mechanisms that can minimize impacts on water resources.

Several commentors suggested that the BLM adopt a stringent water use policy and set limits on water use by solar projects. This mechanism was not chosen because it does not include the existing programs or support of current local, state, and federal water rights and water management programs. Coordination with such agencies is the primary mechanism that the BLM adopted to protect water resources for the Solar PEIS. Water use estimates presented in the Solar PEIS for peak construction year and normal operations are meant to be used as guidelines by the BLM and water rights/management agencies in evaluating water right applications/transfers associated with lease applications. Overall, the BLM is committed to protecting water resources and believes the most appropriate mechanism to ensure protection is coordination with existing local, state, and federal water management agencies.

3.15.9.2 Water Rights and Management

Summary: The comments addressed water rights issues or issues related to the management of water resources in the project area.

Response: Coordination with local, state, and federal water management agencies is the primary mechanism that BLM adopted to protect water resources and water rights for the Solar PEIS. Several comments suggested that the Draft Solar PEIS failed to assess available water resources in basins that are near full allocation or overallocated with respect to water rights. The Draft Solar PEIS presented information regarding the availability of water rights and estimates of full build-out water requirements and assessed impacts assuming that water rights were transferrable. Whether transferring or obtaining water rights was feasible is beyond the scope of the Solar PEIS, but several design features call for coordination with local, state, and federal water management agencies and the need to secure water rights (through these agencies) before ROW approval.

Several comments were made about the Colorado River, including entitlement to water, impacts and mitigation, laws and policies regarding Colorado River apportionment, and potential impacts of drawdown on the Colorado River Accounting Surface. Overall, Colorado River water allocations described in the "Law of the River" would not be affected by solar energy development through coordination with federal, state, and local regulators. The Riverside East SEZ is the only SEZ located within the Colorado River Floodplain region. Potential groundwater drawdown below the Colorado River Accounting Surface is discussed in the Riverside East SEZ chapter. A description of the Colorado River Accounting Surface (used to enforce the "Law of the River"), which is enforced by the BOR, is presented in Chapter 4.

An updated section on water management and applicable laws is presented in Chapter 4 of the Solar PEIS. This updated section includes a description of the San Pedro River system, which is relevant to the solar energy development program alternative (not any of the SEZs). The Draft Solar PEIS included descriptions on state-specific programs used to protect water resources and water rights. In certain cases, specific water right issues are explained in more detail for individual SEZs. Recent court decisions that affect water rights in the Dry Lake and Dry Lake Valley North SEZs are presented in the individual SEZ sections. Specific issues pertaining to the newly established subdistrict management zone within the San Luis Valley, and how this affects water management, are discussed in the individual Colorado SEZ sections.

3.15.9.3 Surface/Ephemeral Water

Summary: The comments addressed impacts on surface water bodies and included the following: (1) references to the Clean Water Act (CWA) Section 404 and state water resource permitting requirements, (2) floodplain analysis, (3) wetlands and springs, (4) erosion and sediment transport, (5) reference to the importance of ephemeral water bodies to the watershed, (6) lack of data for ephemeral water bodies and deferring of impacts on ephemeral streams to project-specific analysis (commentor suggests the agency acquire the information if feasible and if not feasible, agency should specify why), (7) concern about the loss of ephemeral water bodies

and change in stream flows with climate change, (8) concern that design features for ephemeral water bodies (e.g., avoid washes) are too restrictive and will prohibit solar development, and (9) concern that water use/land use will affect surface waters that support ecological function. Many of these comments mention issues/impacts that are generally applied to desert regions, as well as in reference to specific SEZs.

Response: Additional information on surface water features (e.g., stream lengths of ephemeral streams, watershed boundaries, and peak discharge values) is presented in the SEZ sections as a part of the water resources inventory described in the Supplement to the Draft Solar PEIS. In addition to the water resources inventory, an evaluation of ephemeral streams was conducted to assess the potential loss of flood conveyance, sediment transport and storage, groundwater recharge, and vegetation habitat. Results of this analysis are presented in individual SEZ chapters in this Final Solar PEIS along with any special considerations or mitigation measures imposed on critical ephemeral stream reaches identified by this analysis. Initial work on identifying 100-year floodplain and jurisdictional water bodies has been initiated by the BLM. Results from these studies do not affect the Solar PEIS analysis but will be used in the permitting process for ROWs.

Design features specific to surface water features include coordination with local, state, and federal water management agencies. Application of the CWA and state/local laws is an assumed design feature. Commentors suggested that design features regarding ephemeral streams were too restrictive or not restrictive enough. Protection mechanisms for ephemeral streams are not well developed at this time. The goal of the ephemeral streams evaluation was to identify reaches that provided critical functions to the basin. Determination of the potential impacts on all other ephemeral features needs to occur at the project-specific level, and the identification of ephemeral water features that are sensitive to land disturbance activities can help state and local regulators in permitting programs relating to the CWA and other state-level programs.

3.15.9.4 Groundwater

Summary: The comments addressed impacts on groundwater systems from water use and/or land use changes, as well as the need to further study groundwater availability. Commentors were particularly concerned about (1) impacts on water tables, (2) impacts on other users in a basin, (3) impacts on ecological functions, (4) impacts on public trust resources, (5) impacts on interbasin flows, (6) further impacts on basins already in overdraft. Commentors suggest groundwater modeling and basin yield analysis to evaluate specific impacts on groundwater basins.

Response: Additional groundwater information (e.g., depth to groundwater, monitoring well locations, water quality) is presented in the SEZ sections in this Final Solar PEIS as part of the water resources inventory as described in the Supplement to the Draft Solar PEIS. In addition, for each SEZ, a groundwater budget and a simplified one-dimensional groundwater model were used to assess impacts of high, medium, and low pumping scenarios that bound estimated full build-out water estimates. Results of the additional groundwater analyses are

presented in this Final Solar PEIS. Each SEZ chapter contains a revised summary of impacts on groundwater that takes into account new water use estimates (reduced by changes in SEZ boundaries), additional information from the water resources inventory, and results from groundwater analyses. Considerations of impacts on groundwater surface elevations, other water rights, groundwater-dependent species, and interbasin flows were factored into the revised summary of potential impacts.

3.15.9.5 Water Quality

Summary: Comments addressed impacts on surface water and groundwater quality from solar development, including wastewater, stormwater runoff, and chemicals used. Commentors suggested that the Draft Solar PEIS failed to provide baseline information on water quality. Commentors suggested additional analysis of existing water quality, water treatment, and impacts on water quality be included in the Final Solar PEIS.

Response: Additional baseline water quality information is presented in the SEZ sections in this Final Solar PEIS as a part of the water resources inventory as described in the Supplement to the Draft Solar PEIS. Comments regarding wastewater, stormwater, and the potential for chemical pollution were considered in revising the design features (Section A.2.2 of Appendix A of this Final Solar PEIS). Impacts analysis relating to water quality involves project-specific information that goes beyond the scope of the Solar PEIS. That said, the revised design features take into account the need for these types of analyses at the project level. In addition, the BLM is committed to adaptive management and long-term monitoring (of several resources, including water quality) for projects located on BLM-administered lands.

3.15.9.6 Design Features for Water Resources

Summary: Comments addressed the suitability of design features, with some commentors wanting more stringent design features and others wanting less stringent design features to be a part of the Solar PEIS. In addition, some commentors recommended new design features or additional mitigation measures.

Response: The BLM has reviewed and revised the design features presented in the Draft Solar PEIS and incorporated some of the changes suggested. The proposed programmatic design features presented in Section A.2.2 of Appendix A of this Final Solar PEIS will be required for all solar energy applications submitted to the BLM for consideration. Because of site-specific circumstances, some features may not apply to some projects and/or may require slight variations. Applicants will be required to discuss any proposed variations with BLM staff. All variations in programmatic design features will require appropriate analysis and disclosure as part of future project authorizations. It is anticipated that variations in the design features presented will be approved in very limited circumstances.

The most significant revision to water resources design features is the development of a water-monitoring plan that focuses on groundwater, surface waters, and water quality from construction to post-decommissioning of a project.

3.15.9.7 SEZ Boundary Changes Related to Water

Summary: These were comments on the Draft Solar PEIS requesting boundary changes to SEZs to protect water resources.

Response: Revised areas of certain SEZs affect water resources by reducing areas of land disturbance and water use estimates. The reduction of SEZ areas and the identification of non-developmental areas generally resulted in the avoidance of several wetland areas, along with some portions of intermittent or ephemeral streams. Some SEZs were significantly reduced in area, which resulted in a substantial decrease in water use requirement estimates. The new water use estimates and evaluations of the potential impacts resulting from surface disturbances and groundwater use are presented in the SEZ sections of this Final Solar PEIS.

The reduction in developable areas within the remaining SEZs reduced water use requirements. Estimates of water requirements to support construction and normal operations were reduced by approximately the same factor corresponding to the reduction in areas from the Draft Solar PEIS to the Supplement to the Draft Solar PEIS. Significant reductions in water use estimates primarily affect Brenda, Riverside East, De Tilla Gulch, Fourmile East, Los Mogotes, Afton, Amargosa Valley, Dry Lake, and Dry Lake Valley North SEZs.

3.15.10 Ecological Resources: Vegetation

3.15.10.1 Design Features for Vegetation

Summary: Many commentors from various organizations representing industry, local and state governments, utilities, environmental groups, and the general public requested that changes be made in the programmatic design features for protection of vegetation. Some requested that the design features be made less restrictive to allow for site-specific evaluation. Others requested that the programmatic design features be made less vague and more restrictive (e.g., by deleting such phrases as “to the extent practicable”).

Response: The BLM has reviewed and revised the design features presented in the Draft Solar PEIS, incorporating some of the changes suggested. The proposed programmatic design features presented in Section A.2.2 of Appendix A of this Final Solar PEIS will be required to be applied by the project applicants to all solar energy applications submitted to the BLM for consideration. Some design features may require variations from what is described (e.g., a larger or smaller protective area). In some cases, multiple options for addressing a potential resource conflict are provided. Applicants will be required to work with the BLM to address proposed variations in the design features and to discuss selected options for avoidance, minimization,

and/or mitigation of potential resource conflicts. Variations in programmatic design features will require appropriate analysis and disclosure as part of individual project authorizations.

Specific details on applying the programmatic design features will be developed at the project level and coordinated through the appropriate agencies. Many design features are related to required plans that will be reviewed and approved by the BLM. Some of the requested additions are part of other design features. The design features were developed for the protection of ecological resources; the design features as presented in this Final Solar PEIS will protect those resources, and additional modifications would not substantively add to resource protection.

3.15.10.2 Groundwater Habitats for Vegetation

Summary: Several comments expressed concern over the use of groundwater and effects on plants/habitats.

Response: The Draft Solar PEIS, the Supplement to the Draft Solar PEIS, and the Final Solar PEIS address the concern regarding impacts on vegetation from the use of groundwater (see discussion in Section 5.10.1 of the Draft and in the SEZ-specific evaluations in Chapters 8 through 13 of the Draft and Final Solar PEIS). At the project level, the effects on groundwater-dependent species and habitats will be required to be evaluated and avoided, minimized, and/or mitigated through coordination with the appropriate regulatory agencies.

3.15.10.3 Vegetation Surveys

Summary: Several comments expressed concern regarding the current knowledge of resources on the SEZs, the need to use data from past surveys, and the need to perform new surveys.

Response: To develop a thorough understanding of resources on proposed project sites and especially sensitive resources, the programmatic design features require applicants to conduct surveys of the SEZs and consult with appropriate agencies to obtain data regarding sensitive resources potentially present.

3.15.10.4 Minimizing Impacts on Vegetation

Summary: Many comments requested that disturbance of soils, biological soil crusts, and vegetation be minimized, including allowing some vegetation to remain on project sites and preventing the establishment of noxious weeds/invasive species.

Response: The programmatic design features include the requirements that projects use previously disturbed land where possible; that disturbance to vegetation, soils, and biological soil crusts be minimized; that low vegetation be allowed to remain where possible; and that the spread of weeds be prevented. Mitigation for specific impacts will be required to be developed

through coordination with the BLM and appropriate agencies. Long-term monitoring of the effects of solar development on important resources outside the SEZs will be required (e.g., to determine whether invasive plant species have been established).

3.15.10.5 Invasive Species and Restoration

Summary: Several comments emphasized the importance of preventing the establishment of noxious weeds/invasive species and requiring the use of native species or nonnative species in revegetation efforts. Comments also noted the difficulty in reestablishing vegetation in arid locations.

Response: Applicants will be required to take appropriate measures to prevent the establishment of nonnative invasive species during project development and during restoration. The species considered desirable for establishment on project sites will be determined through coordination with appropriate agencies. In general, the use of native species is encouraged. The agencies acknowledge the difficulty of vegetation reestablishment, and, as described in the programmatic design features, bonding, meeting success criteria, and oversight will be required for solar projects on BLM-administered lands.

3.15.10.6 Missing Information or Additional Information Needed

Summary: Several comments stated that pertinent information or analyses for impacts on vegetation were missing from the Solar PEIS or that more information was needed.

Response: Some of the requested information is included in other sections of the Solar PEIS (e.g., additional information about ecoregions is presented in Appendix I of the Draft Solar PEIS): other items are not necessary in the vegetation analysis. Descriptions of plant species and habitats and discussions of impacts on them are included in the SEZ-specific sections; impacts of alternatives across the six-state program area are described in Sections 6.1 through 6.3; cumulative impacts are discussed in Section 6.5; and ecoregion maps are included in Appendix I. The additional information has been included in the Final Solar EIS where appropriate. Some requested modifications to the analysis would not substantively add to protection of vegetation.

3.15.10.7 Selection of Impact Levels for Evaluation

Summary: Some commentors indicated that impact levels should be reevaluated.

Response: The determination of impact levels was based on the criteria identified in each table. While variations in actual project impacts are anticipated, the design features were developed for resource protection, generally with oversight by the BLM or appropriate agencies to ensure the greatest level of effectiveness. Even so, the Solar PEIS acknowledges that many impacts will be large.

3.15.10.8 Impacts on Surface Water Habitats

Summary: Several comments expressed concern regarding impacts on surface water characteristics and habitats that are dependent on surface water.

Response: Impacts on habitats associated with surface water inflows are addressed in Section 5.10.1 of the Draft Solar PEIS as well as in the analysis of each SEZ in which these habitats occur. Programmatic and SEZ-specific design features require protection of surface water features and habitats, including adequate buffers, and require that potential changes in surface water flows or quality be evaluated and any associated impacts on these habitats be avoided, minimized, or mitigated in coordination with appropriate agencies. In many SEZs, playas, wetlands, and major washes have been excluded from the developable area. In addition, hydrologic conditions outside of project areas will be monitored for potential changes.

3.15.11 Ecological Resources: Wildlife

3.15.11.1 Night Lighting Impacts on Wildlife

Summary: Some of the comments on the impacts of night lighting were concerned with general adverse impacts, stating that bright lights at night may alter the nocturnal behavior of some animals. This could cause migrating birds to fly off course or to collide with solar facilities, alter behavior of reptiles, and cause moths and other insects to remain at lights all night, resulting in over-expenditure of energy, interference with mating, and susceptibility to bats and other predators.

Other comments were concerned that solar panels could be a source of polarized light that could affect wildlife during the day. Polarized reflected light from solar panels may appear as water bodies to insects that breed in aquatic water bodies. These organisms may mate and lay eggs above the solar panels rather than at aquatic habitats, and this result in major die-offs of aquatic insects due to failure successfully lay eggs in aquatic habitats. The solar panels may also confuse or disorientate birds (including waterfowl, wading birds, and shorebirds) that believe the panels are bodies of water, causing them to collide with solar panels. Concerns were also expressed that polarizing light may attract hummingbirds, bees, and other pollinators, resulting in trapping of or injury to these organisms.

Response: Impacts of lighting, including polarized light, on ecological resources are discussed in Section 5.10 of the Draft Solar PEIS. Among the design features is the following: "ER3-2: Compliance with ecological resource design elements during operations and maintenance of the project shall include turning off all unnecessary lighting at night to limit attracting wildlife, particularly migratory birds." Potential impacts of polarized light will be monitored. If large impacts are identified, some additional form of mitigation will be required.

3.15.11.2 SEZ Boundary Changes Related to Wildlife

Summary: Many comments on the Draft Solar PEIS stated a need to modify or replace several of the SEZs with lower-conservation-value lands to avoid harmful impacts on biological diversity. Specific SEZ boundary changes requested included adjustments to avoid impacts on unique or important wildlife species (e.g., bighorn sheep), species groups (e.g., reptiles), and habitats (e.g., playas, major deer migration or wintering areas), or development within the SEZ boundaries (e.g., to allow wildlife to move through large linear-shaped SEZs).

Response: Seven of the original 24 SEZs presented in the Draft Solar PEIS were eliminated, in part due to wildlife considerations. In most of the remaining 17 SEZs, boundaries were changed and/or areas within the SEZ boundary were designated for non-development, again with protection of ecological resources as part of the goal. The Supplement to the Draft Solar PEIS and the Final Solar PEIS provided details on these changes. In addition to these changes, a number of programmatic and SEZ-specific design features are identified to protect ecological resources. Section A.2.2.11 of the Final Solar PEIS lists the programmatic design features for ecological resources required for solar energy development.

3.15.11.3 More Detailed Analyses for Wildlife

Summary: These comments requested greater detail on the following issues: impacts on waterfowl and wetland-dependent wildlife resources from water demands for solar development, a more biologically appropriate scale for evaluating habitat loss, identification of all species affected under each alternative, and incorporation of information from state wildlife action plans, other conservation plans, and various habitat and species guidelines. One comment also stated that the evaluation of species impacts in the Solar PEIS was too simplistic.

Response: Given the large six-state study area and uncertainty in exact project locations, it was not possible to conduct a more detailed site-specific analysis for each species. Impacts on special status species from development in the SEZs, including those listed under the ESA, were determined by using best available information to estimate the amount of potentially suitable habitat within assumed direct and indirect impact footprints relative to the estimated availability in the region. It was not possible to conduct a more detailed site-specific analysis for each species given the large areas involved and uncertainty in exact project locations. The Draft Solar PEIS acknowledged the limitations in the analysis assumptions (see Section M.12 in Appendix M for methodologies and assumptions). As stated in Appendix M, the analysis relied on available data, such as gap analysis project land cover and habitat suitability maps, rather than site-specific survey information, deferring such site-specific information requirements to projects that are at the POD stage. There are too many uncertainties to allow for a more quantitative analysis at the programmatic level. Greater specification in mitigation requirements, impact significance determinations, and measurable standards of protection are also deferred to specific project assessments that would be developed in consultation with state and federal natural resource management agencies. It is expected that this consultation process will identify species and habitats of concern in the project area, the need for additional surveys, quantitative

significance criteria, and specific mitigation requirements (including the need for avoidance, buffers, minimization measures, compensatory mitigation, and translocation).

3.15.11.4 Pre-disturbance Surveys for Wildlife

Summary: Some comments addressed the need to conduct pre-disturbance surveys during certain periods (e.g., seasonal surveys for migratory bird species and big game and evening surveys for nocturnal species) and at locations that will optimize the potential of detecting species of concern or their habitats and migratory corridors. Other comments stated that the purpose and timing of pre-disturbance surveys are project-specific, and protocols for the surveys would need to be based on resources present and project schedule. Also, pre-disturbance walkthroughs by agencies should be at their discretion, not a design feature requirement. Another comment stressed that pre-disturbance survey procedures should be closely coordinated with state wildlife agencies. Commentors believed that pre- and post-disturbance surveys would allow for use of adaptive management strategies for evaluating solar project installations and the effectiveness of mitigation measures.

Response: Pre-disturbance surveys are an integral component of the programmatic design features that are identified to avoid, minimize, and/or mitigate potential impacts on ecological resources (see Section A.2.2.11 of Appendix A). Pre-disturbance surveys will contain spatial and temporal components that address the concerns expressed in the comments. Many of the design features for ecological resources relate totally or in part to pre-disturbance surveys. If species of concern or their habitats are found to occur within an SEZ, then the design features require additional consultation with state and federal agencies to determine appropriate mitigation measures, which may include avoidance of potentially suitable habitats. The text of one design feature (ERI-34) has been modified to state that it would be at the discretion of federal and state natural resource agency representatives to attend pre-disturbance walkthroughs.

3.15.11.5 Requests for Wildlife-Related Exclusions

Summary: Several commentors wanted areas with a high level of biodiversity to be excluded from development. Other commentors wanted particular habitat types (e.g., playas, washes, wetlands, sagebrush habitats, grasslands, dunes, big game winter range, calving areas, and water sources used by wildlife) or areas important for wildlife (e.g., House Rock Valley, areas proposed for wilderness in America's Red Rock Wilderness Act, Kaibab-Paunsagunt Wildlife Corridor, San Pedro River, areas with Habitat Management Plans) to be avoided or protected.

Response: As identified in the Draft Solar PEIS and the Supplement to the Draft Solar PEIS, many areas considered to be biologically important are excluded from solar energy development, including but not limited to designated critical habitats, WAs, and ACECs (see Table 2.2-2 in this Final Solar PEIS). While it is not possible to exclude all areas that may provide potentially important habitats for wildlife species at a programmatic level, the BLM (in conjunction with the USFWS and NPS) continued to consider proposed additional exclusion

areas throughout the preparation of the Final Solar PEIS and excluded approximately an additional 3 million acres (12,147 km^2) from development that were not proposed for exclusion in the Draft Solar PEIS or in the Supplement to the Draft Solar PEIS. Excluded areas include greater sage-grouse and Gunnison's sage-grouse habitat in California, Nevada, and Utah.

Throughout the Solar PEIS it is stated that, at the project level, pre-disturbance surveys would be required to determine the presence of important wildlife habitats in the vicinity of a proposed solar energy project. Programmatic and SEZ-specific design features have been developed to avoid, minimize, and/or mitigate impacts on wildlife and their habitats. Additional pre-disturbance evaluations will be required at the project level, and any necessary minimization or mitigation measures will be determined in consultation with the appropriate state and federal agencies

3.15.11.6 Cumulative Impacts Related to Wildlife

Summary: These comments requested that both cumulative impacts and landscape-scale analyses be given more consideration (including assessing impacts throughout the six-state region as a whole). For example, it was requested that the cumulative impacts from solar and wind energy projects, their associated transmission infrastructure, other developments on private and other federal lands, other uses of public lands, and population growth be considered in addition to just solar energy development on the SEZs. Landscape-scale analyses that would allow solar energy development to be more accurately assessed and that would allow areas most suitable for solar development to be more accurately determined (e.g., by selecting areas with less ecological value) were requested.

Response: The programmatic cumulative impact analysis in the Draft Solar PEIS and the Final Solar PEIS considered the impacts of solar development up to the RFDS level, in conjunction with other ongoing and reasonably foreseeable actions in the study area. The BLM expects to make planning-level decisions through the Solar PEIS, such as land use designations and design features. The program elements adopted via planning-level decisions will provide the basis for future project-specific utility-scale solar energy development decisions. The Solar PEIS appropriately evaluates the potential direct, indirect, and cumulative environmental, social, and economic effects of establishing broad Solar Energy Program elements and strategies across the six-state study area. Because the proposed program involves environmental effects over a broad geographic and time horizon, the depth and detail of the impact analysis are fairly general, focusing on major impacts in a qualitative manner.

For the SEZs the cumulative impact analysis is somewhat more specific, considering all proposed renewable energy projects that have a good probability of being constructed (defined as projects having firm near-term plans and environmental documentation). Any additional analyses required to determine direct or indirect impacts beyond the 5-mi (8-km) buffer (area of indirect effects), such as those that may occur from desert tortoise translocation, will be determined at the project-specific level. Section A.2.6 of Appendix A of this Final PEIS includes discussion of utilizing landscape level assessments for the identification of new SEZs in the future.

3.15.11.7 Species Status Updates for Wildlife

Summary: Several commentors requested that additional wildlife species be listed as occurring in one or more of the SEZs, while other commentors believed that some species were incorrectly listed (e.g., the species does not occur in the area in which an SEZ would be located). One commentor believed that biological resource information considered in proposed or permitted solar energy projects near SEZs should be used when the evaluation of impacts for the SEZs is updated. Other commentors believed that the common raven should not have been evaluated as one of the representative bird species affected by solar energy development. In particular, it should not be listed as a focal species, unless mention is made of it being a predator on desert tortoises and other species. It was also suggested that a raven management plan should be prepared to counteract possible increases in raven populations from solar energy development.

Response: Some of the species requested to be added to the wildlife sections for the SEZs in the Draft Solar PEIS included special status species. Those species were already are addressed in a separate sections of the Draft Solar PEIS. For example, Section 8.1.11.3 addresses the mammal species for the Brenda SEZ, except for those that are special status species. Those mammal species were addressed in Section 8.1.12 of the Draft Solar PEIS. In addition, it was not practicable to address all wildlife species that may occur at a given SEZ. Appendix M of the Draft Solar PEIS describes the procedures used to select representative species that were analyzed. An errata was presented in the Final Solar PEIS for any species that should not have been considered for a particular SEZ. The common raven is a focal species of concern. The text in the Draft Solar PEIS was modified to state that this is due to it being a predator of the desert tortoise and other species. Several of the programmatic design features listed in Section A.2.2.11 of Appendix A of the Final Solar PEIS include mitigation measures regarding the common raven. More detailed information regarding the occurrence of wildlife species will be determined at the project-specific level in coordination with the appropriate state and federal agencies.

3.15.11.8 Additional Information on Wildlife

Summary: Several commentors requested that the following subjects be addressed in the Final Solar PEIS: habitat loss and dust impacts during construction, increases in avian mortality, impacts on big game and game birds by solar development, protections afforded to golden eagles, risk of fire, wildlife exposure to contaminants, impacts from vehicles, impacts from solar power towers, and the potential for increase in predators and invasive species. One commentor wanted maps in the Final Solar PEIS that identify potential priority areas for habitat protection and restoration.

Response: The information requests made in the comments are all items that are included in either the Draft Solar PEIS or the Final Solar PEIS.

3.15.11.9 Design Features for Wildlife

Summary: While some commentors expressed appreciation for the number of design features listed in the Draft Solar PEIS to avoid, minimize, and/or mitigate adverse impacts on wildlife; some commentors listed additional mitigation measures that should be considered. Others also wanted some of the programmatic design features to be better defined or expanded. Some commentors stated that certain design features should either (a) apply only if special status species or other sensitive wildlife are present (rather than as a general design feature that applies to all wildlife species, e.g., use of escape ramps) or (b) be determined on a case-by-case basis (e.g., use of solid barriers in the lower portion of fences to exclude amphibians and other small animals). Others commentors expressed their concerns that some design features may have only partial effectiveness (e.g., seasonal restrictions on site clearing during construction could still result in habitat loss). Some commentors wanted adaptive management to be an integral component of mitigation.

Response: The design features identified in Section A.2.2 of Appendix A of this Final Solar PEIS are programmatic design features, adopted from the mitigation measures identified in Chapter 5 of the Draft Solar PEIS. These design features will be required for any solar energy project under the BLM Solar Energy Program. The wording of some of the ecological resources design features in Section A.2.2.11 of Appendix A has been modified from that presented in the Draft Solar PEIS based on comments received. Because of site-specific circumstances, some programmatic design features may not apply at some projects and/or may require slight variations. Applicants will be required to discuss any proposed variations with BLM staff. All variations in programmatic design features will require appropriate analysis and disclosure as part of future project authorizations. It is anticipated that variations in the design features presented will be approved in very limited circumstances.

Specific details on applying the programmatic design features will be developed at the project level and coordinated through the appropriate agencies. Many design features are related to required plans that will be reviewed and approved by the BLM. Some of the requested additions are a part of other design features. The design features were developed for the protection of ecological resources; the design features as presented in the Final Solar PEIS will protect those resources, and additional modifications would not substantively add to resource protection. It is expected that required pre-disturbance surveys will identify species and habitats of concern in the project area (where applicable), the need for additional surveys, quantitative significance criteria, and specific mitigation requirements (including the need for avoidance, buffers, minimization measures, and compensatory mitigation). The most current guidance and BMPs will be applied at the time a project is proposed.

3.15.11.10 Habitat Fragmentation

Summary: A number of commentors expressed concern that solar energy development would fragment intact habitats or prevent wildlife movement to sources of water or forage and between seasonal ranges. Other commentors expressed concern that solar energy development could block wildlife corridors that, in extreme cases, could prevent genetic exchange among

wildlife populations. Overall, these comments stress that corridors adequate for wildlife movement should be maintained.

Response: Potential impacts on wildlife from habitat fragmentation and the loss of movement corridors are addressed in Sections 5.10.2.1.2 (construction) and 5.10.2.1.3 (operations) of the Draft Solar PEIS. Changes to the SEZs (including the elimination of several SEZs from further consideration, changes in the boundaries of the SEZs, and establishment of non-development areas within the SEZs) described in the Supplement to the Draft Solar PEIS were made in part to avoid or minimize fragmentation of wildlife habitats. Many of the programmatic design features for ecological resources (Section A.2.2.11 of Appendix A) will work toward avoiding, minimizing, or mitigating impacts of habitat fragmentation and the loss of wildlife movement corridors. In addition, for the largest SEZ (Riverside East), an SEZ-specific design feature was included in the Final Solar PEIS requiring that two wildlife movement corridors be identified as non-development areas within the SEZ.

3.15.11.11 Habitat Loss and Species Displacement

Summary: Some comments expressed concern that habitat loss within the SEZs would have significant impacts on the distribution and numbers of big game species, particularly if important habitats are affected (e.g., crucial winter habitats, calving areas, and water sources). Comments stated that displacement of big game could make management of wildlife species more difficult and that species that are displaced could also experience increased physiological stress.

Response: Potential impacts on wildlife from habitat loss and disturbance are addressed in Sections 5.10.2.1.2 (construction) and 5.10.2.1.3 (operations) of the Draft Solar PEIS. Changes to the SEZs (including the elimination of several SEZs from further consideration, changes in the boundaries of the SEZs, and establishment of non-development areas within the SEZs) described in the Supplement to the Draft Solar PEIS were made in part to avoid or minimize impacts on wildlife habitats. Many of the programmatic design features for ecological resources (Section A.2.2.11 of Appendix A) will work toward avoiding, minimizing, or mitigating impacts on wildlife habitats and associated wildlife displacement.

3.15.11.12 Impacts of Power Towers on Birds

Summary: These comments opposed power towers because of their potential impacts on birds, which could fly through the concentrated (superheated) beams.

Response: Section 5.10.2.1.3 of the Draft Solar PEIS discussed the potential impacts on birds from the operation of power towers. Ecological monitoring would be required during the operation of all solar energy facilities. If it is noted that birds, or any special status bird species, are being killed by contact with concentrated beams reflected to a power tower, the qualified biologist for the project would need to consult with the appropriate federal or state agencies to determine whether any appropriate actions (mitigation) would need to be taken. As indicated in

several of the programmatic design features for ecological resources (Section A.2.2.11 of Appendix A), adaptive management strategies shall be established at the project level to ensure that potential adverse impacts are mitigated.

3.15.12 Ecological Resources: Aquatic Biota

3.15.12.1 Ephemeral Aquatic Habitats

Summary: The commentors emphasized the ecological importance of ephemeral surface water features in desert ecosystems. They also recommended that the BLM include analysis of potential impacts from solar development on ephemeral habitat, as well as measures to avoid, minimize, or mitigate such impacts, in the Final Solar PEIS. Comments also recommended the collection of baseline data on the ephemeral wash environment at specific project locations before any development would take place.

Response: The potential for impacts on aquatic biota is described in detail in Section 5.10.3 of the Draft Solar PEIS and the Final Solar PEIS and referred to in SEZ-specific sections. Additional information on the biota inhabiting ephemeral surface water features has been added to Section 4.10.3 of the Final Solar PEIS. SEZ-specific information was added to the SEZ updates sections (Chapters 8 through 13 of this Final Solar PEIS) when the data were available. Further site-specific information will be collected on a project-specific basis. Section A.2.2.11 of Appendix A presents required design features to minimize and mitigate impacts on intermittent and ephemeral surface water features. These design features specifically state that facilities should be sited in locations that minimize impacts on surface water bodies, ephemeral washes, playas, and natural drainage areas (including groundwater recharge areas).

3.15.12.2 Effects of Water Use on Aquatic Habitats

Summary: The comments in this category mainly dealt with the Draft Solar PEIS. Commentors stated that the Draft Solar PEIS did not contain enough analysis of the direct or cumulative impacts of water use on fish and wildlife and their habitats within each SEZ, stating simply that impacts depend on the water source, the amount of water withdrawn, and the organisms present. Requests for more detailed analysis were also received, such as analysis of the impacts of groundwater withdrawals on spring, riparian, and aquatic species within the Death Valley, White River, Virgin River Valley, and Meadow Valley Wash Regional Flow Systems. One commentor stated that avoidance of water withdrawals should not be required if it can be shown that the impact is not significant.

Response: The potential for impacts on aquatic biota from water withdrawals is addressed in detail in Section 5.10.3 of the Draft Solar |PEIS and the Final Solar PEIS and referred to in SEZ update sections (Chapters 8 through 13 of this Final Solar PEIS). Section A.2.2.11 of Appendix A presents design features required to minimize and mitigate impacts on aquatic biota from water withdrawal.

3.15.12.3 Design Features for Aquatic Biota

Summary: Some commentors recommended complete avoidance of wetlands and ephemeral surface water features, and others recommended avoidance only to the extent practicable. The EPA recommended that impacts on aquatic resources be minimized regardless of CWA Section 404 jurisdiction and that the language used to describe the design features related to aquatic resources be strengthened and made compulsory for all projects wherever it is practicable to do so. EPA also recommended that BLM's approval criteria be modified to incentivize avoidance of aquatic resources, e.g., by prioritizing review of, and giving preference to projects on sites identified as having minimal presence of aquatic resources. Several mitigation measures were recommended for reducing inter-stream transfer of aquatic nuisance species (specifically stating a concern for Chytrid fungus), and reducing impacts on aquatic biota at stream crossings.

Response: The potential for impacts on wetlands and water quality from solar energy development are addressed in detail in Section 5.9 of the Draft and Final Solar PEIS, and referred to in SEZ update sections (Chapters 8 through 13 of the Final Solar PEIS). Section A.2.2.10 of Appendix A of the Final Solar PEIS presents required design features to minimize and mitigate for impacts on wetlands and water quality impacts. These measures specifically state that facilities should be sited in locations that minimize impacts on surface water bodies, ephemeral washes, playas, and natural drainage areas (including groundwater recharge areas). All surface water features including non-CWA Section 404 jurisdictional waters are required to be avoided to the extent practicable. Decontamination of equipment used in surface water to avoid the transfer of nuisance aquatic species would be addressed under the programmatic design features. Specific mention of Chytrid fungus and invasive mussels has been added to Section 5.10.3.1.1 of the Final Solar PEIS.

3.15.13 Ecological Resources: Special Status Species

3.15.13.1 Policy and Regulations for Special Status Species

Summary: These comments include questions on the implementation of the new solar program with respect to policies and regulations that impact special status species, such as the Endangered Species Act (ESA), California DRECP, California ESA, California Desert Conservation Act, the BLM Species Status Species Policy (BLM 6840), wildlife policy, and conservation standards. Several comments request for BLM to actively protect sensitive species on BLM-administered lands.

Response: The BLM's proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address potential impacts—avoidance, minimization, and offset of unavoidable impacts. The BLM first employs avoidance and minimization strategies to eliminate or reduce potential adverse impacts. For those impacts that are not fully avoided or minimized, the BLM determines, in consultation with affected stakeholders, if any measures to offset or mitigate adverse impacts would be appropriate. In addition, projects on

BLM-administered lands will be required to follow all applicable laws and regulations such as the Endangered Species Act (ESA) which will result in additional measures that minimize impacts. Other plans and policies have been considered where applicable. For example, the BLM will request that variance applications submitted in the DRECP planning area be reviewed by the REAT agencies to maintain consistency between the Solar PEIS and the DRECP's goals and objectives. The landscape-level assessment methods of the BLM's ongoing rapid ecoregional assessments and of the DRECP would be considered when applications in variance areas are reviewed. Conversely, the DRECP would tier to the NEPA analysis in the Solar PEIS to the extent practicable to take advantage of the work already completed in the CDCA planning area.

In accordance with *BLM Manual 6840*, the BLM is committed to conserving rare and special status plant and animal species that occur on BLM-administered lands, as discussed in Section 4.10.4 of the Draft Solar PEIS. The implementation of this policy, as well as any supplements to this policy, will be carried out at the project level in consultation with the appropriate state and federal agencies. Conservation standards would be identified on a project-specific basis and in consultation with the appropriate federal and state natural resource agencies. Additionally, programmatic and SEZ-specific design features have been identified in the Solar PEIS to avoid or minimize impacts on special status species and their habitat.

3.15.13.2 Design Features for Special Status Species

Summary: Many commentors from various organizations representing industry, local and state governments, utilities, environmental groups, and the general public requested that changed be made in the programmatic design features for protection of special status species. Some requested that the design features be made less restrictive to allow for site-specific evaluation. Others requested that it should be emphasized that the programmatic design features would be required for all projects on BLM-administered lands.

Response: The BLM has reviewed and revised the design features presented in the Draft Solar PEIS, incorporating some of the changes suggested. Through the ROD for the Solar PEIS, the proposed programmatic design features presented in Section A.2.2 of Appendix A of the Final Solar PEIS will be required to be applied by the project applicants to all solar energy applications submitted to the BLM for consideration. Because of site-specific circumstances, some features may not apply to some projects and/or may require slight variations. Applicants will be required to discuss any proposed variations with BLM staff. All variations in programmatic design features will require appropriate analysis and disclosure as part of future project authorizations. It is anticipated that variations in the design features presented will be approved in very limited circumstances.

Specific details on applying the programmatic design features will be developed at the project level and coordinated through the appropriate agencies. Many design features are related to required plans that will be reviewed and approved by BLM. Some of the requested additions are a part of other design features. The design features were developed for the protection of ecological resources; the design features as presented in the Final Solar PEIS will protect those resources and additional modifications would not substantively add to resource protection. The

implementation of several of the design features for special status species would require pre-disturbance surveys for species and their habitat and consultation with the USFWS and other agencies in order to determine appropriate buffer distances, monitoring requirements, timing considerations, or other project-specific details. The most current guidance and best management practices will be applied at the time a project is proposed.

3.15.13.3 Requests for Exclusions Related to Special Status Species

Summary: These comments include a discussion of habitats to be avoided; commentors requested that such habitats be specifically designated as exclusion areas for the Solar Energy Program. Requests for exclusions of specific areas for the protection of special status species were received from several environmental groups, state and local agencies, and from the U.S. Fish and Wildlife Service. Notably, many of the comments requested that linkage areas for desert tortoise should be excluded.

Response: As stated in the Draft Solar PEIS, many areas considered to be biologically important have been proposed for exclusion from solar energy development, including but not limited to designated critical habitats, wilderness areas, and ACECs. While it is not possible to exclude all areas that may provide potentially suitable habitat for sensitive species at a programmatic level, the BLM (in conjunction with the U.S. FWSS and NPS) has continued to consider proposed additional exclusion areas throughout the preparation of the Final Solar PEIS, and has now excluded approximately 3 million additional acres from development that were not proposed for exclusion in the Draft Solar PEIS or in the Supplement to the Draft. Excluded areas include greater sage-grouse and Gunnison's sage-grouse habitat in California, Nevada, and Utah.

It is stated in many locations throughout the Solar PEIS that, at the project level, pre-disturbance surveys would be required to determine the presence of special status species or their habitats in the vicinity of a proposed solar energy project. Programmatic and SEZ-specific design features have been developed to avoid, minimize, and/or mitigate impacts on special status species. Additional pre-disturbance evaluations will be required at the project level and any necessary minimization or mitigation measures will be determined in consultation with the appropriate state and federal agencies.

3.15.13.4 Additional Analyses Needed for Special Status Species

Summary: These comments include a request for additional data, different, types of data, or a different analytical approach. Some comments on the Draft noted that the comparison of alternatives could not be done adequately until the analysis of all species with the potential for being impacted under each alternative was complete.

Response: The analysis for all special status species with the potential for being impacted under each alternative was completed and presented on the Solar PEIS Web site along with the Supplement to the Draft Solar PEIS, thus allowing public comments. The updated

version of Appendix J comparing impacts on all species across the alternatives has been included in the Final Solar PEIS.

Impacts on special status species from development in the SEZs, including those listed under the ESA, were determined best available information by estimating the amount of potentially suitable habitat within assumed direct and indirect impact footprints relative to the estimated availability in the region. It was not possible to conduct a more detailed site-specific analysis for each species given the large areas involved and uncertainty in exact project locations. The Draft Solar PEIS acknowledged the limitations in the analysis assumptions (see 3.M.12 in Appendix M for methodologies and assumptions). As stated in Appendix M, the analysis relied on available data, such as GAP land cover and habitat suitability maps, rather than site-specific survey information, deferring such site-specific information requirements to projects that are at the plan of development stage. There are too many uncertainties to allow for a more quantitative analysis at the programmatic level. Greater specification in mitigation requirements, impact significance determinations, and measurable standards of protection is also deferred to specific project assessments that would be developed in consultation with state and federal natural resource management agencies. It is expected that this consultation process will identify species and habitats of concern in the project area, the need for additional survey, quantitative significance criteria, and specific mitigation requirements (including the need for avoidance, buffers, minimization measures, compensatory mitigation, and translocation).

3.15.13.5 Pre-disturbance Surveys for Special Status Species

Summary: A number of comments addressed the need for field surveys to determine species distributions relative to potential development areas. Several comments stated the known or likely presence of certain special status species in SEZs as a matter of concern, and questioned whether the identification of such species during future pre-disturbance surveys would mean the habitat area would be identified as a non-development area within the SEZ.

Response: As identified in the Draft Solar PEIS, SEZ-specific design features include the requirement to complete pre-disturbance surveys to determine the presence of special status species and their habitats, including unique habitats such as sand dunes, washes, playas and dry lakes, and forests. If these species or their habitats are known to occur within an SEZ, then the design features require additional consultation with state and federal agencies to determine appropriate mitigation measures, which may include avoidance of potentially suitable habitats.

Programmatic measures pertaining to pre-disturbance surveys are presented in Section A.2.2.11 of Appendix A of the Final Solar PEIS. It was not practical to conduct complete field surveys throughout each SEZ prior to the Draft Solar PEIS, given the large size and number of the SEZs and the variable nature of species occurrences in space and time. These surveys need to be completed just prior to development of specific locations, thus, surveys for the Solar PEIS would not have necessarily been useable for future projects within SEZs. As such, the detailed information on the location of species and their habitats within SEZs needed for a complete site-specific evaluation was not available for the Solar PEIS analysis. The available existing spatial data (e.g., GAP models and natural heritage data) were appropriate and provide a good starting

point for future surveys to identify many of the special status species possibly present within SEZs. More detailed evaluations will be developed at the project level in consultation with appropriate state and federal agencies. The identification of a special status species within an SEZ does not necessarily mean that the habitat area would be identified as a non-development area; the programmatic design features for ecological resources lay out options for such an occurrence including avoidance, minimization, and offsetting of the adverse impacts on such species (see Mitigation Hierarchy in Section A.2.5 of Appendix A, the framework for regional mitigation plans).

3.15.13.6 Cumulative Impacts on Special Status Species

Summary: These comments largely included discussions on cumulative impacts on special status species. Similarly, some of the comments requested that the Solar PEIS look at impacts on a landscape-level.

Response: The programmatic cumulative impact analysis in the Draft and Final Solar PEIS considered the impacts of solar development up to the RFDS level, in conjunction with other ongoing and reasonably foreseeable actions in the study area. The BLM proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address potential impacts—avoidance, minimization, and offset of unavoidable impacts. The BLM first employs avoidance and minimization strategies to eliminate or reduce potential adverse impacts. For those impacts that are not fully avoided or minimized, the BLM determines, in consultation with affected stakeholders, whether any measures to offset or mitigate adverse impacts would be appropriate.

For the SEZs the cumulative impact analysis is somewhat more specific, considering all proposed renewable energy projects that have a good probability of being constructed (defined as projects having firm near-term plans and environmental documentation). Any additional analyses required to determine direct or indirect impacts beyond the 5-mi (8 km^2) buffer (area of indirect effects), such as those that may occur from desert tortoise translocation, will be determined at the project-specific level.

3.15.13.7 Section 7 Compliance

Summary: These comments discuss ESA Section 7 compliance. These comments request formal consultation with the USFWS or request the Biological Assessment (BA) or some aspects of the BA be included in the Final Solar PEIS.

Response: The BLM is currently engaged in ESA consultation on the Solar PEIS with the USFWS under Sections 7(a)(1) and 7(a)(2) of the ESA. The BLM, in consultation with the USFWS, is undertaking a conservation review pursuant to Section 7(a)(1) of the ESA on the overall Solar Energy Program, including the amendment of 89 land use plans and associated conservation measures. This consultation on the overarching program will provide guidance for

subsequent solar projects by ensuring that the appropriate conservation measures for listed species are incorporated into project-level actions.

The BLM is also engaged in programmatic consultation with the USFWS on the identification of SEZs under Section 7(a)(2) of the ESA initiated through the submission of a programmatic BA. This BA describes potential effects on listed (endangered and/or threatened) species and designated critical habitat from expected solar development in SEZs and any appropriate mitigation, minimization, and avoidance measures. Further Section 7(a)(2) consultation will occur, as necessary, at the level of individual solar energy projects and will benefit from the preceding programmatic consultation and resulting programmatic Biological Opinions (BOs) for SEZs.

As individual projects are proposed in SEZs under the programmatic consultation approach, project-specific information will be provided that (1) describes each proposed action and the specific areas to be affected; (2) identifies the species and critical habitat that may be affected; (3) describes the anticipated effects from the proposed project; (4) specifies whether the anticipated effects from the proposed project are consistent with those analyzed in the programmatic BO; (5) describes proposed measures to minimize potential effects of the action; and (6) describes additional effects, if any, not considered in the programmatic consultation. The USFWS will review this information and, if applicable, will complete a BO that includes a project-specific incidental take statement. This document will generally require less effort to complete, compared to the standard Section 7(a)(2) consultation, because of the ability to utilize the analysis in the programmatic BO.

3.15.13.8 Translocation of Special Status Species

Summary; These comments contain specific requests or discussion regarding translocation procedures. Most of these comments pertain to the desert tortoise and the inadequacy, inappropriateness, and other risks of translocation.

Response: Measures to mitigate impacts on sensitive species are discussed in Chapters 5 and Section A2.2 of Appendix A. Translocation is mentioned as only one option for mitigating impacts. It is stated in the Solar PEIS that the need for mitigation will be determined at the project level in consultation with the necessary state and federal agencies following the results of pre-disturbance surveys for species and their habitats in the SEZ affected areas. At this project-specific stage the necessary avoidance, minimization, and mitigation measures will be determined (which may include avoidance, project re-location, translocation, and/or other measures such as protection of other lands to offset habitat losses). If translocation is selected as an option for mitigating impacts, consultation with the necessary state and federal agencies will be required to determine the appropriate handling, transport, and monitoring of translocated individuals. The experimental nature and potential problems associated with translocation for some special status species (e.g., desert tortoise) are described in Section 5.10.4 of this Final Solar PEIS.

3.15.13.9 Updates to Species, Status, and Distribution

Summary: Several comments requested updated status information or inclusion of additional species. These comments also include requests to include specific data regarding the distribution or potential occurrence of individual species (information that is provided in Appendix J of the Final Solar PEIS).

Response: Revisions or updates to the number and status of special status species were provided in the Final Solar PEIS in the updated Appendix J, following the approach outlined in Appendix M. The Draft and Final Solar PEIS acknowledge the uncertainty in determining species potential occurrences in the SEZ affected areas, stating that these species are either known to occur or may have suitable habitat in areas that could be affected by solar energy development. When available, more detailed information regarding species' distributions was provided for the Final Solar PEIS, both in Appendix J and in the SEZ-specific sections. More detailed information regarding the local abundance and distribution of special status species will be determined at the project-specific level in coordination with the appropriate state and federal agencies.

3.15.13.10 Mitigation and California Fully Protected Species

Summary: Several comments identified the inaccuracy in developing minimization measures or mitigation measures for California fully protected species. Under California Fish and Game Codes, take of these species is prohibited. The text will be revised accordingly.

Response: The BLM is aware that take of California fully protected species is prohibited under the (California Endangered Species Act (CESA). The SEZ-specific design features in Sections 9.1.12.3 and 9.4.12.3 were revised to state that habitats for California fully protected species should be avoided.

3.15.14 Air Quality Impacts and Climate

3.15.14.1 Carbon Balance and GHGs

Summary: Several comments questioned the analysis of carbon sequestration and release in soils and biomass, particularly the release of carbon from disturbed soils such as caliche, which have been shown to be effective sinks of carbon. Others claimed that the loss of carbon sequestration by ecosystems and desert soils had not been addressed in the Draft Solar PEIS.

Other comments noted that the emissions of SF_6 from vehicle use and construction had not been considered.

Response: The release and capture of carbon in soils and biomass is discussed at an appropriate programmatic level in Section 5.11.4 as part of the air quality analysis for GHGs.

Potential impacts of soil-disturbing activities including construction operations are described in Section 5.7.4 along with mitigating measures. SEZ-specific impacts would be evaluated as part of the project-level NEPA review once the proposed site has been characterized and project plans including the extent of potentially disturbed areas are known.

Emissions from construction equipment and vehicle use would be small in comparison to the emissions potentially avoided by a solar power plant and, for that reason, were neglected in this programmatic level analysis. Text has been added to Section 5.11.4 stating that these emissions were neglected.

The text in Section 5.11.4 has been updated for this Final Solar PEIS to note that the BLM will require the use of dielectrics with lower global warming potentials than SF_6 in most projects. The corresponding programmatic design feature with this requirement is included in Section A.2.2.22 of Appendix A.

3.15.14.2 Use of Outdated Data

Summary: Several comments noted that the National Ambient Air Quality Standards (NAAQS) and nonattainment area designations have changed since the Draft Solar PEIS was written. Other comments noted that the statewide emissions data may have changed since the publication of the Draft. One comment recommended including monitoring data from the IMPROVE site and EPA's Chemical Speciation Network.

Response: Table 4.11-4 has been updated to reflect changes in the NAAQS that occurred between the Draft and Final Solar PEIS, and Figure 4.11-4 showing nonattainment areas has been updated to reflect changes in nonattainment areas. The only nonattainment change potentially affecting an SEZ was the change in Clark County, Nevada, from a nonattainment area to a maintenance area for CO, and CO is almost exclusively related to mobile sources and not likely to be an issue for solar energy facilities. In addition, Table 4.11-5 was updated to include the recently promulgated Prevention of Significant Deterioration (PSD) increments for PM2.5.

The statewide emissions in Table 4.11-3 of the Draft Solar PEIS were not updated. The CO_2 emissions in the Draft Solar PEIS were used as the basis for the discussion of potentially avoided emissions in the SEZ-specific sections of the Solar PEIS and were left unchanged for consistency. The more recent criteria pollutant emissions data available from the Western Regional Air Partnership (WRAP) are still preliminary and likely to change when finalized.

Several figures were added to Section 4.11.2.4 to present visibility information from the IMPROVE network. Chemical Speciation Network (CSN) data were not added; these data were not available in summarized form and would have required extensive analysis. When a specific project is proposed, it will be necessary to obtain CSN data to support the visibility analysis needed for the project-specific NEPA analysis.

3.15.14.3 Avoided Emissions

Summary: Several comments considered the use of *displaced* to be misleading when speaking of "the fossil emissions displaced by solar power," noting that there is unlikely to be a 1:1 swap of solar power for fossil fuel–generated power. Many factors such as capital investment, rising electricity demand, and the willingness of rate payers to pay higher electric costs would determine how power generation would be distributed. Other comments noted that construction, transmission, and disruption of carbon-sequestering soils could, if taken into account, reduce the net GHG benefit accruing to solar electric generation in the Solar PEIS.

Response: The BLM agrees that the use of the term *displaced* could be misleading. Updates to the cumulative effects and SEZ-specific sections of this Final Solar PEIS used the term *avoided* instead of *displaced* and language denoting that the estimates presented represent maximum avoided emissions that may or may not occur. Section 5.11.4 of the Draft Solar PEIS, which describes the procedure used to make the estimate, notes that "The actual magnitude of emissions avoided would depend on many factors determining the generation and distribution of electricity." Section 5.11.4 was similarly updated (in the Errata section) to use *avoided* instead of *displaced* and to clarify that the quantitative estimates are maxima.

3.15.14.4 General Conformity with State Implementation Plans

Summary: Several comments noted the need to address general conformity for individual SEZs and to specify in detail how an applicability analysis would be conducted.

Response: Text was added to Section 4.11.2.5, General Conformity, to reference the latest general conformity regulations promulgated between the Draft and Final Solar PEIS and to note that the BLM will satisfy the requirements of these regulations. At this programmatic level, it would be premature to specify in detail how an applicability analysis would be conducted, because there are several approaches available under the regulation. Without a specific project having been proposed for a particular SEZ, an analysis cannot be conducted in a meaningful manner, because the basic emissions information needed to support the analysis are unavailable.

3.15.14.5 Design Features for Air Quality

Summary: Several comments suggested changing the wording of several specific features to clarify that they might not be needed in all situations. One comment suggested that all solar energy projects demonstrate a net carbon reduction benefit. Other comments suggested both site-specific and general mitigation measures or approaches, stressed the need to minimize soil disturbance, dust and impacts on vegetation and the need to minimize impacts where such impacts are unavoidable, requested that mitigation measures be as detailed as possible, recommended using an adaptive management plan, recommended developing mitigation measures outside the facility footprint, questioned how plans will be implemented given over the large developed areas, and questioned how much water would be used for dust control.

Response: Appropriate suggested wording changes for specific design features were incorporated in Section A.2.2 of Appendix A. The issue of carbon reduction benefit is addressed in Section 5.11.4 in the Draft Solar PEIS, and no update is needed.

Section A.2.2.12 of Appendix A contains extensive programmatic design features that would apply to all solar energy development projects designed to mitigate or avoid impacts on air quality and climate. Variations in these design features are allowed to account for project-specific or SEZ-specific conditions. In addition, a project-specific dust abatement plan is required. Many of the measures in this plan as well as the programmatic design features for avoiding or mitigating impacts on soil resources in Section A.2.2.8 of Appendix A will also reduce dust emissions. Additional mitigations, some of which could be project-specific, may be identified as part of the ROW application process. All plans must be approved by the BLM at a level of detail deemed appropriate by the agency prior to granting an ROW. The BLM is developing a long-term monitoring plan and will require development and implementation of an adaptive management plan as well as requiring individual projects to incorporate adaptive management strategies to avoid, mitigate, or minimize adverse impacts from solar energy development. No update is needed.

Water use for dust control during construction is quantified Sections 9.3 in the SEZ-specific chapters of the Draft Solar PEIS. Water use for dust control during operations is not likely to be available.

3.15.14.6 Consistency of Results

Summary: One comment questioned why 9,000 acres (36.4 km^2) of solar development in Dry Lake Valley North resulted in lower modeled particulate concentrations than 6,000 acres (24.3 km^2) of solar development in Delamar Valley.

Response: No update was required to address this comment. There are other factors that influence the modeled concentrations. The two most likely factors to cause the perhaps unexpected results referred to are differences in the shapes of the two areas and the configuration of the sources and modeled receptors with respect to the wind. The high concentrations noted in the Draft Solar PEIS occur close to the source where these differences would have the greatest impact on concentrations. Far from the source area, these differences would have less impact, and far enough away, modeled concentrations would be less for Delamar Valley than for Dry Lake Valley North.

3.15.14.7 Project-Specific Air Quality Comments

Summary: Comments expressed concern with potential fugitive dust impacts in Phoenix and the need to avoid increases in ozone and PM_{10} levels given that nonattainment areas exist in Maricopa County.

Other comments expressed concern that solar development in Amargosa Valley may block winds that feed Big Sand Dunes and recommended that a study should be included in the Final Solar PEIS to evaluate the effect upon sand transport and to develop mitigation measures if large areas are fenced. One comment expressed concern over the cumulative impact of the Eagle Mountain dump and solar energy development.

Response: No update is required. At the programmatic level, the Draft Solar PEIS discusses the potential air impacts of solar development in the proposed Gillespie SEZ. The approach taken is to screen based on maximum impacts based on general data.

Section 5.7 of the Final Solar PEIS deals with sand transport and notes that studies would need to determine whether construction and operation of a solar facility within a proposed SEZ would affect the eolian processes that maintain Big Sand Dune. These studies would need to be conducted on a project-specific basis when detailed information, including whether fencing would be used, is available.

If a specific solar development project is proposed, part of the project-specific NEPA review will be a cumulative air impact analysis of the proposed project in conjunction with other sources including, as appropriate, the Eagle Dump. Similar considerations would also be required during the air permitting process required by air regulatory agencies.

When a specific project is proposed and detailed data are available, project-level NEPA reviews will examine these impacts in detail in conjunction with analyses required by regulatory agencies.

3.15.14.8 Desert Pavement and Biological Soil Crusts

Summary: Comments stated that the Draft Solar PEIS did not consider the effects of disturbing desert pavement and biological soil crusts, both of which, if disturbed, can become long-term sources of windblown dust, in analyzing air quality issues.

Response: Text in Sections 5.11.1.2 and 5.11.1.3 was updated to acknowledge the importance of these fragile soils as sources of dust, noting that they should be avoided whenever possible and that, once disturbed, they can become an ongoing source of dust. In addition, a design feature requiring that these soils be avoided to the extent practicable has been added to Section A.2.2.8.2 of Appendix A.

3.15.14.9 Requests for Air Quality Monitoring

Summary: The comments requested that particulate monitoring be included as a programmatic design feature to aid in, among other things, evaluating dust control measures and defining the extent of the dust control problem and that AIRNET monitors be installed in listed communities.

Response: No update is required. Particulate monitoring would be required, at the BLMs' discretion, under the long term monitoring and adaptive management plan that the BLM is developing and that will be required for each project. Under the BLM's adaptive management approach, results from the monitoring efforts would be used to evaluate the effectiveness of dust control measures to determine whether additional measures would be necessary.

EPA and its partners already maintain the National Air Monitoring System/State and Local Air Monitoring System (NAMS/SLAMS) network of air quality monitors in 3,150 locations. These monitors include population-oriented stations. These is no need to provide additional monitoring as part of particular projects except if required as part of a BLM-approved long-term monitoring plan. EPA and the states have the primary responsibility for monitoring air quality in towns and cities.

3.15.14.10 Request for Exclusions Related to Air Quality

Summary: The comment requested that additional areas be excluded from solar development in areas with highly erodible soils as determined in consultation with the U.S. Department of Agriculture (USDA).

Response: No update is required. Between the Draft and Final Solar PEIS, BLM has considered many additional factors including the erodibility of soils and consulted with various agencies to determine additional areas that should be excluded from solar development. In addition, USDA data were taken into account, as discussed in Section 4.7. USDA maps were used to identify erodible soils within each SEZ. These maps and tables of the data are provided in each SEZ section. Siting decisions for a particular project will take these data into account when more detailed soil mapping and testing can be done in response to proposal of a specific project in a specific SEZ.

3.15.14.11 Issues Not Considered in Air Quality Analyses

Summary: Comments claimed that six issues were not considered in the Draft Solar PIES: (1) the trucking of potable water to the project site during construction; (2) the air pollution potential of biomass burning; (3) vehicle emissions and emissions from backup power when the sun is not shining; (4) the contribution of windblown dust to visibility impairment; (5) Albedo changes due to solar panels, and (6) release of radon gas when the soil is disturbed around atomic test sites.

Several comments noted that the Solar PEIS should address impacts of low probability events such as fire, explosions, natural disasters, and terrorism on solar facilities.

Response: (1) No update is required. The Water Resources sections of the SEZ-specific chapters in the Draft Solar PEIS contain discussions and a summary table of water use giving water consumption for potable uses and dust control.

(2) Burning of biomass is generally a short-term operation, and the quantities and composition of the biomass to be burned would be specific to individual projects. These burns would require open burning permits that typically would limit the quantities burned, the burning would be limited to certain times of the day, or the meteorological conditions would be specified, so that the burns occur only when dispersion conditions are good. Specific permit requirements vary among jurisdictions. Consideration of biomass burning is better deferred to the project-level analysis when estimates of the amount of biomass removed and the methods of disposal are known. Biomass burning was acknowledged as a potential source of emissions in Section 5.11.1.2.

(3) No update is required. Vehicle and equipment emissions are noted for both construction (Section 5.11.1.2) and operations (Section 5.11.1.3). For both phases, the emissions would be small and were neglected at this programmatic level of analysis. Emissions from any backup power required would also be small if any. It is more likely that any backup power needed would be taken from the electric grid during periods of low insolation. Emissions from both sources would depend on the size and operational details of the project, which will be available only when a specific project is proposed. Emissions from vehicles and construction equipment and any backup or other combustion equipment proposed as part of a specific project would be analyzed as part of the project-specific NEPA analysis and during the permit application process.

(4) Effects on visibility will be project specific. Analysis of visibility impacts has been deferred until detailed project-level data are available, at which time a visibility analysis will be conducted at the BLM's discretion. Section 5.11 has been updated through the inclusion of a discussion of visibility at the beginning of the section.

(5) No update is required. The Draft Solar PEIS discusses albedo effects in Section 5.11.2.4.

(6) No update is required. Concentrations of radon vary substantially in different parts of the country. The half-life of radon is only 3.8 days. Any additional radon released as a result of ground disturbance would quickly disperse and disappear.

Low-probability events are discussed in Section 5.21.3. A short paragraph summarizing these impacts has been added at the beginning of Section 5.11.1 of this Final Solar PEIS.

3.15.14.12 Operational Fugitive Dust

Summary: Comments expressed concern that dust control measures beyond those given in the Draft Solar PEIS would be needed during the operations phase, particularly in areas to be maintained free from vegetation; additional discussion was requested of soil stabilization techniques that will be used during operations and information for SEZ-specific dust abatement plans; and it was recommended windblown dust emissions be estimated based on more detailed site-specific factors.

Several comments noted that dust from desert soils contains various toxic compounds, such as arsenic and chromium. The potential effects of these compounds have not been assessed. In addition, the problem of windblown dust causing early snowmelt has been ignored.

Comments noted that the BLM already has methodology for inventorying fugitive dust, has used it for numerous projects, and could apply it to solar development as is required by the NEPA process. In addition, the Draft Solar PEIS over-emphasizes project-level approaches and does not consider regional issues in sufficient detail.

Response: Text has been added to Section 5.11.1.3 on operations to note that disturbed soils can continue to be a long-term source of windblown dust. However, at this programmatic level, using refined methods of estimating emissions is unwarranted, because the detained information needed to make meaningful estimates is unavailable. When specific projects are being evaluated for project-specific NEPA analyses and information on the types and acreages of disturbed soils is available, more emission estimates will be made.

Section 4.11.4 has been added to discuss toxic dust and snowmelt.

The BLM recognizes that need for detailed dust inventories based on many unit activities associated with solar development and operations. However, at the programmatic level, the detailed activity levels needed for making these estimates are unavailable. The programmatic EIS is only the first NEPA document required. When a specific project is proposed, detailed data will be required and a detailed project-specific NEPA analysis will be undertaken. When such specific details are available, the proposed project will be analyzed not only on a project-level basis but also from a regional perspective.

3.15.14.13 Requests for Additional Air Quality Analysis

Summary: Comments (1) claimed that there was insufficient analysis of the deposition of dust on plants, (2) claimed that there needed to be a range of modeled impacts based on the vast are potentially opened to solar energy development under the preferred alternative, not just limited to SEZs, and (3) objected to the lack of analysis of emissions from construction equipment. Several comments suggested (4) that visibility should have been modeled and that additional factors such as deposition should have been included in the AERMOD runs made in the Draft Solar PEIS.

Response: (1), (2), and (3) No update is required. Potential impacts of dust deposition on vegetation are provided in Section 5.10.1. The analysis in the Draft Solar PEIS deals with the preferred alternative as presented. It is thus limited to the SEZs as proposed in the Draft Solar PEIS as modified by the reductions in the sizes of some SEZs and the elimination of others between the Draft and Final Solar PEIS. Emissions from construction equipment and vehicle use would be relatively small and, for that reason, were not considered in this programmatic level analysis. At the project-specific level of analysis, such emissions would need to be considered as part of project-specific NEPA reviews and air permit applications. Text has been added to Section 5.11.4 stating that these emissions have not been considered.

(4) The detailed level of visibility analysis suggested in the comments would require information not available at this programmatic level. The BLM agrees that such modeling analysis is needed to address visibility issues. When specific projects are proposed and the data needed to support meaningful visibility modeling become available, the BLM may, at its discretion, require visibility modeling using models such as CALPUFF. In addition, such analyses, if required, will be conducted as part of any project-specific air permit applications. Sections 5.11.1.2, 5.11.1.3, and 5.11.1.4 have been updated to indicate that visibility modeling may be required.

Without any specific project having been proposed, the AERMOD analyses for fugitive dust conducted for this Final Solar PEIS modeled the maximum impact that might be expected under worst-case scenarios. Additional modeling will be required for specific projects as part of the project-specific NEPA reviews and the air permit application process.

3.15.15 Visual Resources

3.15.15.1 General Visual Resources Comments

Summary: Comments expressed general concerns about potential visual resources impacts. Commentors suggested that solar development would have the potential to create negative impacts by devaluing popular destinations for hiking, camping, and OHV use; by "downgrading" the attraction of scenic areas within the backcountry; and by harming the "wide open feeling" associated with the Southwest.

Response: Regardless of the technologies employed for solar energy collection and electricity production, utility-scale solar energy facilities involve substantial amounts of land disturbance. The presence and operation of large-scale facilities and equipment would introduce major visual changes into non-industrialized landscapes and could create strong visual contrasts in line, form, color, and texture, especially where viewed from nearby locations or from elevated viewpoints.

Compared with many other industrial developments (e.g., fossil fuel plants, mines, or manufacturing facilities), solar energy facilities generally exhibit strong visual unity and simplicity, attributes generally associated with positive visual quality, even though they may introduce strong visual contrasts into natural-appearing landscapes. In some cases, some viewers might find some utility-scale solar energy facilities to be attractive or interesting to view because of the facilities' strong visual unity and simplicity or other factors, such as striking and novel light effects from reflections from ambient dust or the polished solar receiver surfaces; however, systematic research studies on this topic are not available. Other elements of a solar facility, such as steam turbine generators, roads, substations, and transmission lines, generally do not have the strong visual symmetry and regular geometry of solar collector arrays, and their presence could detract from the project's simplicity, regular geometry, and visual unity, potentially increasing negative perceptions of the facility. Some degree of visual contrast and impact from solar energy development on BLM-managed lands is unavoidable; potential impacts on visual resources are

one factor among many that must be considered by the BLM in the complex process of identifying lands suitable for solar energy development. However, the identification of both the SEZs and variance lands in the Solar PEIS incorporated concerns for visual resources that resulted in avoidance or reduction of major impacts on many sensitive visual resource areas. Furthermore, when individual projects are proposed, additional consideration of potential visual impacts will be incorporated into the required site- and project-specific impact assessment that will occur, including further opportunities for public comment on potential visual impacts. Also, visual design features are included in the Solar PEIS that developers will be required to consider that may result in avoidance and/or reduction of potential visual impacts associated with solar energy facility construction, operation, and decommissioning.

3.15.15.2 Design Features for Visual Resources

Summary: Many comments provided suggestions on the visual resource design features proposed in the Solar PEIS. Among these comments were general statements suggesting that the solar developments should be made to be visually appealing, as well as more specific requests to amend the wording or content of the design features.

Commentors from industry suggested that the wording of certain design features should be revised to not be prescriptive in nature, because the design features did not make sense for all solar technologies or all individual projects. Among these comments were suggestions to revise the text to indicate that design features would be used "where feasible" or that the design feature would be implemented on a project-by-project basis. Examples provided included locating solar development near prominent landscape features; following the edges of natural clearings; using air transport for transmission line construction; screening facilities with vegetation or earthworks; color-treating gravel surfaces; and participating in early consultation with the BLM.

A few comments suggested that the requirement of having a licensed professional landscape architect to evaluate visual resources was too restrictive and not in alignment with current BLM policies. Other comments suggested adding design features, such as the use of monopoles for transmission.

Some commentors also requested clarification with regard to the use of commercial signage, revegetation practices, and off-site mitigation.

Response: Through the ROD for the Solar PEIS, certain proposed programmatic design features presented in Section A.2.2 of Appendix A of the Final Solar PEIS will be required to be applied by the project applicants to all solar energy applications submitted to the BLM for consideration. Some design features may require variations from what is described (e.g., a larger or smaller protective area). In some cases, multiple options for addressing a potential resource conflict are provided. Applicants will be required to work with the BLM to address proposed variations in the design features and to discuss selected options for avoidance, minimization, and/or mitigation of potential resource conflicts. Variations in programmatic design features will require appropriate analysis and disclosure as part of individual project authorizations. Such exceptions could be made where the application of visual design features for a particular project

could conflict with other important considerations, such as health and safety measures, ecological impacts, or operational requirements, such as access to equipment or facility components.

Note that many of the visual design features are likely to provide benefits to other resources. For example, revegetation of suitable areas with appropriately chosen species restores visual values but also helps control dust, benefitting air quality, and provides better habitat for animals.

Because the Solar PEIS is programmatic in nature, many potential site- and project-specific issues can be addressed only in the context of the site- and project-specific environmental assessment that will be required for all solar energy applications submitted to the BLM, both in SEZs and in variance areas. The site- and project-specific environmental assessment examines the technologies and approaches described in the programmatic visual design features, along with detailed project and site information to make a determination of specific potential impacts that may occur if a project is built. The relevant programmatic design features include requirements for qualified professionals to be part of the project team, and for consideration of potential visual resource impacts and management objectives as early as possible in the project planning process. These requirements are appropriate because optimal project and project element siting is critical for avoidance and minimization of visual impacts, and proper siting requires detailed knowledge of siting and landscape design principles, applied prior to and during the siting process.

Similarly, because of the programmatic nature of the Solar PEIS, it is outside the scope to provide detailed procedures for all required mitigation measures, such as off-site mitigation; these types of information are provided in BLM IMs and other BLM policy documents. The BLM agrees that more work is needed to establish methodologies for regional mitigation planning and has included a framework for this in the Final Solar PEIS (Section A.2.5 of Appendix A).

3.15.15.3 Night Sky Impacts

Summary: More than 20 comments concerned potential impacts on the night sky resulting from the development of solar energy facilities. A number of comments addressed the potential for change in the appearance of night skies, which would have the potential to disturb night sky viewing by astronomers (both amateur and professional) and by other observers, including visitors to NPS units, protected lands (e.g., wilderness areas), and other areas close to the SEZs.

Other comments suggested that the cumulative impacts of all the facilities should be addressed in order to understand the potential impacts from solar development as a whole on night skies, rather than just for individual projects, and that the impacts of workers and ancillary activities, such as industrial development near the solar sites, should be analyzed as well.

Several comments focused on potential mitigation strategies for addressing concerns of interested parties. One, in particular, suggested the use of enhanced measures specifically designed to address night sky concerns. Other comments suggested that light from signage, skyglow, light trespass, clutter, and glare from solar infrastructure should be addressed with specific mitigation measures, such as, but not limited to, painting and coating the backs of signs; the use of light timers, sensors, and full cut-offs; the use of fixtures given a seal of approval from the International Dark-Sky Association; the development of specific lighting plans; and the use of Audio Visual Warning System (AVWS) technology. Another comment suggested that the programmatic document should not specify a particular type of lighting technology, in case of future advancements in technology.

With regard to AVWS, a few comments specifically addressed this concern; two were in favor of its use, while one disagreed with the AVWS design feature because the FAA has not yet approved its use. Another comment suggested that clarification was needed to address the best technology for marking large structures associated with solar development that would cause the least impact on night skies.

Response: In response to the comments received, the discussion of potential night sky impacts in the Solar PEIS was expanded. The night sky impact mitigation design features have suggestions for the luminaires and lighting controls used, the light type, the amount of lighting, and the use of lighting for facility operation. If fully implemented, the design features would help keep night sky impacts from solar facilities to levels consistent with safe operation of the facilities. Some level of lighting is required for safe operation of industrial facilities, and some level of cumulative impacts on night skies is inevitable if multiple solar projects are built and operated.

One comment called for more stringent analysis of night sky impacts in the Solar PEIS; however, the more general analysis in the Solar PEIS is appropriate for a programmatic impact assessment. More detailed assessment of night sky impacts would be conducted for site- and project-specific environmental assessments that would be required for all solar energy applications submitted to the BLM for consideration, both in SEZs and in variance areas.

One comment stated that the night sky impact analysis should account for a supporting workforce and residential, commercial, and industrial development that the commentor thought would be needed near solar facility sites. However, few workers are needed to operate solar power plants, and because the construction jobs are temporary, relatively few workers would move to an area on more than a temporary basis. Facility components would generally not be expected to be manufactured or serviced in the immediate vicinity of the SEZs, and consequently, it is not expected that significant residential, commercial, and industrial development would result from solar development in the SEZs, so there would be no substantial night sky impacts from these sources.

Several comments referred to the design feature requiring applicants to use AVWS technology with FAA approval. In response to comments received, the design feature requiring applicants to use AVWS technology with FAA approval was deleted.

3.15.15.4 Future Assessments for Visual Resources

Summary: Comments addressed the need for additional visual impact analyses or had recommendations for how future assessments should be conducted. One comment suggested that further evaluations concerning impacts on visual resources should be considered in developing the boundaries of SEZs, and that new data should be incorporated into ongoing analyses. Two comments referred to the use of a detailed visual impact assessment to address potential impacts from solar development. The comments suggested the use of viewshed analysis to determine avoidance areas, the use of simulations, identification of appropriate mitigation, and/or an analysis of potential exclusion areas using a "VRM Class III analysis." In particular, the comments called out the need for this type of analysis for all projects located within 25 mi (40 km) of all NPS units. Two comments also indicated the need to further evaluate potential impacts on trails, including National Historic Trails and National Scenic Trails, with one comment requesting that visual impact analysis from potentially affected trails be a mandatory requirement.

Response: Appendix D of the Supplement to the Draft Solar PEIS contains the Proposed Identification Protocol for New SEZs. Under the proposed identification protocol, consideration of potential visual impacts will occur in the course of conducting environmental assessments for any new SEZs identified by the BLM,\ or any expansions to existing SEZs.

Existing BLM policy requires that potential visual impacts be considered in the project review process for proposed development on BLM lands, in accordance with BLM's VRM program. BLM's VRM policy requires that visual resource inventory results be considered in developing visual resource management objectives for all BLM-managed lands. In addition, through the ROD for the Solar PEIS, the proposed programmatic design features presented in Section A.2.2 of Appendix A of the Final Solar PEIS will be applied by the project applicants to all solar energy applications submitted to the BLM for consideration. Some design features may require variations from what is described (e.g., a larger or smaller protective area). In some cases, multiple options for addressing a potential resource conflict are provided. Applicants will be required to work with the BLM to address proposed variations in the design features and to discuss selected options for avoidance, minimization, and/or mitigation of potential resource conflicts. Variations in programmatic design features will require appropriate analysis and disclosure as part of individual project authorizations.

The proposed programmatic design features are designed to avoid, minimize, and/or mitigate visual impacts associated with solar energy development, including requirements for detailed glint and glare assessments and efforts to reduce glint and glare impacts, as well as suggestions for avoiding and reducing potential night sky impacts through the use of lighting controls. The visual design features include several that address National Scenic and Historic Trails explicitly. Among other requirements, these design features require consultation on viewshed protection objectives and practices with the respective land management agencies that have been assigned administrative responsibility for landscapes having special designations, including, but not limited to, National Scenic and Historic Trails; the analysis of potential visual impacts within the viewshed of National Historic Trails; and the use of viewshed analysis rocedures employing a radius of analysis of 25 mi (40 km) from the proposed project for visual impact assessment.

In preparing selected parcels for competitive offer, the BLM would review existing analysis for an SEZ and consider any new or changed circumstances that may affect the development of the SEZ. The BLM would also work with appropriate federal, state, and local agencies, and tribes, as necessary, to ensure that the consideration of potential environmental, cultural, or other resource conflicts is brought forward into the review, including information provided through the Solar PEIS. This would include areas identified as having a high potential for conflict with sensitive natural, visual, or cultural resources. This work would ultimately inform how a parcel would be offered competitively (e.g., parcel size and configuration, technology limitations, mitigation requirements, and parcel-specific competitive process).

3.15.15.5 Visual Resource Inventory and Management

Summary: Comments addressed concerns related to the use of the BLM's VRM and VRI for impact analysis. The comments included suggestions for clarifying directions in IMs and for using off-site mitigation measures. Other comments requested clarification regarding the status and availability of VRIs for Nevada FOs, and the use of the VRM/VRI in the identification of exclusion lands.

One comment suggested that the BLM did not fully account for viewpoints within NPS units that would overlook solar development and suggested that the analysis considered only BLM lands rather than areas outside of BLM jurisdiction that were of importance. The comment also criticized the use of the EPA ecoregions as a means of characterizing the quality of these scenic resources. In addition, one comment suggested that all lands within the SEZs should be designated as VRM Class IV, in order to allow for major modifications associated with solar development.

Response: VRI classes and VRM classes are distinct entities, with very different functions within BLM's processes for visual resource evaluation and visual resource impact assessment. BLM's VRI process provides BLM managers with a means for determining visual values for a tract of land. As a quantitative and qualitative assessment of an area's visual resources it is not used as a basis for evaluating the acceptability of a proposed project with

respect to potential visual impacts. The results of the VRI become an important component of BLM's RMP for the area. The RMP establishes how the public lands will be used and allocated for different purposes, and the VRI classes provide the basis for considering visual values in the RMP land use allocation process. When a land use allocation is made through the RMP process, the area's visual resources are then assigned to VRM classes with established management objectives, including the degree of contrast resulting from a project or management activity permissible for that VRM classification. BLM activities are required to conform to the VRM objectives that apply to the project area as established in the RMP process. Conformance is evaluated through the BLM Visual Contrast Rating Process.

In the Draft Solar PEIS, certain areas within the SEZs in close proximity to certain highly sensitive visual resource areas, such as NPs, WAs, WSAs, and National Historic Trails, were proposed for special visual impact mitigation, described in the Draft Solar PEIS as VRM Class II- or VRM Class III-consistent mitigation. The intent was that solar development in these areas would be required to meet the management objectives equivalent to VRM Class II or VRM Class III objectives. The proposed mitigation was not an RMP-based designation of these areas as VRM II or VRM III areas; rather it was a special mitigation requirement applicable to solar development in these areas. VRI classes were not involved in specifying the mitigation.

However, in consideration of comments received on the Draft Solar PEIS and subsequently on the Supplement to the Draft Solar PEIS, these same areas are proposed to be identified as potentially high or potentially moderate visual sensitivity areas, where special visual mitigation will be considered on a case-by-case basis as individual projects are proposed in these areas.

The expected visual contrast levels reported for solar development within the SEZs was based in large part on consideration of impacts on non-BLM managed lands within the SEZ viewsheds, including but not limited to a comprehensive list of specially designated areas, such as NP, National Monuments, WAs, National Scenic and Historic trails, and so on.

The proposed programmatic design features in the Solar PEIS include numerous design features to avoid or reduce impacts on visual resources, including requirements for project-specific environmental assessments for proposed solar facilities on BLM-lands that will include consideration of visual impacts on non-BLM lands (including but not limited to NPS units and other specially designated areas) within 25 mi (40 km) of the proposed project site. Among other requirements, these design features require consultation on viewshed protection objectives and practices with the respective land management agencies that have been assigned administrative responsibility for landscapes having special designations. The design features also state that conformance with VRM objectives is required and shall be determined through the use of the BLM contrast rating procedures.

As noted by the commentors, several BLM IMs provide guidance relevant to visual impact considerations for solar energy development, including IM No. 1998-164, IM No. 2008-204, IM No. 2009-167, and IM No. 2011-061. IM No. 2011-061 identifies VRM Class I and II areas as areas with high potential for conflicts, where projects will require a greater level of consultation, analysis, and mitigation to resolve issues or may not be feasible to

authorize. VRM Class III areas are identified as areas with medium potential for conflict, where resource conflicts can potentially be resolved, and VRM Class IV areas as areas with low potential for conflict. IM No. 2011-061 states that applications in areas with low potential for conflict, where timely or expedited authorization, is possible.

3.15.15.6 Cumulative Impacts on Visual Resources

Summary: Two comments suggested that the analysis did not address the degree to which mitigation measures would reduce the cumulative visual impact of multiple facilities. Another comment suggested revising the cumulative impacts discussion to more adequately address the dramatic landscape changes that would be associated with solar development.

Response: The design features for reducing or avoiding visual impacts specified in the Solar PEIS will reduce cumulative visual impacts from solar development throughout the Solar PEIS study area, because if the design features are applied systematically, the contribution of impacts from each facility to the overall level of cumulative impacts will be reduced to some degree. However, the nature and extent of the cumulative visual impact reduction from applying the design features cannot be determined at this time, because the cumulative visual impacts will depend on the geospatial distribution of proposed projects, which projects are ultimately approved, the solar technologies deployed, and the nature and amount of the other types of development that occur simultaneously with solar development in the region, such as wind energy and electric transmission development. Individual projects will also be required to assess cumulative impacts in the context of known and reasonably foreseeable other projects in the area.

If solar development occurs in a pattern where facilities are located near to each other (e.g., in zones), in some instances, the same roads and transmission lines could be utilized by multiple facilities, and thus the overall cumulative visual impacts would likely be lower. At a minimum, cumulative impacts will be confined to fewer areas, though they could be larger in these areas. If development occurs at lower densities but over larger areas, overall cumulative visual impacts would likely be greater because more road and transmission development would likely be required for the more widely separated solar facilities, and the additional roads and transmission facilities will add to the overall cumulative visual impacts.

There are numerous renewable energy applications currently filed with BLM for BLM-managed lands in the Solar PEIS region, and many additional applications on non-BLM lands in the region. Although it is not likely that all the future solar and wind development projects proposed in the Solar PEIS region would be constructed, it is reasonable to assume that some of them will. Depending on the amount and type of solar development and the geospatial development pattern, there is the potential for widespread cumulative impacts on visual resources within the Solar PEIS region. The cumulative visual impacts could include a decline in the overall number and extent of scenically intact, undisturbed desert landscapes, and a substantially more urbanized character in areas where multiple facilities are built. If development is concentrated in areas prominently visible from the desert region's major highways, cumulative

visual impacts may be observed by large numbers of viewers, because these highways are the location from which the vast majority of viewers experience the desert.

3.15.15.7 Visual Resource Impacts for the Proposed Amargosa Valley SEZ

Summary: Two comments were received concerning potential visual impacts from solar energy development within the Amargosa Valley SEZ. The comments discussed the potential for the SEZ to block winds that transport sand to the Big Dune from the Amargosa River source, as well as other sources. The comments suggested the use of tall wind fences to shield solar development from windblown sand, as well as the modeling and visualization of the fences to assess impacts on recreationists within Death Valley National Park.

Response: If wind fences were proposed around solar energy facilities in the Amargosa Valley SEZ, potential visual impacts resulting from the fences would be considered in the site- and project-specific environmental assessments that would be conducted for the projects.

3.15.15.8 Visual Resource Impacts for the Proposed Colorado SEZs

Summary: Comments indicated support for the BLM's decision to eliminate all BLM lands with high to moderate visual resource values (BLM VRM Classes I and II) as part of the site selection process, the conditions placed on power tower development in the Colorado SEZs, and the requirement for visual resource evaluations. The comments also suggested the consideration of small utility-scale projects with "light footprints," in order to better manage the potential visual impacts, as opposed to large utility-scale projects with very large continuous blocks of development.

Response: The rationale for recommending a restriction on the development of power tower facilities in the Colorado SEZs is stated in the SEZ visual resource sections in the Final Solar PEIS. In summary, the height of solar power tower receiver structures, combined with the intense light reflected by the receivers atop the towers, would be expected to create strong visual contrasts that could not be effectively screened from view for most areas surrounding the SEZ. In addition, for power towers higher than 200 ft (61 m), hazard navigation lighting that could be visible for very long distances would likely be required. Prohibiting the development of power tower facilities would remove this source of impacts, thus substantially reducing potential visual impacts on the numerous scenic and historic resources of the San Luis Valley, many of which are of national or regional significance and which contribute significantly to tourism-based recreation and important economic activity in the valley. Furthermore, the San Luis Valley contains numerous small communities where tens of thousands of residents live and work in close proximity to the SEZs. The broad, flat, and generally treeless expanse of the valley floor would facilitate long duration views of the very bright power tower reflections during the day, and flashing red aerial hazard navigation lighting at night, assuming the power towers were higher than 200 ft (61 m), which is very likely.

3.15.15.9 Visual Resource Impacts for the Proposed Gold Point SEZ

Summary: Several comments were received that addressed visual concerns relating to solar energy development within the Gold Point SEZ. Comments emphasized the potential for impacts on the town of Gold Point and the general scenic environment of the area. One comment further noted the potential for impacts from the lights on power towers, while another indicated the potential for glare. Some comments concerned the potential for visual impacts on viewing locations within Death Valley NP. One comment suggested that the contrast level would be greater than "minimal to weak," as suggested in the Solar PEIS. The comment suggested eliminating power towers and requiring development in the SEZ to be consistent with VRM Class II objectives. Another comment requested SEZ-specific mitigation measures to protect viewsheds and night sky viewing in and around the Gold Point SEZ.

Response: The town of Gold Point is located less than 2 mi (4 km) from the Gold Point SEZ, and the entire SEZ is within 5 mi (8 km) of the town site. Furthermore, the town site elevation is several hundred feet higher than that of the SEZ, and the town effectively overlooks the entire SEZ and surrounding lands in the Lida Valley. The combination of short distance and elevated viewpoint suggests that the town of Gold Point could be subject to substantial levels of visual contrast from solar development within the SEZ. If there is substantial solar development within the SEZ, some level of visual impacts on the town of Gold Point is unavoidable.

However, potential impacts on visual resources are one factor among many that must be considered by the BLM in the complex process of identifying lands suitable for solar energy development. When individual projects are proposed, additional consideration of potential visual impacts will be incorporated into the required site- and project-specific impact assessment that will occur, including further opportunities for public comment on potential visual impacts. Furthermore, there are numerous visual design features included in the Solar PEIS that developers could implement that would result in avoidance and/or reduction of potential visual impacts associated with solar energy facility construction, operation, and decommissioning. These design features include measures to avoid or reduce might sky impacts through the use of only the minimum amount of appropriately shielded lighting necessary for safe operation of the facilities.

3.15.15.10 Visual Resource Impacts for the Proposed Riverside East SEZ

Summary: Four comments were received that specifically addressed solar development within the Riverside East SEZ. Two comments noted that solar development in the SEZ would be visible from viewing locations within the nearby WAs, from local residences, and/or from nearby roadways. Because of the potential visibility of the solar development, one comment suggested more restrictive mitigation measures. The remaining two comments raised specific concerns for potential visual impacts on Joshua Tree NP from solar development within the Riverside East SEZ. One comment suggested that the Solar PEIS text and figures be modified to more fully represent the potential viewshed impacts on the Joshua Tree NP. The other comment noted his organization's agreement with the NPS call for exclusion of solar energy development

on certain lands near Joshua Tree NP. The commentor also indicated agreement with a proposal to scale back the Desert Sunlight Project.

Response: The comments noted the potential for visual impacts on the various sensitive visual resource areas around the Riverside East SEZ, including, but not limited to, Joshua Tree NP, and the WA within the NP. These impacts were noted and discussed at length in the Draft Solar PEIS. In response to the findings of the Draft Solar PEIS and in consideration of comments received on the Draft Solar PEIS and on the Supplement to the Draft Solar PEIS, the SEZ was revised to eliminate some lands in close proximity to Joshua Tree NP and the Palen-McCoy WA. The revision to the SEZ substantially reduces potential visual impacts on these areas, although they still could be subject to large visual impacts from solar development within the SEZ, depending on the nature and extent of the development.

The proposed programmatic design features include many design features intended to avoid or reduce visual impacts associated with solar energy development that could be used to avoid or reduce visual impacts associated with future solar development within the SEZ. These visual design features include requirements for detailed glint and glare assessments and efforts to reduce glint and glare impacts, as well as suggested measures for avoiding and reducing potential night sky impacts through the use of lighting controls. The visual design features include several that address specially designated areas explicitly. Among other requirements, these design features require consultation on viewshed protection objectives and practices with the respective land management agencies that have been assigned administrative responsibility for landscapes having special designations.

One comment requested that a figure in the Solar PEIS be modified to indicate that Joshua Tree NP and the WA within the NP are VRI Class I areas; however, BLM VRI class designations are applicable only to BLM-managed lands and therefore do not apply to NPS-managed lands. Note, however, that the proximity of the NP and WA were considered in the VRI analysis that included the lands within the SEZ and, furthermore, that the impacts on these resources were described and considered extensively in the Solar PEIS visual impact analysis.

3.15.16 Acoustic Environment

3.15.16.1 Noise Impacts on Wildlife

Summary: (1) Several comments noted that noise impacts were limited to impacts on nearby human residences and did not analyze impacts on wildlife or propose design features to minimize these impacts. (2) Several comments noted that, based on recent research, the level used to determine whether noise impacts on wildlife could be adverse was too high.

Response: (1) No text change is required. As noted in the text, the SEZ sections primarily address potential noise impacts on humans. Potential impacts on wildlife at nearby sensitive areas are also discussed, and the text refers to the more complete discussions of

potential noise impacts on wildlife in Section 5.10.2. The individual SEZ discussions were updated for this Final Solar PEIS to reflect new data where appropriate.

(2) The noise impact analyses for wildlife in specially designated areas were updated in the SEZ-specific sections based on recent research publications as suggested in the comment.

3.15.16.2 Design Features for Noise

Summary: Comments (1) noted that mitigation requirements, design features, and noise monitoring need to be tied to impacts rather than just the existence of *nearby* sensitive receptors; (2) objected to the use of the undefined terms *nearby* and *becomes an issue* in mitigating measures; (3) noted that transformer requirements need to be identified at the permitting stage, not after operations have begun; (4) suggested rewording several mitigation measures; (5) noted that one mitigating measure is actually an assessment approach; (6) suggested that noise control engineering be used for additional components of dish engines, not just the engine; (7) questioned the need for baseline noise monitoring in some situations and recommended that such monitoring be done; and (8) recommended that noise mapping be used to predict noise levels.

Response: The wording of the programmatic design features is necessarily broad, and no update is required. The Draft Solar PEIS points out that certain design features will be required if sensitive receptors are nearby, identified sensitive noise receptors out to about 5 mi (8.0 km), and screened predicted noise impacts at these locations. The design features incorporate this approach by expressing a contingent rather than an absolute requirement, namely, that sensitive receptors be *nearby*. When a specific project has been proposed and detailed data are available, refined predictions of noise levels can be made. A more precise determination of *nearby* could then be made based on the project-specific data and, as noted in Section A.2.2 of Appendix A, at BLM's discretion, adjustments made in the design requirements. Similarly, the use of *becomes an issue* in the design feature relating to transformer replacement recognizes that, given the long operating lifetime of a solar energy development, the local environment may change and require actions or equipment not anticipated at the time an ROW was granted. Again, the contingent approach expressed in the design feature for transformer replacement allows for evaluation of the situation with consideration, at BLM's discretion, of alternative approaches. This approach is consistent with the adaptive management approach being taken and with the ongoing measurement of noise levels under the long-term monitoring plan to be developed by the BLM.

No update was made regarding the need to gather baseline noise data and monitoring in the absence of nearby sensitive receptors. This information is needed for several reasons in addition to identification of sensitive noise receptors, including assessment of solar energy development under the long-term monitoring plan.

Given the level of detail available, the use of noise mapping tools is inappropriate at this programmatic level of analysis. When a specific project has been proposed, the BLM will consult with other agencies, including NPS. At this time, the need for using noise mapping tools could, at BLM's discretion, be required. No update was made.

The wording changes and inclusion of *noise control engineering methods* as a potential design feature for dish engines were incorporated in the Final Solar PEIS.

3.15.16.3 Additional Modeling and Analysis Requests for Noise

Summary: Comments (1) presented additional requirements for when noise impact modeling near NPS units be done and (2) disagreed with statements about the availability of detailed data needed for modeling, and (3) noted that soundscape impacts were not addressed.

Response: (1) No update was required. Between the Draft Solar PEIS and this Final Solar PEIS, the BLM has considered many additional factors, including noise, in consultation with NPS in making changes in the proposed SEZs. In addition, at this programmatic level, much of the detailed information needed to undertake refined modeling is unavailable. To determine the proximity at which background studies and refined modeling must be undertaken would be premature at this level. When a specific project is proposed, the BLM will consult with the NPS to determine what steps are necessary to protect human and wildlife values in NPS units. Additional mitigation measures in addition to those presented in the Final Solar PEIS may be imposed in response to these refined studies.

(2) Text in Appendix M has been revised to note that only some of these detailed data are available until a specific project has been proposed and that it was not obtained for the simplified noise modeling conducted for this Final Solar PEIS.

(3) The Final Solar PEIS acknowledges the potential for noise impacts on humans and on wildlife in specially designated areas, including NPS units. At this programmatic level, refined noise modeling has not been conducted. When a specific project is identified and project-specific information is available, more detailed studies will be conducted and additional potential impacts assessed. The BLM will consult with NPS at that time to ensure that the values associated with NPS units are protected to the extent practicable.

3.15.16.4 Requests for Exclusions Related to Noise

Summary: Comments requested exclusions of additional areas from solar development.

Response: Between the Draft Solar PEIS and the Final Solar PEISs, the BLM has considered many additional factors. including noise, in consultation with NPS in making changes in the proposed SEZs. In addition, at this programmatic level, much of the detailed information needed to undertake refined modeling is unavailable. To determine the proximity at which background studies and refined modeling must be undertaken would be premature at this level. When a specific project is proposed, the BLM will consult with the NPS to determine what steps are necessary to protect human and wildlife values in NPS units. Other mitigation measures in addition to those presented in the Final Solar PEIS and exclusion areas may be imposed in response to these refined studies. A reference to noise and soundscape protection policies has been added to the bullet list on noise in Section 3.3.

3.15.16.5 Noise Impacts for the Proposed Riverside East SEZ

Summary: Comments suggested (1) additional evaluation of noise impacts in Joshua Tree NP and (2) inclusion of Joshua Tree NP as a sensitive receptor.

Response: Joshua Tree NP is already included as a specially designated area in Section 3.9.4.15.2 of the Draft Solar PEIS, and no update is needed. The boundaries of the proposed Riverside East SEZ in the Draft Solar PEIS were updated for this Final Solar PEIS. Joshua Tree NP is now 1.8 mi (3 km) from the proposed SEZ rather than adjacent to it. However, the conclusion in the Draft Solar PEIS that noise levels could affect wildlife in some portions of Joshua Tree NP remains valid. The text in Sections 9.4.15.2.1 (construction) and 9.4.15.2.2 (operations) was updated to note that "These noise levels could be audible and affect soundscapes in Joshua Tree NP."

3.15.16.6 Noise Impacts for the Proposed Amargosa Valley SEZ

Summary: Comments were concerned with impacts of noise from the Armargosa Valley SEZ on Death Valley NP and (1) disagreed with the conclusion that wildlife would not be affected, (2) requested that Death Valley NP be listed as a noise sensitive receptor, (3) made suggestions for changing the impacts of construction and operation, (4) made recommendations for new background levels, (5) identified possible inconsistencies, and (6) disagreed with the conclusion that visitors at nearby specially designated areas would not be adversely affected.

Response: On the basis of comments received and recent references, this Final Solar PEIS was revised using an approximate significance threshold of 55 dBA corresponding to the onset of adverse physiological impacts to update the analysis of potential noise impacts on terrestrial wildlife in areas of special concern. With the updated, reduced area of the proposed Armargosa Valley SEZ, predicted construction and operations noise levels at the boundary of the NP are all below 55 dBA. The text was revised to incorporate these updates.

No update to the background levels presented in the Draft Solar PEIS was made. These levels are reasonable for this programmatic level assessment. When a specific project has been proposed, a background noise survey will be made as required under BLM's design features (Section A.2.2.14 of Appendix A), and the BLM will consult with potentially affected agencies including NPS. At that time, an estimate of background noise levels specific to the project site can be made.

Death Valley NP is already included as a specially designated area in Section 3.9.4.15.2 of the Draft Solar PEIS, so no update is needed. However, the text in Sections 11.1.15.2.1 (construction) and 11.1.15.2.2 (operations) was updated to note that, "These noise levels could be audible and affect soundscapes in Death Valley NP."

3.15.17 Paleontological Resources

3.15.17.1 General Comments on Paleontological Resources

Summary: General comments on paleontology included disagreement that the impacts on paleontological resources would be minimized through the variance process since they are considered in the normal process and disagreement that subsurface paleontological remains would not be readily accessed by collectors, there would be more collecting because of exposure due to pedestaling from wind erosion. A question was asked of the additional studies recommended in the Supplement on the Draft Solar PEIS as to whether the results of these studies accomplished under the Solar PEIS would be sufficiently detailed so that a developer would not have to conduct additional studies, or should the developer, and not BLM, do all the studies in the Supplement themselves more cost-effectively.

Response: The variance process does address paleontological resource requirements, pre-application meetings will be held with the applicant to discuss avoidance of significant resources if known to be present in the area considered, and design features will be required for all projects on BLM lands whether within SEZs or on variance lands, which will minimize impacts not just consider them. Pedestaling, creation of pedestals from wind erosion, is a phenomenon that can affect cultural artifacts leaving them exposed at the surface; however, effects on buried paleontological resources, which are located in geological formations and not typically in loose sand or sediment, would be minimal.

Not all the recommended activities in the SEZ action plans specified in the Supplement are being undertaken at this time, although many of them have been completed or are underway. It is likely that both BLM and the developers will need to work on the additional studies jointly in order to expedite future development in an environmentally friendly and cost-effective manner.

3.15.17.2 Access Road Impacts on Paleontological Resources

Summary: A comment on access roads was made for the Dry Lake Valley North SEZ in Nevada indicating that fewer impacts on paleontological resources would result from upgrading existing roads than constructing new roads.

Response: The Dry Lake Valley North paleontology section in the Final Solar PEIS was revised to mention the reduction in impacts if existing roads were upgraded.

3.15.18 Cultural Resources

3.15.18.1 General Comments on Cultural Resources

Summary: There were a number of general comments on cultural resources endorsing other sets of comments, acknowledging impacts at various locations (but not defining a particular action), and expressing general dissatisfaction or general support with the Solar PEIS process regarding historic and cultural resources.

Response: No text changes in the Solar PEIS resulted from these general comments.

3.15.18.2 Requests for Exclusions Related to Cultural Resources

Summary: Several commentors suggested areas with sensitive cultural resources that they thought should be excluded from future solar energy development. These included some specific locations, mostly variance lands but also some SEZs, and generalized areas, such as dry lakes, dunes, washes, and playas.

Response: Some of the areas mentioned by the commentors as having sensitive cultural resources have been reduced in size or are no longer included in the variance lands and have been added to the exclusion areas. Some SEZs were dropped and are now considered variance areas; others are excluded. However, many of the suggested areas have not been identified by the BLM as exclusion areas, and if interest is expressed in those areas of concern, under the proposed Solar Energy Development Program, pre-application meetings between the BLM and the prospective applicant would be held to discuss those conflicts prior to submittal of a formal application. If the applicant chooses to go forward, knowing the cultural issues to be faced, site-specific Section 106 review will be conducted for the project. The BLM will require the completion of inventory, evaluation, determinations of effect, and treatment in accordance with the Solar PA, including consultations with the State Historic Preservation Officer (SHPO) and affected tribes. The public will have an opportunity to comment through the project-specific NEPA process.

3.15.18.3 BLM Alternatives Related to Cultural Resources

Summary: Many commentors expressed a preference (for or against) the various alternatives presented in the Solar PEIS as related to treatment of cultural resources or made comments regarding the accuracy of the comparison of those alternatives, disagreeing that the impacts would be similar under each of the alternatives when 30 times more land is available for development under the development alternative and the SEZs should be less-sensitive areas. It was noted in the comments that under all of the alternatives there was the potential for irreversible impacts on natural and cultural resources.

Response: Preferences (in support and in opposition) are acknowledged but do not result in changes to the Final Solar PEIS and are not responded to further. Regarding the comparison of alternatives and the Solar PEIS statement that impacts on cultural resources would be similar, the RFDS has only a set number of acres that would reasonably be developed in a given time frame, and although one alternative has more lands available, the same amount of land is anticipated to be developed under the RFDS. Although it is true that the SEZs should be chosen in areas determined not to be culturally sensitive, the amount of surveys conducted in each of these areas prior to the selection of the SEZs is not conducive to that conclusion. Therefore, all lands were assumed to have relatively equal potential to contain sensitive cultural resources for the comparative analysis. In reality, the identification of significant cultural resources will be location- and project-specific with some areas having a higher potential than others; those areas with the known highest potential have been excluded.

3.15.18.4 Impacts on National Historic Trails

Summary: Many comments were received regarding National Historic Trails, indicating a desire for the establishment of mitigation measures and adequate easements in the Solar PEIS, more thorough inventory and evaluation of impacts, more thorough analysis of cumulative impacts on the landscape, the conduct of viewshed analyses, and exclusion of solar energy development within 5 mi (8 km) (7 mi [10 km] for power towers) of high-potential segments and associated NRHP-eligible sites. One commentor requested that surveys of all segments of National Historic Trails, National Scenic Trails, and candidate National Historic Trails within 5 mi (8 km) of approved solar development areas and SEZs be conducted prior to finalization of the Solar PEIS.

Response: National Historic Trails (as significant cultural resources) will be evaluated for specific projects as stipulated in the Solar PA and as required by NEPA and NHPA. A detailed study is under way for the Old Spanish Trail and El Camino Real de Tierra Adentro, but results will not be available prior to this Final Solar PEIS. It is possible that these trail inventory projects may reveal unanticipated or undocumented remnants, artifacts, treads or traces of high-potential sites or segments, trail features, and/or associated settings for National Historic Trails adjacent to or within SEZs. National Historic Trails, suitable trails, and trails under study will be assessed on a project-by-project basis using an accepted National Trail inventory process and in consultation with the trail administering agency. The inventory process will identify the potential area of adverse effect on the resources qualities, values, and associated settings and the primary use or uses of the tracts within the viewshed; prevent substantial interference; and determine any area unsuitable for development. Residual impacts on trails (on-site or off-site) will be avoided, minimized, and/or mitigated to the extent practicable according to program policy standards. The Solar Energy Program design features (Section A.2.2.23) of the Final Solar PEIS do not establish a minimum or maximum limit on the size of the areas of possible adverse effect from the solar energy development; this will be determined through the results of the required inventory, in consultation with the trail administering agency. Further guidance will be included in forthcoming BLM National Trails System manual series and other NLCS-related policy manuals.

3.15.18.5 Additional Information on Cultural Resources

Summary: Several comments contained background information that may be relevant for the Solar PEIS and/or corrections to information presented in the Draft Solar PEIS.

Response: New information and corrections presented in comments that could be verified have been incorporated into the Final Solar PEIS, such as information on Serrano traditional lands in California, literature sources on trails in the California Desert, information regarding sites that could be affected by development in the Riverside East SEZ, Small-Tract Homestead properties in southwest deserts, and Los Conejos Mexican Land Grant in the San Luis Valley. The railroad discussion in the Dry Lake Valley North historic context discusses historic railroad lines, not necessarily active ones, so the comment regarding there no longer being a Pioche to Bullionville Railroad or a branch line between Caliente and Prince was not revised for the Final Solar PEIS because these lines, although no longer in use, still have historical relevance and could be associated with historic sites of importance. Also, the Delamar SEZ has been dropped, so corrections to the railroads mentioned in the cultural resources section relative to that SEZ are not being made in the Final Solar PEIS.

3.15.18.6 Policy Issues Related to Cultural Resources

Summary: One commentor asked how the agencies will address proposed projects that are adjacent to important cultural resources, like traditional cultural properties and sacred sites. Other commentors recommended that the BLM be flexible with its SEZs and refine their boundaries as more is learned about the potential for cultural resources to be affected. It was noted that smaller utility-scale projects with lighter footprints would blend more easily into landscapes in which cultural resources and National Heritage Areas are present and should be avoided. A question was asked about the additional studies recommended in the Supplement to the Draft Solar PEIS as to whether the results of these studies accomplished under the Solar PEIS would be sufficiently detailed so that a developer would not have to conduct additional studies, or should the developer, and not the BLM, perform all the studies in the Supplement themselves more cost-effectively.

Response: Whether sites are within development areas or adjacent to them, if there is a potential for effect, that effect must be considered in order for the BLM to be in compliance with Section 106 of the NHPA and it must be addressed during the NEPA process. There is no difference in the process for sensitive resources adjacent to proposed projects versus those within the project footprint. As cultural surveys are conducted and more is known about the resources present within the SEZ, adjustments may be made that will affect the developable portions of the SEZs. Language in the Solar PEIS alerts prospective applicants to these potential changes as some of the current unknowns are addressed. Not all of the recommended actions specified in the Supplement to the Draft Solar PEIS are being undertaken at this time, although many of them have been completed or are under way. It is likely that both the BLM and the developers will need to work on the additional studies jointly in order to expedite future development in an environmentally friendly and cost-effective manner.

3.15.18.7 Evaluation of Impacts on Cultural Resources

Summary: Commentors suggested that Chapter 5 should more explicitly acknowledge the potential impacts of noise and light on cultural resources, such as National Historic Trails and traditional cultural properties. Secondary impacts of dust, increased traffic, and vibration from construction activities can irreparably damage rock art sites, and these impacts should be considered. Concerns over possible impacts on cultural sites, plant-gathering areas, hunting areas, song and story sites, and trail systems were mentioned, including consideration of visual impacts. Consistency among the impacts on habitat between the ecological sections and the cultural/Native American concerns sections was questioned. One commentor stated a concern about the consideration of potential impacts on likely significant sites and landscapes in proximity to prehistoric and dry lakes and dune areas. It was also suggested that dunes undergo subsurface testing during cultural surveys. One commentor thought that since locations of traditional cultural properties with respect to the SEZs were not addressed in the Solar PEIS, the importance of the properties and impacts on them had been disregarded. One commentor requested that the impacts on the cultural landscape of the Colorado River and its travel and visual connections with the Colorado Desert to the west be considered in the Solar PEIS, not just the impacts on specific archaeological sites within the SEZs. It was also requested that areas of high potential impacts be stated for the California SEZs and that the Solar PEIS more fully describe the areas where further investigation is needed. Several commentors raised concerns about the cumulative analysis, such as the lack of acknowledgement for the far-reaching effects of development on linear features, like National Historic Trails and scenic byways.

Response: The Solar PEIS acknowledges the likelihood of significant sites in association with key features like dry lakes and dunes. These were explicitly called out as targeted areas of interest for future sample surveys in the Supplement to the Draft Solar PEIS, as was the subsurface testing of dunes. Current surveys of 5% of the lands with the SEZs in California, Nevada, and Arizona have incorporated these areas into their survey strategies. As a result of solar energy development, potential impacts of noise and light are possible on significant cultural resources, as are dust, traffic, and vibration impacts on rock art; therefore, these impacts have been more clearly stated in Chapter 5.

Impacts on specific plant and animal species as stated in the Native American concerns section may differ from those in the ecological resources sections because the focus is different. The ecological impact is based on the percentage of a species within the SEZ and the magnitude of that impact on the entire population; the impact on Native American concerns is based on the sheer presence of a particular species within the area of potential effect and whether that would be eliminated by construction. The larger population is not considered because tribes may not have access to it; all that is considered is what the tribes could have access to on public lands.

The Solar PEIS acknowledged that the locations of traditional cultural properties were being discussed as part of ongoing government-to-government consultations and that these properties would be addressed on a project-by-project basis. The Solar PEIS attempts to cover the larger aspects of traditional landscape and interconnectivity of trails in the SEZ sections of California and acknowledge that impacts do not stop at the boundaries of the SEZs and must be considered during future project-specific NEPA analyses. Also, more targeted descriptions of

further analysis needed for the California SEZs was provided in the Supplement to the Draft Solar PEIS, and the Final Solar PEIS was updated with results of the Class I overview conducted after the Draft was issued to address areas of high potential impact (many of which have now been dropped from the SEZs, including the dropping of two of the SEZs in their entirety—Iron Mountain and Pisgah).

3.15.18.8 Design Features for Cultural Resources

Summary: A wording change from "should" to "will" was requested so that the recommended mitigation measures in Chapter 5 would be requirements. It was recommended that geo-archaeological investigations be required for each project. One commentor questioned the requirement for a records search of unpublished literature without the BLM providing some objective criteria. One commentor questioned avoidance of Desert Training Center/California–Arizona Maneuver Area- (DTC/C-AMA-) associated historic resources since they are widespread and wanted the language changed to "to the extent practicable." Concern was expressed that the Solar PEIS favored data recovery as a mitigation option and did not fully look at mitigation of other types of cultural losses beyond potential loss of scientific value, such as losses of value for education, heritage tourism, and traditional use, which they thought could be accomplished through consulting and working with tribes. Specific to the Afton SEZ in New Mexico, a commentor requested mitigation of potential visual impacts on several historic trails, National Historic Landmarks, National Natural Landmarks, and Scenic Byways, as well as avoidance of dune areas. Specific to Dry lake Valley North SEZ, it was recommended that an SEZ-specific design feature could be added that suggests use of an existing road for access to the SEZ to reduce impacts on cultural resources. One commentor indicated that site-specific analyses on individual projects are not sufficient for addressing cumulative impacts and questioned when and how formalized agreements might be developed and implemented to address management and mitigation options. Monitoring for impacts due to increases in human traffic at nearby ACECs was considered unacceptable, because avoidance of impacts should be the primary goal; measures should be implemented that avoid those impacts, not monitor them.

Response: Consideration of all the design features presented in Section A.2.2 of Appendix A of the Final Solar PEIS is a required element of the BLM Solar Energy Program. Because of site-specific circumstances, not all design features as written will apply to all projects (e.g., a resource is not present on a given site). Some design features may require variations from what is described (e.g., a larger or smaller protective area). In some cases, multiple options for addressing a potential resource conflict are provided. Applicants will be required to work with the BLM to address proposed variations in the design features and to discuss selected options for avoidance, minimization, and/or mitigation of potential resource conflicts. Variations in programmatic design features will require appropriate analysis and disclosure as part of individual project authorizations.

In agreement with the comment on geo-archaeological investigations, the recommendation for these studies was presented in the Supplement to the Draft Solar PEIS. Unpublished or "gray" literature is a common resource for practicing archaeologists, and

researching these documents would not be recognized as an unreasonable request by any archaeological consulting firm that a developer might hire.

Avoidance of DTC/C-AMA-related resources applies only to focused activity areas that retain integrity, such as Camp Iron Mountain. The wording in the Final Solar PEIS has not been changed, because these areas, in addition to significant resources associated with Palen and Ford Dry Lakes and Native American trails evident in the desert pavement, should be avoided. Avoidance is the only preferred mitigation option; all other options are discussed and decided upon in consultation with the SHPO and affected tribes. The language in Chapter 5 is merely illustrative of the types of mitigation that have been typically implemented, and as the commentor stressed, consultation is the key to establishing effective mitigation; some rephrasing of the text was made in the Final Solar PEIS in response to this comment. Cumulative impacts are analyzed for all resources during project-specific NEPA and are not dismissed, despite the wording "site-specific" and "individual" project; cumulative analysis is a requirement of NEPA.

In terms of formalized agreements, the Solar PA is the overarching agreement between the BLM, the six SHPOs (Arizona, California, Colorado, New Mexico, Nevada, and Utah), and the Advisory Council on Historic Preservation. The BLM will consult the SHPO, Indian tribes, and any consulting parties, if historic properties are present and would be adversely affected. Individual agreements or MOAs may be established with the SHPO within the framework of the PA to more specifically address project-specific adverse effects on historic properties and to conclude the Section 106 process.

A SEZ-specific design feature for the Dry Lake Valley North SEZ was added to the Final Solar PEIS to acknowledge the reduction in cultural resource impacts if an existing access road south of the SEZ were used instead of construction of a new access road.

Monitoring for impacts is the first step in assessing whether impacts are occurring, and if so, monitoring will help determine how those impacts are occurring, so that the appropriate mitigation measures can be implemented. The BLM must know those two things in order to effectively determine the types of measures to implement and whether any mitigation measures are even needed.

3.15.18.9 Tribal Consultation

Summary: Several commentors mentioned the lack of consultation and the subsequent legal challenges being faced by the BLM for the previous solar projects it permitted. Frustration with the consultation process was expressed, especially at the comment and consultation periods imposed by the BLM, which did not offer some tribes a reasonable amount of time to have their experts review the technical material presented, and at the inability of the existing process to avoid sensitive cultural resources. Several commentors requested that ethnographic studies be conducted for the remaining SEZs, not just for those SEZs in Nevada and Utah. In general, it was suggested that more in-depth interviews and oral histories be conducted to gather tribes' concerns and to learn how the landscapes were used. A comment was received that future consultation on the Solar PEIS cannot be limited to tribes that commented on the Draft Solar

PEIS. One commentor expressed concern that the pre-application process did not include cultural resources consultation. It was recommended that consultation cover all aspects of mitigation, including curation of any recovered materials and how and where recovered materials are to be maintained. It was noted in comments on the Supplement to the Draft Solar PEIS that the BLM should "ensure" rather than "expect" government-to-government consultation to continue beyond the signing of the ROD and that the BLM should fully fulfill its objective to contact tribes not originally included in the ethnographic studies to ensure the inclusion of tribal traditional uses and cultural resources in other SEZs. One tribe requested notification of any activities occurring near its lands.

Response: In response to concerns over the BLM tribal consultation practices, IM No. 2012-032, "Native American Consultation and Section 106 Compliance for the Solar Energy Program Described in Solar Programmatic Environmental Impact Statement," was issued in December 2011 to improve tribal consultation procedures for the solar program. The BLM will consult with federally recognized Indian tribes early in the planning process to identify issues and areas of concern regarding any proposed solar energy project. Such consultation is required by NHPA and other authorities and is necessary to determine whether construction and operation of a project are likely to disturb traditional cultural properties or sacred sites, impede access to culturally important locations, disrupt traditional cultural practices, affect movements of animals important to tribes, or visually affect culturally important landscapes. Such consultation shall cover planning, construction, operation, and reclamation activities. The BLM will work with tribes during consultations to establish reasonable schedules for their input on important projects, recognizing their limited resources and the time necessary to thoroughly review a project. Agreements or understandings reached with tribes shall be carried out in accordance with the terms of MOAs or state-specific agreements as defined within the Solar PA. The BLM will also consult with Indian tribes under the terms of NAGPRA. Any Historic Properties Treatment or Mitigation Plans, including future disposition of recovered materials, will take such consultations into account. Consultation will continue beyond the ROD for this Solar PEIS.

BLM IM No. 2011-061, "Solar and Wind Energy Applications—Pre-application and Screening," issued February 2011, describes the pre-application and screening procedures required for solar and wind energy applications. Agency policy requires at least two pre-application meetings with the applicant. Their purpose includes the identification of needed cultural resource studies. Tribes will be asked to participate. Screening criteria encourages responsible BLM line officers to prioritize the processing of applications for areas with the lowest potential for conflicts, including cultural resource concerns.

Appendix K summarizes the tribal consultation efforts undertaken by the BLM throughout the development of the Solar PEIS. Consultation efforts have not been restricted to tribes that commented on the Draft Solar PEIS.

Ethnographic studies were completed for several SEZs in Nevada and Utah, and the results were incorporated into the Final Solar PEIS. Additional cultural and ethnographic work is also being conducted for the SEZs in Colorado, as indicated in the Colorado SEZ sections of this

Final Solar PEIS. As money becomes available, it is possible that additional ethnographic studies could be funded within the remaining SEZs in the future.

3.15.18.10 Section 106 and Cultural Resource Surveys

Summary: Many commentors were concerned over the lack of cultural resource surveys within most of the SEZs. They stressed the need for conducting Class III surveys and the importance of completing required consultation with SHPOs and affected tribes and the Section 106 process prior to development. It was feared that the Solar PEIS would be used to circumvent the compliance process, and it was requested that the Solar PEIS explicitly state that the ROD does not preclude the continuing process of consultation for compliance with Section 106. It was thought that significant cultural resources within the SEZs have not been adequately identified and that existing computerized state data were not used in the analysis. Some commentors wanted completion of cultural surveys, ethnographic studies, and landscape level analyses prior to SEZ designation and publication of the Final Solar PEIS, and at least Class II sample surveys prior to future SEZ identification. Others did not want expensive Class III surveys required prior to submission of applications on variance lands, rather they suggested Class 1 or Class II surveys. It was strongly advised that historians and cultural experts in the San Luis Valley Hispanic communities, who have additional knowledge of resources unavailable to government agencies, be consulted. The generation of predictive models was suggested along with the conduct of Class II sample surveys to increase the quality and amount of data available for the SEZs. There was some concern expressed about the amount of land being surveyed and whether 5% was still inadequate; it was thought at least 10% was needed and 20% should be required for future proposed SEZs. The percentage of lands previously surveyed for each of the California SEZs was requested. There was also concern over the use of pristine desert environments and a preference for the use of previously disturbed lands.

Response: As a result of these concerns over low levels of previous cultural survey within the SEZs, the BLM issued contracts for the completion of cultural surveys of 5% of lands within several of the SEZs in California, Nevada, and Arizona, as specified in the SEZ sections of the Final Solar PEIS. The areas currently under survey are in addition to any lands previously surveyed in order to bring the SEZs closer to a 10% survey coverage level (e.g., after these new surveys are completed, approximately 9% of the Millers SEZ (Nevada) will have been surveyed to professional standards; for the Brenda SEZ (Arizona), with no prior documented cultural survey, the coverage will at least be 5%). Although data from these recently contracted surveys will not be available for use in the Final Solar PEIS, the results will better inform future applications for development within these SEZs. The sample surveys will help the BLM determine the cultural sensitivity of various ecozones. Results from the surveys will enable BLM managers to anticipate where conflicts between solar development and cultural resources can be expected, so that they can direct development to areas where disturbances to significant cultural resources will be minimized. As money becomes available, it is possible that additional work, including the possible generation of predictive models, could be funded within the SEZs in the future. Ethnographic studies were completed for several SEZs in Nevada and Utah, and the results were incorporated into the Final Solar PEIS. Additional cultural and ethnographic work is also being conducted for the SEZs in Colorado, as indicated in the SEZ sections of the Final

Solar PEIS. As discussed in Appendix M on the methodology used for the analysis in the Solar PEIS, state GIS data from the SHPOs were used for all the states except California. In California, a Class I overview was conducted between the Draft and Final Solar PEIS, and the results were incorporated into the Final Solar PEIS. On the basis of the results of the Class I review, less than 2% of the Imperial East SEZ had been previously surveyed and approximately 10% of the original footprint of the Riverside East SEZ had been surveyed. With the reduction and reconfiguration of the Riverside East SEZ, that 10% number is no longer relevant; however, with the recently contracted survey of more than 5,900 acres (24 km^2), it is likely that the surveyed portion of the Riverside East SEZ as configured for the Final Solar PEIS will be between 5 and 10% of the area.

The BLM is committed to meeting its obligations under Section 106 of the NHPA and has developed a Solar PA with the six SHPOs from the states covered in this Solar PEIS and the Advisory Council on Historic Preservation (ACHP). Affected tribes and the National Trust for Historic Preservation have been invited to be consulting/concurring parties on the PA The PA specifies how the BLM will continue its consultation with SHPOs, tribes, and ACHP in order to meet its Section 106 responsibilities for future solar energy projects. This approach for meeting an agency's Section 106 compliance obligations is authorized by 36 CFR 800.4(b)(2) and 36 CFR 80014(b)(3). The ROD does not preclude ongoing consultation under Section 106; however, that language has not been explicitly added to the Solar PEIS, because it is evident in the Solar PA that Section 106 is ongoing beyond publication of this Solar PEIS and its ROD.

Pre-application meetings are required under the Solar Energy Development Program and will be helpful for applicants wishing to apply for development of a project on lands not yet surveyed for cultural resources. The BLM and other stakeholders, including tribes, will be able to provide some sense of the potential for significant resources within the area during the pre-application process. A records check is required prior to any Class II or Class III surveys in order to familiarize the researcher with the area and help define the survey strategy; therefore, it would be a good start for determining the potential of the area to contain significant resources. Consultation with tribes and local historians and other basic research strategies are also less expensive than fieldwork. A Class II sampling survey would help further inform the applicant of what to expect during the application process if there are still sufficient gaps in what might be present in the prospective project area. These are clearly ways less expensive than a 100% Class III survey that are available to the prospective applicant prior to submitting an application. After all of the homework, if the land continues to have economic potential for development, the Class III survey would be required for the remaining lands as part of the application process, and no money would have been wasted on the prior activities. The survey of Class II sample quadrats is often carried out to Class III standards. Thus, if Class III inventories are required of remaining areas, there would be no need to re-survey the sample quadrats previously examined.

The BLM is in agreement that disturbed lands are preferred for development over pristine lands, where possible. The BLM in Arizona is focusing on disturbed lands in its RDEP, which is currently in NEPA review between the Draft and Final Solar EIS stage.

3.15.19 Native American Concerns

3.15.19.1 Requests for Exclusions Related to Native American Concerns

Summary: Several commentors suggested that areas of concern to Native Americans be excluded from future solar energy development as expressed in the ethnographic studies conducted in support of the Solar PEIS. These included several SEZs and specific locations, mostly within variance lands, and generalized areas, such as dry lakes, dunes, washes, and playas.

Response: Some of the areas mentioned by the commentors as having sensitive cultural resources were reduced in size or are no longer included in the variance lands and were added to the exclusion areas. Some SEZs were dropped and are now considered variance areas; others are excluded. However, many of the suggested areas have not been identified by the BLM as exclusion areas, and if interest is expressed in those areas of concern, under the proposed Solar Energy Development Program, pre-application meetings between the BLM and the prospective applicant would be held to discuss those conflicts prior to submittal of a formal application. If the applicant chooses to go forward, knowing the cultural issues to be faced, site-specific Section 106 review will be conducted for the project. The BLM will require the completion of inventory, evaluation, determinations of effect, and treatment in accordance with the Solar PA, including consultations with the SHPO and affected tribes. The public will have an opportunity to comment through the project-specific NEPA process.

3.15.19.2 Impact Assessment for Native American Concerns

Summary: Concerns over possible impacts on cultural sites, plant-gathering areas, hunting areas, song and story sites, and trail systems were mentioned. Several commentors raised concerns about the cumulative analysis, including conclusions based on numbers of acres affected, the need for a BLM plan for identifying concerns of tribes about cumulative impacts and providing a timeline, and the idea that the importance of sites in some cases can be based on how different sites relate to one another (interconnectivity) and that looking at SEZs in isolation is problematic. One commentor suggested that dust hazards and climate change be considered for the cumulative effects analysis; the commentor indicated that the area of potential effect should include an area up to 100 mi (161 km) for cumulative effects and include a feasibility study for industrial development and a wind study for fugitive soil effects. One commentor was concerned about consideration of impacts on sacred sites for socioeconomic and cultural reasons because of their significant religious importance, not just for their history. One commentor expressed concern over consideration of impacts on the cultural values of several-generation, non-Native American residents. Developers want to know how to handle impacts on unmapped tribal resources and on experiences to users of tribal resources near or visible from potential solar development areas.

Response: The Solar PEIS acknowledges that the locations of important cultural sites and use areas, including traditional cultural properties, are being discussed as part of ongoing

government-to-government consultations and that these properties would be addressed on a project-by-project basis. The Solar PEIS attempts to cover the larger aspects of traditional landscape and interconnectivity of trails in the SEZ sections, as appropriate, and acknowledge that impacts do not stop at the boundaries of the SEZs and must be considered during future project-specific NEPA analyses. Also, more targeted descriptions of further analysis needed for the SEZs was provided in the Supplement to the Draft Solar PEIS, and the Final Solar PEIS was updated with results of studies conducted after the Draft was issued to address some areas of high potential impact (many of which were eliminated as SEZs, including several SEZs in their entirety, for example, Delamar Valley, East Mormon Mountain, Iron Mountain, and Pisgah).

The programmatic cumulative impact analysis in the Draft and Final Solar PEIS considered the impacts of solar development up to the RFDS level, in conjunction with other ongoing and reasonably foreseeable actions in the study area. For the SEZs the cumulative impact analysis considers all proposed renewable energy projects that have a good probability of being constructed (defined as projects having firm near-term plans and environmental documentation). Any additional analyses of cumulative impacts would be addressed at a project-specific level, as required by NEPA. Climate change was addressed in several sections of the Draft Solar PEIS (Section 4.11.3 on GHG emissions and climate change; Section 5.11.2.4 on albedo effects; Section 5.11.4 on the impacts of GHG emissions; Section 6.5.1.2.2 on trends in climate change and corresponding effects on ecosystems; and Section 6.5.2.10.2 on the cumulative impacts on global climate change from solar development. While a wind study is beyond the scope of the Solar PEIS, the concerns mentioned in the comment regarding fugitive dust/soil hazards are considered in the Solar PEIS (Section 5.7 on soil resources; Section 5.10 on fugitive dust impacts on wetlands, vegetation, and wildlife; Section 5.11 on air quality; and Section 6.5.2 on cumulative effects).

Mandatory pre-application meetings among applicants, the BLM, and stakeholders, including affected tribes, will help the developers address potential impacts on unmapped tribal resources and user experiences prior to project approval.

3.15.19.3 Design Features for Native American Concerns/Resource Avoidance

Summary: One commentor asked how the agencies will address proposed projects that are adjacent to important cultural resources, like traditional cultural properties and sacred sites. The tribes agreed that sacred sites and objects be avoided, but they objected to the use of the phrase "when possible." Avoidance of areas containing cultural and historic resources and sacred sites should be a primary objective and should always be possible. One tribe no longer wants to work with the BLM to mitigate sites because they think that the BLM has over-reached in taking the land and using it for development. It was requested that the government take appropriate steps to protect the Indian Pass area in perpetuity and recommended that BLM staff work with the tribes to incorporate the cultural sensitivity map under development for the DRECP for avoiding the most sensitive places.

Response: BLM's preference is to avoid adversely affecting any traditional cultural property or sacred sites. However, not every traditional cultural property or sacred site can be

considered an historic property eligible for consideration under Section 106 of NHPA. Even when such properties are considered eligible for nomination to the NRHP and those considered historic properties under NHPA, avoidance of adverse effects on all historic properties is not required by the Section 106 process. Whether sites are within development areas or adjacent to them, if there is a potential for effect, that effect must be considered and addressed during the NEPA process in order for the BLM to be in compliance with Section 106 of NHPA. There is no difference in the process for sensitive resources adjacent to proposed projects and the process for those that are within the project footprint. Avoidance is the preferred mitigation strategy, but for circumstances that may arise that do not allow for avoidance, the phrase "when possible" is used.

The Indian Pass area has been identified by the Quechan as a sacred area of great importance to the tribe. Parts of Indian Pass have been excluded from the variance area proposed in the Final Solar PEIS. Development of or in the vicinity of non-excluded areas would require application of the requirements of the variance process for any future solar energy applications. The BLM will bring all affected tribes into any pre-application meetings that involve areas near Indian Pass, so the tribes' concerns can be carefully considered prior to a developer's submission of an application. Exclusion of lands in the vicinity of Indian Pass may be considered at that time as more specific information about tribal concerns and proposed project details are discussed.

3.15.19.4 BLM Alternatives Related to Native American Concerns

Summary: Many commentors expressed a preference (for [e.g., limit development to the SEZs] or against) the various alternatives presented in the Solar PEIS as related to treatment of cultural and natural resources of concern to Native Americans or made comments regarding flaws in the alternatives analysis. It was thought there were too many opportunities for future modification to the exclusion boundaries based on pending consultations, so the public received no clear understanding of the geographic scope and no meaningful comparison among alternatives. It was suggested that the comparison of alternatives be quantified so that, for example, the amount of land of Native American significance that would be affected for each of the alternatives was provided, or the acres of wetlands affected. Also, there was disagreement that the impacts would be similar under each of the alternatives when so much more land (30 times more) is available for development under the development alternative. It was noted that none of the alternatives indicate disturbed lands, such as brownfields, as part of their siting selection criterion, which was a key criterion of the CDRECP. Sensitive lands should not be included within SEZs. Distributed and rooftop solar were suggested.

Response: Preferences (in support and in opposition) are acknowledged but do not result in changes to the Final Solar PEIS and are not responded to further. Regarding the comparison of alternatives and the Solar PEIS statement that impacts on resources of significance to Native Americans would be similar, the RFDS has only a set number of acres that would reasonably be developed in a given time frame, and although one alternative has more lands available, the same amount of land is anticipated to be developed under the RFDS regardless of the alternative chosen. Under the variance process, the same design features would be implemented on the same amount of land indicated in the RFDS, in addition to pre-application meetings (with tribes

invited to be present) for eliminating sensitive areas from consideration, thus resulting in similar levels of impact as that within SEZs.

In the Supplement to the Draft Solar PEIS, the BLM modified its preferred alternative to emphasize its commitment to the concept of SEZs. Efforts are being made to ensure that SEZ locations minimize conflicts with other resources, and incentives to locate projects within SEZs were outlined. The BLM has proposed that solar ROW grants be issued on a competitive basis, and extra weight will be given to those projects proposed on previously disturbed lands. In protocols to establish new SEZs, the Supplement emphasizes the importance of using previously disturbed lands. While the BLM will allow for development of solar projects outside of the SEZs, applicants would be required to meet strict requirements to prove that their projects are located within areas of low resource value and minimal conflict; minimize environmental harm; cannot be located within SEZs; and minimize impacts on water resources. The proposed SEZ Identification Protocol in the Final Solar PEIS highlights the consideration of degraded, disturbed, and/or previously disturbed lands as part of all future processes to identify new or expanded SEZs. The proposed variance process also provides for favorable consideration of ROW applications on disturbed lands.

3.15.19.5 Section 106 and Native American Concerns

Summary: Commentors were concerned over the lack of cultural resource surveys within most of the SEZs. They stressed the need for conducting Class III surveys and the importance of completing required consultation with SHPOs and affected tribes and the Section 106 process prior to development. One commentor requested that the BLM show its compliance with Section 106. Some commentors wanted completion of cultural surveys, ethnographic studies, and landscape level analyses prior to SEZ designation and publication of the Final Solar PEIS, and at least Class II sample surveys prior to future SEZ identification. Some concern was expressed over the amount of land being surveyed and whether 5% was still inadequate; it was thought at least 10% was needed and 20% should be required for future proposed SEZs. There was also concern over the use of pristine desert environments and a preference for the use of previously disturbed lands.

Response: As a result of these concerns over low levels of previous cultural survey within the SEZs, the BLM issued contracts for the completion of cultural surveys of 5% of lands within several of the SEZs in California, Nevada, and Arizona, as specified in the SEZ sections of the Final Solar PEIS. The current areas under survey are in addition to any lands previously surveyed in order to bring the SEZs closer to a 10% survey coverage level (e.g., after these new surveys are completed, approximately 9% of the Millers SEZ will have been surveyed to professional standards; for the Brenda SEZ, with no prior documented cultural survey, the coverage will at least be 5%.). Although data from these recently contracted surveys will not be available for use in the Final Solar PEIS, the results will better inform future applications for development within these SEZs. The sample surveys will help the BLM determine the cultural sensitivity of various ecozones. Results from the surveys will enable BLM managers to anticipate where conflicts between solar development and cultural resources can be expected, so that they can direct development to areas where disturbances to significant cultural resources will

be minimized. As money becomes available, it is possible that additional work, including the possible generation of predictive models and ethnographic studies, could be funded within the SEZs in the future. Ethnographic studies were completed for several SEZs in Nevada and Utah, and the results were incorporated into the Final Solar PEIS. Additional cultural and ethnographic work is also being conducted for the SEZs in Colorado, as indicated in the SEZ sections of the Final Solar PEIS.

The BLM is committed to meeting its obligations under Section 106 of NHPA and has developed a Solar PA with the six SHPOs from the states covered in this Solar PEIS and ACHP. Affected tribes and the National Trust for Historic Preservation have been invited to be consulting/concurring parties on the PA. The PA specifies how the BLM will continue its consultation with SHPOs, tribes, and ACHP in order to meet its Section 106 responsibilities for future solar energy projects. This approach for meeting an agency's Section 106 compliance obligations is authorized by 36 CFR 800.4(b)(2) and 36 CFR 80014(b)(3). Once finalized, the Solar PA will be available on the project Web site (http://solareis.anl.gov).

Pre-application meetings are required under the Solar Energy Development Program and will be helpful for applicants wishing to apply for development of a project on lands not yet surveyed for cultural resources. The BLM and other stakeholders, including affected tribes, will be able to provide some sense of the potential for significant resources within the area during the pre-application process.

The BLM is in agreement that disturbed lands are preferred for development over pristine lands, where possible. The BLM in Arizona is focusing on disturbed lands in its RDEP, which is currently in NEPA review between the Draft and Final EIS stage.

3.15.19.6 Consultation with Native American Tribes

Summary: Several commentors mentioned the need for consultation, the lack of meaningful consultation, the failure to properly or adequately consult, the incompleteness of the consultation, and the subsequent legal challenges being faced by the BLM for the previous solar projects it permitted. In addition to letters, it was requested that BLM participate through phone calls, conference calls, face-to-face meetings, and walking the land. Relationships built around regular meetings and informal involvement with local tribes will lead to more effective consultation and tribal input on specific projects. For California, it was stated that consultation with tribes and interested Native American consulting parties on the list of Native American Contacts maintained by the Native American Heritage Commission be conducted in compliance with the requirements of NEPA and Section 106 of NHPA. The Quechan restated its interest in meaningful consultation between the federal government and the Quechan Indian Nation prior to an ROD.

Frustration with the consultation process was expressed, especially at the length of the comment and consultation periods imposed by the BLM, which did not offer some tribes a reasonable amount of time to have their experts review the large amount of technical material presented; the delayed receipt of the documents for review; and the inability of the existing

process in avoiding sensitive cultural resources. There was also no time to recommend or advocate for alternatives early in the process. Consultation was requested in the event that human remains or artifacts were encountered that fall under NAGPRA guidelines. A plan for ongoing consultation was requested as well as pursuit of cooperating agency agreements with affected tribes. Objections were raised to any process that would defer consultation until the future after approval of a project.

In general, it was suggested that more in-depth interviews and oral histories be conducted to gather tribes' concerns and learn how the landscapes were used. A comment was received that future consultation on the Solar PEIS cannot be limited to tribes that commented on the Draft Solar PEIS. One commentor expressed concern that the pre-application process did not include cultural resources consultation. It was recommended that consultation cover all aspects of mitigation, including curation of any recovered materials and how and where recovered materials are to be maintained. One commentor does not believe that tribal comments from previous projects in the area are relevant to the Solar PEIS and thinks that those comments should not be mentioned in the PEIS text. Several tribes requested notification of any activities occurring near their lands. The Hopi Tribe supported the other tribes that discussed connectedness of sites and the surrounding lands and landscape and stated that minimizing adverse effects on important heritage resources could be accomplished only through consultation.

Response: In response to concerns over BLM tribal consultation practices, IM No. 2012-032, "Native American Consultation and Section 106 Compliance for the Solar Energy Program Described in Solar Programmatic Environmental Impact Statement," was issued in December 2011 to improve tribal consultation procedures for the solar program. The BLM will consult with federally recognized Indian tribes early in the planning process to identify issues and areas of concern regarding any proposed solar energy project. Such consultation is required by NHPA and other authorities and is necessary to determine whether construction and operation of a project is likely to disturb traditional cultural properties or sacred sites, impede access to culturally important locations, disrupt traditional cultural practices, affect movements of animals important to tribes, or visually affect culturally important landscapes. Such consultation shall cover planning, construction, operation, and reclamation activities. The BLM will work with tribes during consultations to establish reasonable schedules for their input on important projects, recognizing their limited resources and the time necessary to thoroughly review a project. Agreements or understandings reached with tribes shall be carried out in accordance with the terms of MOAs or State-Specific Agreements as defined within the Solar PA. The BLM will also consult with Indian tribes under the terms of NAGPRA. Any Historic Properties Treatment or Mitigation Plans, including future disposition of recovered materials, will take such consultations into account. Consultation will continue beyond the ROD for this Solar PEIS.

BLM IM No. 2011-061, "Solar and Wind Energy Applications—Pre-application and Screening," issued February 2011, describes the pre-application and screening procedures required for solar and wind energy applications. Agency policy requires at least two pre-application meetings with the applicant. Their purpose includes the identification of needed cultural resource studies. Tribes will be asked to participate. Screening criteria encourage

responsible BLM line officers to prioritize the processing of applications for areas with the lowest potential for conflicts, including cultural resource concerns.

Appendix K summarizes the tribal consultation efforts undertaken by the BLM throughout the development of the Solar PEIS. Consultation efforts were not restricted to tribes that commented on the Draft Solar PEIS.

3.15.19.7 Ethnographic Studies

Summary: The issue was raised that potential negative impacts on traditional cultural landscapes were not assessed because ethnographic studies were not completed. Several commentors requested that ethnographic studies be conducted early in the process and that they be required for all future projects. It was also suggested that more in-depth interviews and oral histories should be conducted to gather tribes' concerns and learn how the landscapes were used.

Response: Ethnographic studies were completed for several SEZs in Nevada and Utah, and the results were incorporated into the Final Solar PEIS. The completed ethnographic report is available in its entirety on the project Web site (http://solarpeis.anl.gov). Additional cultural and ethnographic work is being conducted for the SEZs in Colorado, as indicated in the Colorado SEZ sections of this Final Solar PEIS. As money becomes available, it is possible that additional ethnographic studies could be funded within the remaining SEZs in the future.

For future applications, government-to-government and project-specific consultations with tribal staff usually provide adequate opportunities for tribes to identify traditional cultural properties or sacred sites. However, there may be times when responsible line officers need new ethnographic research to adequately consider the effects of solar development on issues and resources of concerns to tribes. BLM Field Office cultural staff, including specialists assigned to Renewable Energy Coordination Offices where present, in consultation with their Deputy Preservation Officer, will recommend to responsible BLM line officers whether new ethnographic data are required for a given solar application. Should new ethnographic research, studies or interviews be judged as necessary, the BLM cultural staff, in consultation with tribal officials, will recommend to BLM line officers the appropriate scope of the study, as well as provisions for safeguarding data confidentiality if requested by the tribe.

3.15.19.8 Requested Corrections to Analysis for Native American Concerns

Summary: Several comments contained background information that may be relevant for the Solar PEIS and/or corrections to information presented in the Draft Solar PEIS.

Response: New information and corrections presented in comments that could be verified were incorporated into the Final Solar PEIS.

One comment requested correction of the distances between tribes and SEZs. To clarify, what is presented in the Draft Solar PEIS text is a description of the SEZs relative to the nearest

tribal land claims (judicially established as traditional tribal territory), as defined by the Indian Claims Commission, and an affected environment background establishing the affected tribes in the region for consultation purposes and has no direct bearing on the impact analysis of important landscapes and resources that could be affected by development in the SEZ. No assumptions were made in the impact analysis limiting a tribe's concerns to a bounded area; cultural landscapes are considered to the extent they have been made known to the BLM that they are significant through comments, consultation, and previous ethnographic studies. Distances to prominent features are also presented throughout the Solar PEIS to assist the reader in independently verifying the potential for visual impacts on these important places.

3.15.19.9 Other Native American Concerns

Summary: Generalized concerns were expressed over impacts on water availability, water quality, and water rights; impacts on lands and realty; air quality impacts; dust effects on wildlife, impacts on wildlife migration pathways and on wildlife of cultural significance, like bighorn sheep and desert tortoise; and impacts on low-income minority tribal reservations and environmental justice. Specific concerns were raised about ricegrass fields, sagebrush, wolfberries, and other plants if the tribes would be unable to access developed areas to gather the plants required for medicine, ceremonies, and food. There were comments on how the BLM should avoid controversial zones and corridors by bringing projects to tribes to develop on their reservations for employment and economic development. It was thought that several tribes in the region should have been considered and interviewed to gather their concerns and that the environmental justice analysis should include economic, cultural, spiritual, and other changes that can have an adverse effect on tribal populations. Additional comments included a request for the new visual resources inventory data for the BLM field offices in Nevada.

Response: More detailed responses to all of these comments can be found under the specific topic area (e.g., water resources, air quality, wildlife, and so on). The availability of water resources must be discussed within individual solar projects' Plans of Development for review by BLM staff. The BLM intends to critically evaluate the availability of water to meet proposed solar uses described in each application. As part of the pre-application process, all applicants must demonstrate that their proposed project will minimize impacts on water resources and not impair other reserved water rights. Plans of Development will be shared with the public and affected tribes as part of consultation efforts. During pre-application meetings, tribal officials will be asked to consult about a variety of issues of concern to the tribes, including potential effects of development on tribal water resources. Specific concerns over traditional plants, like ricegrass fields and mesquite groves, were incorporated into the text based on results of an ethnographic study conducted in support of the Solar PEIS covering some SEZs in Nevada and Utah. The completed ethnographic report is available in its entirety on the project Web site (http://solareis.anl.gov). Where applicable, SEZ-specific design features were added to the text to address the mitigation of impacts on traditional species.

Consultation with tribes regarding all these topics will continue to occur prior to approval of solar energy development projects under BLM No. 2012-032 "Native American Consultation

and Section 106 Compliance for the Solar Energy Program Described in Solar Programmatic Environmental Statement," and in accordance with the Solar PA.

3.15.19.10 Policy Related to Native American Concerns

Summary: Tribes expressed concern that the Class L (Limited Use) lands were included in the development lands in the CDCA and utility-scale development is not compatible with the reason behind the designation of those lands by Congress. Several commentors noted that there is no legal mandate for utility-scale energy development on public lands, and the administration should not allocate public land resources without congressional approval; the CDCA has its own legal mandate. There was concern that opening up too much land for utility-scale solar energy development will result in the same problems and inefficiencies as the BLM has under existing policies and procedures, exemplified by the amount of public lands identified as appropriate for development that includes traditional territory of the tribes and contains resources that are clearly not appropriate for development. It was suggested that the BLM wait on approving any additional active applications until the Solar Energy Program is in place. Concern was raised about the ability to review and track applications without LR2000 available online since the BLM State Office was too far to travel to for the tribe. It was questioned why Bureau of Indian Affairs was not a cooperating agency. One commentor expressed concern that a county, as a cooperating agency, could speak on behalf of the tribes, which are not cooperating agencies, just because the reservation was in that county. There was some general acknowledgment that solar is preferred over fossil fuels and nuclear power, but that distributed generation should be the focus of U.S. energy policy, not utility-scale, and that just because it is *clean* does not mean it is *green*. A suggestion was made to coordinate BLM's planning with EPA's Repowering America's land: Siting Renewable Energy on Potentially Contaminated Land and Mine Sites. A comment was made about paying landowners for using their lands and the tribes may come forward with some of their land.

Response: Responses to these comments from tribes can be found in the following categories: Policy: California Desert Protection Act and Plan; and Native American Concerns, Tribal Lands.

3.15.19.11 Tribal Lands

Summary: Comments stated a concern that the Draft Solar PEIS did not treat tribes as sovereign nations relative to renewable energy portfolio requirements as a driver for allocating solar project demand. The commentors also stated the opinion that the Draft Solar PEIS did not consider 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 . The EPA encouraged the BLM and the DOE to identify disturbed, degraded, and contaminated sites on tribal lands that could be suitable for large-scale solar energy development.

Response: The BLM has clearly stated the role of tribes in the authorization process outlined in Chapter 2 of this Final Solar PEIS. The presence of solar energy development or zones on tribal lands will be considered in the process of identifying the need for new SEZs (see SEZ Identification Protocol, Section A.2.6 of Appendix A). Consideration of disturbed, degraded, and contaminated lands and the ability to coordinate development with nonfederal land owners has been included in both the variance process and the SEZ Identification Protocol. Tribal consultation will continue as solar energy development on BLM-administered lands continues.

3.15.20 Socioeconomics

3.15.20.1 Local Economic Benefits

Summary: These comments addressed local economic development benefits, such as support for long-term, well-paid jobs for local craft workers in local communities, the need to analyze smaller scale projects, and general support.

Response: While the purpose of the socioeconomic assessment in the Solar PEIS is to estimate the impacts of the complete build-out of available acreage at each SEZ location on the region-of-influence (ROI) surrounding it, in order to provide a conservative estimate of these impacts, it was assumed that more than one project could be constructed simultaneously. It may well be the case, however, that construction of individual solar projects only overlap or they may be constructed consecutively, meaning that, although employment at individual projects could be relatively short term, given the construction timelines, employment may be possible on multiple projects over a longer time horizon when multiple projects are built at any given SEZ. Although smaller scale projects may result from the development of portions of proposed SEZ acreage, especially at larger SEZ locations, the purpose of the Solar PEIS was to consider impacts of build-out at each SEZ, rather than impacts of locally distributed solar development off BLM land.

Solar development projects are likely to create significant direct construction employment benefits for residents in communities in the ROI at each SEZ. Based on data from a number of existing sites with a range of solar technologies, construction jobs are likely to produce annual incomes that are, for many of the ROIs, significantly higher than current average annual incomes. As the higher-than-average wages and salaries of direct employees are spent in each ROI, indirect jobs will be created throughout the economies in which each SEZ is located. Additional employment and incomes will also be generated through the procurement of goods, materials, equipment, and services within each ROI during the construction phase of each project.

Revenues from ROW authorizations on the public lands, including solar energy ROW authorizations, are deposited in the General Fund of the Treasury. There is no authority under FLPMA or other laws that provides for any other distribution of revenues to state or local

governments. Special legislation would be required to provide for any other distribution of revenues.

The BLM has identified programmatic design features intended to minimize and/or mitigate potential negative socioeconomic impacts in local communities. Such design features could include training programs to ensure that the employment of a local labor force in the construction and operation of solar projects is as large as possible, particularly at the more rural SEZ locations, where there may few potential employees in the required construction occupations, given the economic profile of ROIs at rural locations, where agriculture, mining and services may be largest current employing sectors. To the extent that local labor resources and vendors can be utilized on solar projects during both construction and operation, solar developments could contribute to reducing unemployment that may have resulted from national recession, or declining demand for the products of ROI sectors traditionally providing significant local employment opportunities.

Although the BLM may be able to encourage the implementation of accepted labor standards and practices and the use of vendors within the ROI as much as possible, given that all solar development projects covered in the Solar PEIS would be built by private developers, it may not be possible for the BLM to provide more than general guidance in this respect. Labor agreements between individual developers and trade councils and unions at existing solar sites could be used to predict arrangements that might occur at the project-specific level, and the extent to which ROI vendors are used. These decisions would be part of the review process conducted in additional NEPA analyses. While requiring project developers to undertake preferential hiring of residents and to use vendors within the county or state where a solar energy project is proposed are attractive as a means of addressing the project's socioeconomic impacts, these requirements would likely be held to violate the interstate commerce clause.

Analysis undertaken for the Solar PEIS indicates direct and indirect employment growth associated with development of solar facilities is unlikely to lead to development on a scale likely to precipitate a “boom-bust” economic development trajectory at the majority of SEZ ROIs. Proposed solar development projects in many of the more rural locations are relatively small compared to proposed solar capacity at SEZs closer to larger urban areas, meaning that the scale of the impact on the economies of each ROI is also relatively small. Direct and indirect employment growth for the trough technology, the most labor-intensive technology analyzed, would be less than 10% of the forecasted baseline level of employment in the peak year of construction in all but one of the ROIs, and would be less than 5% in the majority of ROIs. In addition, the short-term nature of construction, solar development projects in most ROIs are unlikely to lead to significant expansion in local economic infrastructure, with firms likely to prefer to use existing labor resources working overtime, rather than expand production capacity and hire and train additional employees. Moreover, in the more rural SEZ locations, much of the required equipment and services would be procured outside the ROI at each SEZ.

In addition to the analyses of economic impacts included in the Solar PEIS, additional analyses of impacts would be included as part of the site-specific NEPA review process conducted for individual solar projects. Part of the process of performing additional environmental and socioeconomic analyses could be an assessment of the impacts of

smaller-scale projects and a phased approach to development. However, as the scale of development at each SEZ is likely to driven primarily by market factors, in particular the financial viability of projects of specific capacities, the involvement of the BLM in this aspect of solar development, and the extent to which subsequent NEPA analysis might consider a range of proposed capacity level and development timelines, is likely to be limited.

3.15.20.2 Socioeconomic Impacts on Local Government

Summary: These comments addressed potential impacts on local governments from solar development, such as benefits, mitigation agreements, planning, revenue sharing, payment in lieu of taxes (PILT), infrastructure upgrades, and a phased approach to avoid "boom-bust" cycles.

Response: The Solar PEIS estimates the impacts of proposed solar development projects on local governments within the ROI surrounding each SEZ through the estimation of impacts on local government and educational employment. The number of additional employees in both categories is calculated by using estimates of the number of in-migrants arriving in each ROI at the in the peak year of construction and in the first year of operations, based on existing levels of service provision (number of employees per 1,000 population) for jurisdictions within each ROI. The impact of solar development projects on property tax revenues from mitigation lands was not addressed in the analysis undertaken for the PEIS, because the characteristics and location of these lands are not known. Beyond the analyses of fiscal impacts included in the PEIS, additional analyses of impacts would be included as part of the site-specific NEPA review process conducted for individual proposed solar projects, including the magnitude and timing of impacts on specific jurisdictions, the extent to which mitigation lands would be required, and the impacts of their loss on property tax revenues.

The development of large energy-related projects can, as has happened in the past, lead to the rapid expansion, followed by equally rapid contraction in economic activity, leading to "boom-bust" socioeconomic impacts. Given the rural nature of many of the proposed SEZ locations, which limits the number of locally available workers and the number in range of occupations required, it is likely that a large proportion of solar construction workers would temporarily locate in the ROI at each SEZ. The timing and magnitude of in-migration may mean that local jurisdictions would be unable to adequately plan and fund infrastructure, public services, and educational services to immediately cope with increases in service demand. There may also be housing market impacts if insufficient public infrastructure is in place to support sufficient private housing development. Local expansion in infrastructure and service provision might then be quickly followed by potential overprovision of infrastructure and services, leaving the remaining population burdened with a high tax bill to maintain the new level of provision. The influx of large numbers of in-migrants could also lead to ongoing social impacts associated with the transition from small community societies with traditional rural values, to larger communities with urban values, often requiring a higher level of social and educational service provision, and a larger supporting tax base. The extent to which social disruption impacts occur would be partly a result of the number of in-migrants, and partly as a result of the extent of differences between the social and cultural values of in-migrants and those of the local

population. Because the nature and magnitude of these impacts are difficult to estimate, no mitigation measures are offered. Additional analyses of potential social impacts would be included as part of the site-specific NEPA review process conducted for individual proposed solar projects.

Analysis undertaken for the Solar PEIS indicates that population and direct and indirect employment growth associated with development of solar facilities is unlikely to lead to development on the scale required to precipitate a "boom" and then a "bust." Population and employment growth were less than 5% of the forecasted baseline level of employment in each ROI in the peak year of construction in all the SEZs and less than 2% in the majority of the ROIs. With relatively low rates of in-migration, it is also unlikely that social impacts, including alcoholism, depression, suicide, social conflict, divorce, and delinquency would occur and would not, therefore, require mitigation.

Revenues from ROW authorizations on the public lands, including solar energy ROW authorizations, are deposited in the General Fund of the Treasury. There is no authority under FLPMA or other laws that provides for any other distribution of revenues to state or local governments. Special legislation would be required to provide for any other distribution of revenues.

Although it is unlikely that the BLM would be able to require individual solar developers to enter into mitigation agreements with local jurisdictions affected by solar development, there are likely to be significant tax revenue benefits through rental and capacity payments that would be made to the BLM by solar developers. Much of the revenues collected by the BLM from these sources would be distributed to local jurisdictions affected by solar development, which use them to provide additional services and infrastructure for local community increases in population. In addition to the analyses of fiscal impacts included in the Solar PEIS, other analyses of impacts would be included as part of the site-specific NEPA review process that would be conducted for individual proposed solar projects, and might provide information on the magnitude and timing of impacts on local government service provision and employment and on housing, specific infrastructure and services, such as regional water providers. Such a review may also include a variety of additional socioeconomic mitigation measures and revenue sources available to the BLM and local jurisdictions, such as PILT, leasing versus ROW designation, revenue sharing, making it possible for individual jurisdictions to develop more detailed expenditure plans to cope with population increases. Because the nature of specific mitigation measures developed at the project specific level was beyond the scope of the Solar PEIS, none were included in the set of design features developed for this part of the NEPA review. Additional NEPA analyses would also address the issue of the impacts of infrastructure upgrades and interconnections on transmission system reliability and on the amount of private land that would be required for individual solar projects.

While the purpose of the socioeconomic assessment in the Solar PEIS is to estimate the impacts of the complete build-out of available acreage at each SEZ location on the ROI surrounding it, in order to provide a conservative estimate of these impacts it was assumed that more than one project could be constructed simultaneously. It may well be the case, however, that construction of individual solar projects only overlap or that projects may even be

constructed consecutively, meaning that although the impacts on local government of individual projects could be relatively short term, given the construction timelines, multiple projects may be constructed over a longer time horizon at any given SEZ, making it possible to plan for a slower, more sustained increase in population, rather than larger increases followed by sharper decreases.

To the extent that there is a relationship between the scale and pace of proposed development and anticipated adverse socioeconomic impacts, controlling the pace of development "to minimize rapid, disruptive social change" is recognized as an appropriate mitigation measure in BLM's *National Environmental Policy Act Handbook*:

> "Socioeconomic impacts are usually indirect and largely fall on communities and local government institutions, by definition located outside BLM-managed lands. While some mitigation strategies are within the BLM's control, (such as regulating the pace of mineral exploration and development to minimize rapid, disruptive social change), most mitigation strategies require action by other government entities . . ." (*NEPA Handbook*, H-1790-1, Section 6.8.4, page 62, 2008).

Although the transportation mode(s) used to deliver materials, equipment, and supplies to each SEZ was not analyzed, the impacts of solar construction and operation on sales taxes arising from the procurement of and services assume that sales taxes on materials and equipment purchased in each ROI would be paid to the state in which each SEZ is located. While sales taxes are often distributed to local jurisdictions on the basis of local share of state population, given that the analysis undertaken for the Solar PEIS was intended to provide an overview of the impacts that might be expected, an analysis of the distribution of solar-generated sales tax revenues to individual jurisdictions in the ROI around each SEZ was not undertaken. Because some portion of materials and equipment would be purchased outside each ROI, the value of sales taxes generated in each ROI would be less than if all capital items were purchased locally.

Individual solar projects would be subject to additional analyses, including the timing and sources of funding for local jurisdictions to support the additional growth in expenditure and employment likely with solar developments, and the impact of changes in personal and property taxes.

3.15.20.3 Socioeconomic Impacts of Road Construction

Summary: Some comments addressed concerns over road construction impacts and the analytical assumptions used in the Solar PEIS to evaluate them.

Response: The analysis undertaken for the Solar PEIS assumes that all access roads constructed at each SEZ would be new construction, not upgraded existing roads, and that access roads would be paved. The analysis assumes that these roads would be maintained by the appropriate state or county jurisdictions and provides data on the impacts on local public service employment that would occur, some of which result from an expansion in the responsibilities of local and state bodies with respect to road maintenance assumed in the analysis. Assumptions on

expenditures per mile that would be expected with the construction of new, paved access roads were based on Arkansas Highways (http://www.arkansashighways.com/roadway_design_division/Cost_per_Mile_JULY_2009.pdf).

Impacts presented in the Solar PEIS are based on estimates of the road lengths that would be required to connect an SEZ to the existing road network and include both direct and indirect impacts of construction and maintenance. Because the impacts of access road maintenance presented in the Solar PEIS would not vary significantly depending on the identity of the responsible jurisdiction, the possibility that individual solar developers could provide payments to local jurisdictions to support access road maintenance, or that solar developers maintain access roads themselves, does not significantly affect the impacts presented and is not included in the analysis undertaken for the Solar PEIS.

In addition to the analyses of transportation impacts included in the Solar PEIS, other analyses of impacts would be included as part of the site-specific NEPA review process conducted for individual solar projects when specific project size and location and resulting transportation needs are known.

3.15.20.4 Socioeconomic Impacts on Recreation

Summary: Commentors addressed recreational impacts, including the analytical assumptions used for the Solar PEIS analyses, the time horizon assumed for impacts, planning, compensation, and mitigation.

Response: The economic baseline established for recreational activities in each ROI identifies a number of sectors in which recreational expenditures would occur, including sporting goods retailers, automotive rental, hotels, recreational vehicle parks, campsites, and restaurants.

Although the location of each SEZ was chosen in order to avoid recreational lands being used for solar development, it is accepted that recreational activities in the vicinity of each SEZ could be affected by solar development, in particular if the visibility of solar developments from important recreational facilities or resources affects hiking, wildlife watching, camping, and other activities.

A significant problem in the assessment of impacts of large solar facilities on recreation lies in the measurement of recreational visitation, especially visitation related to specific recreational activities, and the extent to which individual activities are affected by aspects of solar development, by changes in the visual environment with respect to solar facilities and related infrastructure, such as transmission lines and increases in traffic, and by changes in the overall level of local economic development, property values, and quality of life. Moreover, visitation rates associated with various recreational activities, such as OHV use, bird-watching, hiking, and so forth is often not measured, especially if there is no specific market transaction, such payment of camping fees, even though there may be significant associated expenditure on accommodations, gasoline, and vehicle and equipment rentals.

Comparison of the results of the IMPLAN model in the Solar PEIS, which assesses the impacts of SEZ development on all recreational resources within each ROI, where there are no accurate visitation data for all recreational activities, with the results of the NPS Money Generation Model for Joshua Tree National Park, where visitation and expenditure data are available, would yield only a partial assessment of overall impacts of solar development on recreation and was not therefore undertaken for the Solar PEIS.

The Solar PEIS acknowledges that the influx of large numbers of in-migrants can lead to ongoing social impacts associated with the transition from small community societies with traditional rural values, to larger communities with urban values, which may fundamentally affect quality of life in small rural communities. Section 5.18 of the Draft Solar PEIS provides an analysis of the literature discussing the nature of these impacts.

In addition to the analyses of recreation-related impacts included in the Solar PEIS, other analyses of impacts would be included as part of the site-specific NEPA review process conducted for individual solar projects when specific project size and location and resulting recreational impacts can be more specifically identified.

3.15.20.5 Assumptions, Models, and Data Used for Socioeconomic Analyses

Summary: Commentors addressed assumptions, models, and data used for the analyses, including the IMPLAN model, ROI specifications, inclusion of the latest economic data, and local and state tax rates.

Response: To capture a large proportion of impacts that would occur at each SEZ, an ROI was established, including counties with urban areas in which solar construction and operations workers were most likely to live and spend their wages and salaries, and in which in-migrating workers were most likely to temporarily, in the case of construction workers, or permanently, in the case of operations workers, reside. Because a number of SEZs were located fairly close to larger metropolitan areas, Las Vegas for example, and even though longer daily commuting trips were assumed, it was likely that these areas would offer more housing, public service, education, and retail choices to higher paid construction workers than would areas closer to each SEZ, the counties in which relevant larger metropolitan areas are located were included in the analysis.

When a county that includes larger metropolitan area is included in an ROI for an SEZ, the consequently larger labor pool would mean that fewer workers would likely in-migrate into the ROI during construction and operation. Some more specialized workers would still be required to move into the ROI from elsewhere, however, regardless of local unemployment rates. The overall size of the ROI economy would also mean larger available overall ROI production capacity; the greater likelihood that the various sectors needed to produce equipment, materials, and services required for solar development would be present in the ROI; less spending associated with solar development would be made outside the ROI, producing larger impacts than if only the county in which the SEZ is located were included in the ROI.

Appendix M of the Draft Solar PEIS discusses the drawbacks of the IMPLAN model, in particular, that it cannot measure inflation and supply shortages if local sectors and labor resources cannot provide sufficient output and labor hours to support a particular project. However, the analysis undertaken for the Solar PEIS assumes the importation of major capital items at all SEZs based on the location of existing solar equipment vendors, and the in-migration of workers in many of the occupations that would be required, based on existing data for solar construction projects. Another drawback of the IMPLAN model is the absence of any allowance for technical change and its impact on future changes in the economic structure of the ROI around each SEZ. The Solar PEIS assumes that because the majority of the ROI economies are growing fairly slowly, some have almost static growth rates, and many rely on a small number of traditional industries, such as agriculture, mining, and services, in which it is reasonable to assume that any technical change likely to occur will not fundamentally affect output and employment, and with little movement of industries and firms in and out of the ROI, the economic structure of each ROI during construction and operation of solar projects would be similar that in the IMPLAN model for each ROI.

The economic baseline for each ROI used data current in August 2010. Many of the data sources used are updated annually and sometimes monthly. However, it is not the case that the impacts of construction and operation of solar facilities at each SEZ will change significantly with more recent baseline data, only the magnitude of the impacts compared to the forecasted baseline for the relevant peak construction year and first year of operations, forecasts that would use more recent data than those presently included in the Solar PEIS.

The number of in-migrating workers is only partly based on prevailing unemployment rates; the extent of availability of labor in the various occupational groups needed for the construction and operation of solar facilities is also taken into account in estimating the extent of in-migration into each ROI.

3.15.20.6 Property Values

Summary: Commentors expressed concern about potential loss of property value on adjacent private land and changes in quality of life.

Response: While solar development of public land could affect property values on adjacent land and in communities in the vicinity of solar development projects and associated infrastructure, such as transmission lines, quantifying the extent and timing of property value impacts is problematic due to the relatively small number property sales in rural areas. Housing and land sales in small rural communities and surrounding areas are relatively infrequent, making it difficult to establish the value of adjacent land or property in communities in the vicinity of public lands used for development, before and after land has been included in an SEZ, before and after construction has begun, and before and after operation of solar facilities has started. Accordingly, Section 5.17 of the Draft Solar PEIS presents evidence impacts on property values of a range of energy and other facilities for which sufficient property sales data have been available to provide a qualitative assessment of the potential impacts of solar development. Assessment of the potential for changes in the quality of life in communities in the vicinity of

potential solar development projects are also subject to data constraints. Such survey data, obtained through telephone or mail questionnaires or through community focus groups, would have to be collected before solar development projects occurred, during construction, during project operation, and after decommissioning had taken place.

Additional data on changes in property values and in quality of life would be included as practicable as part of the site-specific NEPA review process for individual solar projects. In addition, the long-term monitoring and adaptive management plan for the Solar Energy Program will likely include consideration of such factors in the vicinity of SEZs.

3.15.20.7 Socioeconomic Impacts on Historic and Cultural Resources and Ranching

Summary: Commentors expressed concern about loss of public access to historic and cultural resources and about impacts on ranching communities.

Response: The construction and operation of solar facilities and related infrastructure, such as transmission lines, may produce changes in the visual environment in communities in the vicinity of solar development projects; changes in the quality of life, resulting from increases in traffic and in-migration of population from other areas of the country; changes in traditional community values; declining property values; and overall changes in the level of local economic development. Significant population growth in small rural communities could lead to alcoholism, depression, suicide, social conflict, divorce, and delinquency.

Assessment of the potential for impacts on the quality of life in communities in the vicinity of potential solar development projects is subject to data constraints. Such survey data, obtained through telephone or mail questionnaires or through community focus groups could be collected as appropriate before development of individual solar projects began, during construction, during project operation, and after decommissioning had taken place.

In addition to the analyses of environmental, social, and economic impacts included in the Solar PEIS, other analyses of impacts would be included as part of the site-specific NEPA review process that would be conducted for individual solar projects.

3.15.20.8 Socioeconomic Impacts on Grazing

Summary: Comments expressed concern about the loss of grazing land without compensation due to solar energy development.

Response: The Solar PEIS includes an analysis of the impact of the loss of AUMs, in terms of the impact both on direct cattle and ranching employment and on AUM fees. However, with insufficient data available on the contingency plans of individual ranchers in the event of loss of AUMs, specifically the extent to which AUM loss would lead to herd reduction or relocation, it was not possible to assess the impact of solar development on individual ranching operations, or to measure the consequent social impacts that might occur in the communities that

depend on them; only the overall impact on cattle and ranching employment and income in each ROI was assessed. In addition, although data on the value of range improvements and loss of water rights were not available, it is reasonable to assume that the number of AUMs present on a parcel of land reflects the value of improvements, and water access, on that land. Estimates of the economic impact of the loss of grazing rights and related AUMs therefore reflect the loss of these aspects of specific land parcels.

The BLM will coordinate with any potentially affected grazing permittee/lessee to discuss how a proposed solar project may affect grazing operations and to address possible alternatives as well as mitigation and compensation strategies. Analysis of impacts on grazing would be included, as applicable, as part of the site-specific NEPA review process for individual solar projects. In addition, the long-term monitoring and adaptive management plan for the Solar Energy Program will likely include consideration of such social and economic factors in the vicinity of SEZs.

3.15.20.9 Design Features for Socioeconomic Impacts

Summary: Comments suggested that the difference between socioeconomic and environmental justice design features should be clarified and stated that programmatic design features addressing impacts on housing, employment, local government expenditures, and social disruption should be included.

Response: The proposed design features included in the Solar PEIS to address socioeconomics and environmental justice concerns are similar for a number of reasons. It is unlikely that there would be significant impacts resulting from the construction and operation of solar facilities at any of the SEZs for the resources evaluated. Moreover, at the majority of the SEZs evaluated in the Solar PEIS, there are no environmental justice populations as defined by Council on Environmental Quality Guidelines, that is, where the number of minority and/or low-income individuals exceed specified thresholds, meaning that any adverse impacts that were to occur would affect the population as a whole, rather than environmental justice populations specifically. Accordingly, the proposed design features are intended to address aspects of solar development that do not specifically affect environmental justice populations, such as economic, social, and fiscal monitoring programs, workforce education and training, information programs, and health screenings.

Assessments of the potential for social impacts, in particular increases in alcoholism, depression, suicide, social conflict, divorce, and delinquency in small rural communities, and impacts on the quality of life in the vicinity of potential solar developments are subject to data constraints. Such survey data, obtained through telephone or mail questionnaires, or through community focus groups, would have to be collected before solar developments occurred, during construction, during project operation, and after decommissioning had taken place. If subsequent NEPA analysis at the project-specific level reveals that population increases in excess of 5 to 10% in the peak year of construction would occur with in-migration from outside an ROI, additional analyses of the likelihood of social impacts and impacts on quality of life could be

undertaken and appropriate minimization and/or mitigation strategies identified. Design features that include these impacts at a programmatic level have been included in the Solar PEIS.

3.15.20.10 Economic Viability of Solar Projects

` **Summary:** Comments stated that a third party appraisal of costs should be required to assess the economic viability of solar projects.

Response: Requirements for due diligence by the BLM in assessing project viability prior to issuing a ROW are required for solar and wind applications under BLM IM No. 2011-060, "Solar and Wind Energy Applications—Due Diligence," and incorporated into the proposed Solar Energy Program in the Final Solar PEIS.

3.15.21 Environmental Justice

3.15.21.1 Impacts on Agriculture

Summary: Commentors expressed concern about potential adverse impacts on agriculture from solar energy development.

Response: Although a 50-mi (80-km) radius was used to examine the potential for impacts on low-income and minority communities, the BLM agrees that additional impacts may occur in specific industries that traditionally employ significant numbers of low-income and minority individuals, agriculture for example. Analysis undertaken for the Solar PEIS includes an analysis of the impact of the loss of cattle and ranching employment in each SEZ ROI, which often included an area beyond the 50-mi (80-km) area used for the environmental justice analysis. Without specific data on herd reduction or relocation, however, it was not possible to assess the impact of solar development on individual ranching operations or to measure the consequent social impacts in the communities, in particular low-income and minority individuals, which depend on them; only the overall impact on cattle and ranching employment and income in each ROI could be assessed.

The BLM will coordinate with any potentially affected grazing permittee/lessee to discuss how a proposed solar project may affect grazing operations and to address possible alternatives as well as mitigation and compensation strategies. Analysis of impacts on agriculture would be included, as applicable, as part of the site-specific NEPA review process for individual solar projects. In addition, the long-term monitoring and adaptive management plan for the Solar Energy Program will likely include consideration of such social and economic factors in the vicinity of SEZs.

3.15.21.2 Methods, Data, and Scope of Environmental Justice Analysis

Summary: Commentors requested that the Solar PEIS include SEZ and community-level analyses, analyses for tribal communities, as well as minority and low-income population threshold data.

Response: An important part of the analysis of the potential impacts of solar developments on low-income and minority communities is to establish the proximity of these communities to solar development projects. Once proximity has been established, the extent of impacts that are high and adverse on individuals in low-income and minority communities can be established by considering how environmental pathways or social, cultural, and economic interactions at the state level, or within a 50-mi (80-km) area around each SEZ, could be affected by specific types of environmental or socioeconomic impacts of solar projects. The Solar PEIS establishes a basis for the examination of these impacts and provides design features that may be implemented to mitigate some or all of these impacts. Subsequent project-specific NEPA assessments of individual solar projects would consider in more detail the precise nature and magnitude of these impacts, and establish a set of mitigation procedures.

Analysis of potential environment justice issues in the Solar PEIS assesses the distribution of low-income and minority population groups, laying out both the broad, state-level context for decision making and SEZ-specific analyses to investigate smaller scale impacts of solar energy development for a 50-mi (80-km) area around each SEZ, designed to capture the majority of impacts that would have environmental pathways affecting low-income or minority groups. Performing an environmental justice analysis at both of these scales (i.e., in Chapters 4 and 5 and the state-specific chapters) is an attempt to acknowledge that impacts may be felt at both the state and SEZ levels.

Under E.O. 12898, "Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations" (59 FR 7629), federal agencies have the responsibility to "identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The spirit of this policy—not a mechanical threshold—should guide any analysis of disproportional impact. Given that stipulation, using a quantitative threshold to determine impact is a useful and accepted tool for preparing environmental justice analyses. In its guidance accompanying E.O. 12898, CEQ proposes that:

> "Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis."

No specific definition of "meaningfully greater" is offered; instead it is meant to vary depending on the scale of the analysis and the level of expected impacts. Where adverse impacts appear to be negligible, it may be reasonable to set the threshold higher to avoid running through an environmental justice analysis that contributes nothing substantive to the understanding of

impacts. Conversely, where there is a reasonable chance of adverse effects, the threshold should be set lower to ensure that such effects on minority or other environmental justice groups are well documented. The PEIS finds that "impacts resulting from the construction and operation of solar facilities with the potential to affect low-income and minority populations are likely to be small," justifying an increased threshold for determining whether EJ communities exist in the affected area (pp. 5–250, lines 31–32). Despite this finding, the EIS acknowledges that demographics could change (particularly as the 2010 Census data are released) and proceeds to list potential impacts on environmental justice communities (pp. 5–250 to 5–251). This section and other sections also include applicable mitigation measures to address these impacts.

Finally, "the Solar PEIS will not eliminate the need for site-specific environmental review for future individual utility-scale solar energy development proposals. … The determination of the necessary level of additional NEPA analysis, however, would be made on a case-by-case basis at the time a solar energy project application was received." (See Section 1.3.5.1 of this Final Solar PEIS.)

3.15.21.3 Design Features for Environmental Justice

Summary: Comments suggested that the difference between socioeconomic and environmental justice design features should be clarified, and stated that programmatic and SEZ-specific design features addressing impacts on housing, employment, local government expenditures, and social disruption should be included in the Solar PEIS.

Response: The proposed design features included in the Solar PEIS to address socioeconomics and environmental justice are similar for a number of reasons. It is unlikely that there would be significant impacts resulting from the construction and operation of solar facilities at any of the SEZs for the resources evaluated. Moreover, at the majority of the SEZs evaluated in the Solar PEIS, there are no environmental justice populations, as defined by CEQ Guidelines, in which the number of minority and/or low-income individuals exceed specified thresholds; that is, any adverse impacts that were to occur would affect the population as a whole, rather than environmental justice populations specifically. Accordingly, the proposed design features are intended to address aspects of solar development that do not specifically affect environmental justice populations, such as economic, social, and fiscal monitoring programs, workforce education and training, information programs, and health screenings.

Design features that specifically address the impacts on, and the concerns of, individual minority and low-income communities, rather than impacts on and concerns of all population and income groups in affected communities as a whole, would be included as part of the site-specific NEPA review process that would be conducted for individual solar projects. Environmental justice design features (Section A.2.2.18 of Appendix A) include the option for the authorized officer to require project developers to establish vocational training programs "for the local low-income and minority workforce . . . to promote development of skills required by the solar energy industry." While requiring project developers to provide preferential hiring for residents of the county or state where a solar energy project is proposed may be an attractive

means of addressing the project's socioeconomic impacts, it is likely, however, that such a requirement would be held to violate the interstate commerce clause.

3.15.21.4 Project Scale Related to Environmental Justice

Summary: Commentors requested that an assessment of the environmental justice impacts of smaller scale projects in comparison to large projects be included.

Response: In addition to the analyses of economic impacts included in the Solar PEIS, additional analyses of economic impacts would be included as part of the site-specific NEPA review process that would be conducted for individual solar projects. Part of the process of performing additional environmental and socioeconomic analyses could be an assessment of the environmental justice impacts of smaller scale projects and a phased approach to development. However, as the scale of development at each SEZ is likely to be driven primarily by market factors, in particular the financial viability of projects of specific capacities, the involvement of the BLM in this aspect of solar development, and the extent to which subsequent NEPA analysis might consider a range of proposed capacity levels and development timelines, is likely to be limited.

3.15.22 Transportation

3.15.22.1 Transportation Access for Solar Facilities

Summary: Commentors noted that local permits and improvements to the local road network would be required to establish site access when a solar-powered generating facility is being developed. Coordination with local agencies is necessary, and some comments indicated the proper agency responsible for road improvements and maintenance at an SEZ-specific level. Concerns include the use of new roads rather than existing roads where possible to minimize environmental disturbance, in addition to the large volume of commuting worker vehicles anticipated during construction, as well as impacts from increased truck traffic. As part of the process, the impact on the existing road network would need to be assessed through traffic studies or similar analyses that evaluate the capability of the existing roads to handle the increased flow including larger and heavier trucks and that explore potential options to mitigate congestion, attendant traffic hazards, and environmental issues.

Response: Because of its programmatic nature, the Solar PEIS discusses the general impacts on transportation in the areas in which potential solar facilities could be located. Actual site access locations and the estimated impacts on the local transportation network will be considered at the time a specific solar facility is proposed. As noted in the comments, local, county, and/or state agencies would be involved in approving access to and potential improvements to the local roads as needed to minimize environmental disturbance and maintain safety and service levels. Text has been added to Section 5.19.1.1 on siting to emphasize that solar facility developers would need to coordinate with and obtain approval from local, county,

state, and federal agencies as appropriate when planning and siting access roads. Further, in preparing parcels in SEZs for competitive offer, the BLM will seek to make the most efficient use of existing roads and corridors and consider opportunities for shared use of infrastructure.

3.15.22.2 Infrastructure Costs

Summary: Concerns were raised about the costs to improve and maintain local, county, and state roads to support solar development. Most SEZs are in rural areas with limited budgets for the development and maintenance of the transportation infrastructure. Commentors would like to see suggested mitigations discussed in the Solar PEIS.

Response: It is expected that, as in any other construction project, the developer would be responsible for any modifications necessary to the local road network for site access. Modifications would be determined by local, county, and/or state transportation agencies based on the details of the proposed solar facility. Potential increased maintenance costs for the regional road infrastructure would primarily be anticipated for the near term from heavy use by commuting workers. Such costs may be offset over the long term by increased income taxes paid by workers and taxes on worker expenses in the local economy as well as taxes paid by the operating solar facility, as determined at the time of facility approval and permitting.

Potential economic impacts of solar facility development on recreation and tourism are discussed in Sections 5.17.1.1.1 and 5.17.1.1.3, respectively, of this Final Solar PEIS.

3.15.22.3 Impacts on Railroads

Summary: A number of the proposed SEZs are in close proximity to, or traversed by, railroad main lines. Railroads have a number of concerns about the impacts on railroad operations from solar energy development and operation. Concerns include the effect of glint and glare on a train crew's ability to see and respond to signals, increases in the number of private rail crossings, and compromises to emergency access to the railroad.

Response: The BLM and the DOE recognize the importance of properly siting a solar facility to minimize impacts from glint and glare. Text on the potential for glint and glare impacts on railroad operations and motorists on nearby roads was included in the update to Section 5.19.1.1 for the Final Solar PEIS. The consideration of glint and glare with respect to the local transportation network (air, road, and rail) is now specifically called out in the design features for transportation impacts (Section A.2.2.20 of Appendix A).

In the interest of safety, the BLM and local agencies responsible for the local transportation network would seek to minimize any potential rail crossings associated with new solar facility development. Emergency access in the case of a rail accident would also be a consideration. As part of the facility approval process, the BLM would be consulting with adjacent landowners and ROW holders to address any if their concerns about the facility location and design.

3.15.22.4 Transportation Network Fragmentation

Summary: The concern was expressed over the potential for local road network fragmentation due to the possibility for road segments, without a ROW designation, to be become part of a solar plant. Also, public roadway corridor easements through solar facilities to maintain the local road were seen as part of the proposed action rather than a mitigation measure.

Response: Solar developers will be required to address transportation issues such as network fragmentation to the satisfaction of BLM and state and local transportation agencies when a project is proposed. Local transportation agencies would be aware of routinely traveled roads, regardless of whether they have an official designation, and would take such considerations into account before granting any approvals or permits.

Mitigation measures are designed to be part of the proposed action, providing available options to address specific problems should they arise in the course of solar facility development or operation. Most of the mitigation measures discussed in Chapter 5 are presented as proposed programmatic design features in Section A.2.2 of Appendix A. Through the ROD for the Solar PEIS, these proposed design features will be required to be applied to all solar facility applications on BLM-administered lands as discussed in Section A.2.2 of Appendix A.

3.15.22.5 Transportation: Requested Text Revisions

Summary: Several comments noted corrections to the discussion of local road or rail networks.

Response: The proposed revisions to the text and figures were made in the document.

3.15.22.6 Environmental Impacts from New Routes and Increased Traffic

Summary: Concerns were expressed that new routes would allow increased human access and associated environmental damage (e.g., from OHV use). In addition, concerns over road congestion from commuting workers were expressed.

Response: As discussed in Section 5.19.1.2 of the Draft Solar PEIS, significant impacts in the form of road congestion from commuting workers could occur in the vicinity of local roads that provide solar facility site access. Since such impacts are directly related to the specific facility (e.g., location, type, and size), access road design and implementation would have to be addressed at the time of an application for a facility. In the case of more remote locations, local congestion problems could be addressed by the addition of exit lanes and/or multiple entrances.

The SEZs currently under consideration are generally within a mile or two of major U.S. or state highways. No significant new road construction is anticipated that would provide access to areas other than a proposed solar facility. In addition to the analyses of transportation-related impacts included in the Solar PEIS, other analyses of impacts would be included as part of the

site-specific NEPA review process conducted for individual solar projects when specific project size and location and resulting transportation impacts can be more specifically identified.

3.15.23 Health and Safety

3.15.23.1 General Health Concerns

Summary: These comments expressed concern for adverse health effects that could be associated with solar facilities, such as from metals or contaminants in soil that could become windborne and inhaled if the soils were disturbed, or from electromagnetic fields (EMF) associated with electricity generation and transmission.

Response: Solar facilities on BLM-administered lands will be required to implement extensive dust control measures and also will need to have health and safety plans addressing potential exposures, including to EMF, of both workers and the public (see Sections A.2.2.8.2, A.2.2.1.2.2, and A.2.2.22.1 of Appendix A).

3.15.23.2 Design Features for Health and Safety

Summary: One comment in this category expressed concern that the design features did not require a setback for parallel transmission lines or for transmission lines to cross tracks at a 90-degree angle; where transmission lines do not meet these requirements, electrical induction could occur, leading to safety issues and equipment or signal malfunction. A comment from a county stated that health risk assessment should be required only if stated to be needed by a local or state regulating agency. Another county stated that the design feature requiring fire breaks of sufficient size to remove the need for protective responses by fire organizations was not practical and required too much land. Finally, a commentor stated that a design feature to protect against exposure to Valley Fever should be included.

Response: No specific design feature was added for railroad ROWs; where applicable, railroad company concerns would be considered in preliminary meetings for applications in variance areas. The health risk assessment will be required for all solar facilities, but the complexity of the assessment will be appropriate to the health concerns identified for the specific facility. The wording of the design feature to prevent wildfires has been changed to recognize that the need for protective responses by fire organizations cannot be removed but may be reduced. A health and safety design feature was also modified to require that health and safety programs address reducing exposure to dusts in areas endemic to the Valley Fever fungus.

3.15.23.3 Safety and Risks from Terrorism

Summary: These comments expressed concern for the safety of workers and the general public, and stated that risks from terrorist attacks or natural disasters should be considered in the Solar PEIS.

Response: The health and safety aspects of solar energy projects were discussed in Section 3.6 of the Draft Solar PEIS. Solar facilities on BLM-administered lands will be required to implement health and safety plans addressing potential exposures, including to EMF, of both workers and the public (see Section A.2.2.22.1 of Appendix A). The risks from terrorist attacks and natural disasters are discussed in Section 5.21.3 of the Draft Solar PEIS.

3.15.23.4 Soil-borne Diseases Including Valley Fever

Summary: Commentors were concerned about the risks of increased exposure to the fungus that causes Valley Fever, if dusts containing the fungus would become airborne due to soil disturbance at solar facilities.

Response: For the Final Solar PEIS, a health and safety design feature has been modified to require that health and safety programs address reducing exposure to dusts in areas endemic to the Valley Fever fungus (see Section A.2.2.22.1 of Appendix A).

3.15.23.5 Glint and Glare Hazard

Summary: Commentors were concerned about the risks of eye injury from exposure to glint and glare at solar facilities.

Response: The technology-specific risks from glint and glare at solar facilities were discussed in Section 5.21.2 of the Draft Solar PEIS. Design features requiring control of glint and glare exposures are included in Section A.2.2.22 of Appendix A.

3.15.24 Cumulative Impact Assessment

3.15.24.1 General Comments on Cumulative Effects

Summary: Several commentors suggested that potential cumulative impacts on significant natural, historic, cultural, and visual resources should be outlined more thoroughly in the programmatic discussion of cumulative impacts in Section 6.5 of the Solar PEIS. Some commentors objected to the conclusion that cumulative effects on cultural resources are expected to be small “because of the relatively small fraction of land disturbed,” stating that sensitive areas should be identified and avoided and that trails and scenic byways could be affected by

solar infrastructure outside of SEZs. Concerns for effects on military training activities were also expressed.

Response: As described in the Final Solar PEIS, the BLM expects to make planning-level decisions through the Solar PEIS, such as land use designations and design features. The program elements adopted via planning-level decisions will provide the basis for future project-specific utility-scale solar energy development decisions. The Solar PEIS appropriately evaluates the potential direct, indirect, and cumulative environmental, social, and economic effects of establishing broad Solar Energy Program elements and strategies across the six-state study area. Because the proposed program involves environmental effects over a broad geographic and time horizon, the depth and detail of the impact analysis are fairly general, focusing on major impacts in a qualitative manner. Accordingly, the analysis of cumulative impacts on cultural and visual resources necessarily resorts to more gross comparisons and overviews of effects at the programmatic level.

The BLM proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address potential impacts—avoidance, minimization, and offset of unavoidable impacts. The BLM first employs avoidance and minimization strategies to eliminate or reduce potential adverse impacts. For those impacts that are not fully avoided or minimized, the BLM determines, in consultation with affected stakeholders, whether any measures to offset or mitigate adverse impacts would be appropriate. The analysis of cumulative effects assumes that micro-siting would avoid resources to the extent practicable and mitigations would be required design features. Similarly, linear resources such as National Historic Trails and scenic byways would be affected over relatively small segments of their lengths near the solar facilities, while associated linear facilities would be routed away from these resources if practicable. Contributions to cumulative effects on these resources are therefore expected to be small, which is to say they would occur but would not be expected to rise to a level of moderate or high.

Some of the concerns of the military regarding possible effects of solar facility and support infrastructure on military training operations were addressed in revisions to SEZ boundaries or elimination of SEZs since the issuance of the Draft Solar PEIS. Further, in preparing selected parcels for competitive offer, the BLM would review existing analysis for an SEZ and consider any new or changed circumstances that may affect the development of the SEZ. The BLM would also work with appropriate federal, state, and local agencies (including the DoD), and tribes, as necessary, to ensure that potential environmental, cultural, or other resource conflicts are considered into the review, including information provided through the Solar PEIS. This would include areas identified as having a high potential for conflict with sensitive natural, visual, or cultural resources. This work would ultimately inform how a parcel would be offered competitively (e.g., parcel size and configuration, technology limitations, mitigation requirements, and parcel-specific competitive process).

3.15.24.2 Adequacy of Cumulative Impact Analysis

Summary: A number of commentors took issue with the adequacy of the cumulative impacts analysis in the Draft Solar PEIS, stating that the Solar PEIS discussion in the Draft does

not present a meaningful, quantitative examination of the impacts of solar energy development at the landscape and regional level or in light of the other uses of the public lands, including for oil and gas, coal production, nuclear energy, renewable energy development, and electricity transmission systems, without analyzing how development of solar energy might increase, combine with, or exacerbate existing environmental impacts for those uses.

Response: As described in the Final Solar PEIS, the BLM expects to make planning-level decisions through the Solar PEIS, such as land use designations and design features. The program elements adopted via planning-level decisions will provide the basis for future project-specific utility-scale solar energy development decisions. The Solar PEIS appropriately evaluates the potential direct, indirect, and cumulative environmental, social, and economic effects of establishing broad Solar Energy Program elements and strategies across the six-state study area. Because the proposed program involves environmental effects over a broad geographic and time horizon, the depth and detail of the impact analysis are fairly general, focusing on major impacts in a qualitative manner.

The Solar PEIS reasonably enumerates and quantifies past and ongoing actions that affect the environment in Chapter 6 and in the individual SEZ chapters. However, given the high level of uncertainty in both the ultimate level of development and the locations of development, it would not be appropriate to speculate on the specific contributions of such development to cumulative impacts, but rather to make such assessments as to whether such contributions on the whole would be small, moderate, or large, as the Solar PEIS does. Thus, it is not possible at this time to perform a meaningful quantitative analysis of cumulative effects, for example, employing biological thresholds that could portent disproportionate effects. The level of cumulative effects analysis performed in the Solar PEIS is appropriate for the current level of understanding of foreseeable solar development and for informing the decision for which the analysis was performed.

Cumulative impact analyses have also been developed for individual SEZs as part of Chapters 8 through 13 of this Final Solar PEIS; these SEZ-specific assessments have been updated for this Final Solar PEIS. The SEZ-specific cumulative impact analyses evaluate the impacts of a maximum development scenario for each SEZ, regardless of the state-specific RFDS projections, at a level of detail suitable for supporting analyses of specific projects proposed within and near the SEZs.

3.15.24.3 Recreation and Vehicle Use and Cumulative Impacts

Summary: One group submitted several comments regarding concerns that multiple proposed renewable energy and conservation actions in the desert region of southern California currently undergoing NEPA review could cumulatively affect access to this area for recreation, including driving for sport, back country exploring, rock hounding, hunting, and other activities. In addition to the Solar PEIS, of particular concern was the ongoing DRECP activity, which could cumulatively restrict motorized recreation in the region.

Response: The existence of the other renewable energy management plans and conservation plans mentioned in these comments could have cumulative effects on access to lands for recreation. However, because these are planning activities for which specific effects of particular actions on access to recreation are uncertain at this time, it is not possible to make any definite conclusions as to cumulative effects on recreation. It is possible that the plans could provide mitigations for effects on recreation, for example, in areas not designated for renewable energy development. Further, note that the BLM's proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address potential impacts—avoidance, minimization, and offset of unavoidable impacts. The BLM first employs avoidance and minimization strategies to eliminate or reduce potential adverse impacts. For those impacts that are not fully avoided or minimized, the BLM determines, in consultation with affected stakeholders, whether any measures to offset or mitigate adverse impacts would be appropriate. It is expected that impacts on recreation will be given full consideration under this mitigation hierarchy.

3.15.24.4 Regional Industrialization

Summary: Two commentors expressed concerns that solar development could contribute to the overall conversion of formerly remote areas to industrialized areas, including the San Luis Valley in Colorado.

Response: The concerns expressed in these comments are well taken. Industrialization of regions is difficult to foresee and analyze, even at the programmatic level. Cumulative impacts analysis under NEPA, while comprehensive and overarching, is still limited to foreseeable actions and trends typically over a 20- to 30-yr timeframe, generally not long enough to foresee such major regional transformations.

3.15.24.5 Landscape-Scale Impact Analysis

Summary: Several commentors stated that the Draft Solar PEIS fails to analyze cumulative impact of solar development on a broad regional scale and at a landscape level, as would be required under CEQ guidelines. One commentor suggested that such analysis include assessment of the sustainability of full development of SEZs over 80% of their area. Another commentor expressed concerns that small solar projects in the San Luis Valley in Colorado be included in the analysis of that region, while another suggested that NEPA reviews of projects within the same geographic region be coordinated.

Response: The cumulative effects analysis performed in the SEZ chapters of the Solar PEIS did follow the CEQ guidelines as outlined in these comments, which may be considered a "landscape level" analysis. The geographic extent of the resources affected was determined generally as the continuous extent of the affected resource outside of the portion directly affected by the potential developments within an SEZ. Additional hydrologic analysis has been performed since the Draft Solar PEIS was issued to more completely address watershed boundaries. Ecological boundaries did in fact form the basis of the geographic extent of effects

on ecological resources in the SEZ analyses. In addition, cumulative effects were analyzed across the six-state region at the programmatic level in Chapter 6. Given the uncertainty of the nature and extent of development beyond the immediate future, it is not reasonable to conclude, for example, that the cumulative effects analysis for the Riverside East SEZ is inadequate, because it does not provide conclusive support for decisions on pending permit applications, or whether 80% SEZ development is sustainable.

While the Solar PEIS analyses certainly inform these decisions, the circumstances of individual future applications will form the basis of their application decisions. The question of the sustainable level of development for individual SEZs will be revealed over time as projects are completed and retired and as solar technologies evolve; SEZs would not be developed above a level that is sustainable. It is likely that for some SEZs such a level may be well below the 80% upper limit assumed in the Solar PEIS impacts analyses. For the cumulative effects of small-scale solar development projects in the San Luis Valley in Colorado, the SEZ analyses do include the effects of several small-scale PV facilities recently built or permitted, as well as other reasonably foreseeable such facilities. Regarding the issue of coordinating the NEPA reviews of multiple projects in the same region, other relevant NEPA documents were reviewed in the preparation of the Solar PEIS.

3.15.24.6 Water Issues for Cumulative Impacts

Summary: Several commentors stated that the analysis of cumulative impacts for SEZs in Draft Solar PEIS failed to include an analysis of the cumulative impacts on groundwater within flow systems and across states as a whole via a regional groundwater model, particularly concerning the availability of groundwater for solar projects and the impacts of groundwater withdrawals on special status species, wildlife, fish, and other resources. Commentors also stated that impacts on surface water flow systems, impacts on 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 were not adequately analyzed in the Draft Solar PEIS. One comment pointed out that full development of SEZs may be limited by the availability of water in some cases. Others expressed concerns about the cumulative effects of several SEZs located in the San Luis Valley in Colorado within the upper Rio Grande watershed.

Response: For groundwater flow systems, availability of groundwater for solar development and effects of water use on groundwater dependent species, the Solar PEIS does address all these issues in a qualitative manner. Such a level of analysis is appropriate given the high level of uncertainty in the eventual level of solar development, locations of facilities, and technologies used. Further uncertainties surround the availability of water rights or the conversion of water rights from other uses. However, in an effort to bound effects on groundwater flow effects, interbasin groundwater flow modeling has been performed in major aquifer systems since the Draft Solar PEIS was issued. The results of this modeling are presented in the Final Solar PEIS in Appendix O. With respect to the issue of increased competition for water, the cumulative impacts section of each SEZ chapter includes a discussion of water availability under general trends. Because of the high uncertainty of the availability of water rights, analysis of the effects of reallocation of water uses to solar energy production would be

speculative. For effects of water use on fish and other water-dependent species and habitat, these potential effects are analyzed in each SEZ chapter, under Cumulative Impacts on Resources: Wildlife and Aquatic Biota. These analyses are necessarily qualitative, given the uncertainty in any future drawdown of water supplies from solar development.

Other water issues noted in comments were in fact analyzed in the Draft Solar PEIS, including contributions to cumulative effects on water quality, sedimentation and runoff, drainage and surface hydrology effects, effects on floodplains, and potential for chemical contamination. Similarly, the general effects of climate change on water resources and flooding potential are assessed in each SEZ chapter. The comment that full SEZ build-out may not be feasible due to water limitations is acknowledged. Full build-out was assumed for analysis purposes only and is not a projection of future development. Regarding the potential effects on the upper Rio Grande watershed from multiple SEZs in the San Luis Valley, the Solar PEIS notes this condition and cites strict management of water resources under the Rio Grande Basin Act, which restricts total water use.

3.15.24.7 Desert Tortoise and Wildlife Cumulative Impact Analysis

Summary: For the desert tortoise, commentors stated that the BLM needs to determine the affected population size and to fully analyze the cumulative effects of fragmentation, as well as connectivity between desert tortoise genetic units and between desert tortoise conservation areas. They stated that a small number of solar projects could consume all mitigation land that might be available, and thus it may be impossible to mitigate impacts on the tortoise or other endangered species. For wildlife in general, commentors expressed concerns about whether the effects of solar development on wildlife from grazing mitigations would be analyzed; whether utility-scale solar energy development could have substantial effects on wildlife and ecosystem functionality and resilience; whether effects on endemic species associated with eolian systems such as sand dunes, particularly on the endemic Mojave fringe-toed lizard, would be analyzed; and whether impacts on biotic communities and species assemblages of multiple large scale developments along with other development pressures, such as population growth, be considered.

Response: As described in the Final Solar PEIS, the BLM expects to make planning-level decisions through the Solar PEIS, such as land use designations and design features. The program elements adopted via planning-level decisions will provide the basis for future project-specific utility-scale solar energy development decisions. The Solar PEIS appropriately evaluates the potential direct, indirect, and cumulative environmental, social, and economic effects of establishing broad Solar Energy Program elements and strategies across the six-state study area. Because the proposed program involves environmental effects over a broad geographic and time horizon, the depth and detail of the impact analysis are fairly general, focusing on major impacts in a qualitative manner.

Further, note that the BLM's proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address potential impacts—avoidance, minimization, and offset of unavoidable impacts. The BLM first employs avoidance and

minimization strategies to eliminate or reduce potential adverse impacts. For those impacts that are not fully avoided or minimized, the BLM determines, in consultation with affected stakeholders, whether any measures to offset or mitigate adverse impacts would be appropriate. It is expected that impacts on wildlife will be given full consideration under this mitigation hierarchy.

For cumulative effects on the desert tortoise, some SEZs were modified and others were eliminated in part due to concerns about effects on desert tortoise. For movement corridors for desert tortoise, the presence of such corridors was a significant consideration in the revision or elimination of some SEZs in the period since the Draft Solar PEIS was issued. Further analysis of cumulative effects on desert tortoise and desert tortoise connectivity habitat at the Solar PEIS stage would be speculative ,given the high uncertainty in the amount and location of future development. Such analysis is more appropriately done at the project level as part of the NEPA analysis and required consultation under Section 7(a)(2) of the ESA.

For the effects of grazing mitigations on wildlife, these mitigations are not sufficiently defined to allow analysis of cumulative effects on wildlife at the programmatic level. In any case these would be small effects at the programmatic level. The fact that utility-scale solar facilities would have effects on wildlife and ecosystem functionality is acknowledged in the Draft Solar PEIS. For the treatment of eolian processes in the Draft Solar PEIS, the current level of analysis in the Solar PEIS is appropriate, given the uncertainty of development in any such areas. However, the discussion of potential effects on the Mohave Fringe-towed lizard will be updated to note its presence within the Riverside East SEZ. For the analysis of cumulative effects on biotic communities and species assemblages from multiple utility-scale solar facilities in combination with other pressures, the Draft Solar PEIS does consider such combined effects within the geographic extent of effects of various SEZs. However, the high level of uncertainty of actual solar development and other pressures such as population increases does not afford meaningful conclusions about the regional effects on such communities at the programmatic level of analysis.

3.15.24.8 Cumulative Impacts of Transmission Infrastructure

Summary: Several commentors stated that the Draft Solar PEIS fails to assess cumulative impacts from related infrastructure upgrades that will be required by the projects including transmission lines and substations.

Response: An analysis of regional transmission needs and effects related to solar development has been performed since the Draft Solar PEIS was issued and was used to support the preparation of the Final Solar PEIS. While the Solar PEIS considers the impacts of constructing, operating, and decommissioning the related infrastructure needed to support utility-scale solar energy development, such as roads, transmission lines, and natural gas or water pipelines, the land use plan decisions to be made (e.g., exclusions, SEZs, and so on) will be applicable only to utility-scale solar energy generation facilities. Management decisions for supporting infrastructure would continue to be made in accordance with existing land use plan decisions and current applicable policy and procedures. Siting of supporting infrastructure would

be fully analyzed in project-specific environmental reviews in accordance with NEPA. Such reviews would be completed in combination with solar generation facility environmental reviews as appropriate.

3.15.24.9 Cumulative Impacts: General Concerns

Summary: Commentors expressed several varied concerns about the cumulative effects analysis in the Draft PEIS. One commentor stated that the BLM would need to conduct an additional study to fully consider the cumulative impacts of solar projects across the six-state region on national park resources. Another expressed concerns about large-scale solar development in terms of long-term, irreversible, cumulative impacts on fragile deserts and grasslands. Yet another noted concern for the incremental impacts of future solar energy development projects and associated infrastructure when added to impacts from other future actions, livestock grazing, military base expansions, mining, urban sprawl, and recreational activities. Finally, one commentor expressed concerns regarding the consistency of future project-specific NEPA reviews and the potential for litigation.

Response: As described in the Final Solar PEIS, the BLM expects to make planning-level decisions through the Solar PEIS, such as land use designations and design features. The program elements adopted via planning-level decisions will provide the basis for future project-specific utility-scale solar energy development decisions. The Solar PEIS appropriately evaluates the potential direct, indirect, and cumulative environmental, social, and economic effects of establishing broad Solar Energy Program elements and strategies across the six-state study area. Because the proposed program involves environmental effects over a broad geographic and time horizon, the depth and detail of the impact analysis are fairly general, focusing on major impacts in a qualitative manner.

Further, note that the BLM's proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address potential impacts—avoidance, minimization, and offset of unavoidable impacts. The BLM first employs avoidance and minimization strategies to eliminate or reduce potential adverse impacts. For those impacts that are not fully avoided or minimized, the BLM determines, in consultation with affected stakeholders, whether any measures to offset or mitigate adverse impacts would be appropriate. It is expected that most direct, indirect and therefore cumulative effects would be reduced through the employment of this mitigation hierarchy.

Because of the very large land area included in the solar development alternative and the great uncertainty in the number and locations of eventual facilities that might be built, it was not possible to analyze quantitatively the potential effects of such development on national park resources at this time. Regarding the scale of development, while the PEIS analyzes potential effects on hundreds of square miles of land, the actual realistic ultimate size of the area affected would be a small fraction of this size. Regarding incremental impacts, all the types of impacts noted in the comment were considered in the cumulative impacts assessment. Regarding analysis of cumulative impacts at the project level post-PEIS, consistency in these analyses will benefit from the existence of the PEIS and from commonalties in the types of resources affected, types

of projects and actions affecting resources, and reviewing agencies. No analysis at the programmatic level, however forward looking, could preclude the possibility of future challenges or litigation.

3.15.24.10 Cumulative Impacts Assessment for the Proposed Brenda SEZ

Summary: Commentors stated that projects should be added to the table of reasonably foreseeable actions and included in analysis.

Response: The Quartzite Solar Energy Project ROW lease application (AZA 034666) for a 100-MW CSP/tower facility in La Paz County about 10 mi (16 km) from the SEZ is listed in Table 8.1.22.2-2 of the Draft Solar PEIS as a pending application, with a NOI to prepare an EIS issued on January 14, 2010. The application is in fact singled out for discussion in the text as an example of such pending applications (Section 8.1.22.2-1). Since the application was not a fast-track application, the project was considered possible, but not foreseeable, at the time the Draft Solar PEIS was prepared. Thus, its potential impacts were analyzed in the aggregate with other such pending applications. However, because the Draft EIS for this project was issued on November 10, 2011, this project is now considered foreseeable. This change in status is noted in the Final Solar PEIS, as are its potential cumulative effects on visual and other resources.

3.15.24.11 Cumulative Impacts Assessment for the Proposed Imperial East SEZ

Summary: These comments suggested updating listed projects and additional new projects; expanding cumulative effects for wildlife and special status species; adding analysis of projects in bidding and research phase; changing geographic boundaries of the cumulative impact analysis; and analyzing impacts on state and federal lands near SEZs.

Response: The Solar PEIS acknowledges that other renewable energy projects and associated infrastructure are the greatest source of likely cumulative impacts, as evidenced by the content of Table 9.1.22.2-1 of the Draft and Final Solar PEIS, which lists foreseeable energy development and distribution projects. Other major projects are also listed in the table. Because such projects would be the major contributors to cumulative effects, the level of detail represented by this set of projects would be appropriate for the cumulative impacts analysis in a PEIS. Additional detail, including the timing of contributing projects, such as those listed in the Imperial Valley Solar Project EIS, would be appropriate at the project-level NEPA analysis when the specifics of a particular project proposal within the SEZ are known at a similar level of detail.

The Nevada and Arizona SEZs mentioned in the comment are outside of the geographic extent of effects of the Imperial East SEZ and thus would not meaningfully combine with the effects of the SEZ to produce cumulative effects. The geographic extent of effects is not set arbitrarily, but rather is based on a reasoned analysis. Cumulative effects of the programmatic alternatives over the six-state region are examined in Section 6.5 of the Draft Solar PEIS.

The description of the Imperial Valley Solar project was revised in the Final Solar PEIS update to indicate that the project will use PV technology rather than dish engine. The changes in contributions to cumulative impacts associated with the technology change were also noted in the update, including those on noise and visual impacts. The approval status of foreseeable projects was updated in Table 9.1.22.2-1. Identifying nonfederal lands, protected and unprotected, on the SEZ cumulative impact map (Figure 9.1.22.2-1) is not practical or necessary at the programmatic level of analysis. The potential effects on such lands would be analyzed in future NEPA analysis at the project level.

The cumulative impacts analyses for SEZs, including Imperial East, consider the impacts of potential development within the SEZ in combination with other specific past, present, and foreseeable actions. Adoption of the preferred alternative does not affect the current analysis since it does not involve the approval of any specific project proposals. Cumulative effects of the programmatic alternatives over the six-state region are examined in Section 6.5 of the Solar PEIS. Cumulative effects on wildlife movement corridors are addressed qualitatively in Section 6.5.2.9.2; cumulative effects on threatened and endangered species are discussed in Section 6.5.2.9.3.. In addition, several SEZs have been eliminated or their borders modified in the period since the Draft Solar PEIS was issued in part out of concerns for wildlife habitat connectivity.

Projects in the bidding or research phase are not considered reasonably foreseeable and thus were not considered in the cumulative impacts analysis in the Draft Solar PEIS, except those with pending ROW lease applications. The latter were included in the aggregate, assuming that some would proceed to completion.

The level of detailed analysis suggested in the comment would be appropriately done in future NEPA analyses for specific projects. In the Draft Solar PEIS, such effects are encompassed in the analysis of cumulative effects on water resources.

Potential impacts were not analyzed at the level of specially designated state lands as suggested in the comment. It was not possible to analyze impacts at this level of detail in the Solar PEIS, but impacts on such areas could be inferred from the analyzed impacts on similar federal lands, such as NPs and WAs, as applicable. More detailed analysis on state lands mentioned in the comment would be conducted by project proponents in their specific environmental review.

3.15.24.12 Cumulative Impacts Assessment for the Proposed Riverside East SEZ

Summary: These comments suggested adding projects to the table of reasonably foreseeable actions and including them in the analysis; updating text; expanding cumulative effects analysis for wildlife; updating listed projects and adding new projects; changing geographic boundaries for cumulative impact analysis; analyzing impacts on state and federal lands near SEZs; and adding impacts from proposed expansion of Twentynine Palms Marine base.

Response: Table 9.2.22.2-1 was in the Final Solar PEIS to present the current status of all the projects, including the Genesis, Blythe, and Palen solar projects.

Cumulative impacts on habitat connectivity and blockage of dispersal corridors are discussed qualitatively under wildlife in Section 9.4.22.4.10, where desert tortoise is specifically mentioned. In addition, Section 9.4.22.4.10 specifically mentions "loss of connectivity between natural areas (e.g., habitat fragmentation and blockage of dispersal corridors for bighorn sheep and desert tortoise)" in reference to potential impacts on wildlife.

The Eagle Mountain pumped storage hydroelectric plant is described in Section 9.4.22.2.2 in the Draft Solar PEIS. The information was updated in the Final Solar PEIS.

For comments requesting more detailed analysis, this would be appropriate for future NEPA analyses for specific projects. In the Solar PEIS, such effects are encompassed in the analysis of cumulative effects on water resources.

Potential impacts were not been analyzed at the level of specially designated state lands as suggested in some comments. It was not possible to analyze impacts at this level of detail in the Solar PEIS, but impacts on such areas could be inferred from the analyzed impacts on similar federal lands, such as NPs and WAs, as applicable. More detailed analysis on state lands mentioned in the comment would be conducted by project proponents in their specific environmental review.

The proposed expansion of the Marine base mentioned in one comment was noted in the cumulative impacts section of the update for the Riverside East SEZ.

3.15.24.13 Cumulative Impacts Assessment for the Proposed Colorado SEZs

Summary: These comments concerned water use and land use issues for the four SEZs in Colorado.

Response: Regarding the SEZ-specific cumulative impacts analysis, the Solar PEIS analyzes such impacts in a qualitative or, in some cases, semiquantitative manner, consistent with the current high level of uncertainty in future solar development within or outside of SEZs. For the effects of groundwater withdrawals on interbasin flow and on groundwater-dependent species and habitats, while uncertainties surround the level of eventual solar development, solar technologies deployed, and the availability of water rights, an effort to bound effects on groundwater flow though interbasin groundwater flow modeling has been performed in major aquifer systems since the Draft Solar PEIS was issued. The results of this modeling are presented in the Final Solar PEIS and were used to review the conclusions in the Draft Solar PEIS regarding cumulative effects on groundwater-dependent species and habitats. For increasing competition for water, the cumulative impacts analysis for each SEZ in the Solar PEIS notes the cumulative water demands of other foreseeable projects if known. In addition, trends in area water use are discussed for each SEZ. Analyzing the socioeconomic effects of allocating water use to energy production would be speculative at this time and would be appropriately performed

at the project level. In particular, with respect to potential effects on the upper Rio Grande watershed from multiple demands in the San Luis Valley, the Solar PEIS notes such possible effects qualitatively and cites strict management of water resources under the Rio Grande Basin Act, which restricts total water use.

The cumulative impacts analysis in the Solar PEIS considers the environmental effects of ongoing and foreseeable energy projects. While the analysis of contribution of effects from the four proposed SEZs in the San Luis Valley assumes 80% development of the SEZs, projecting the actual level of development in the SEZs would be speculative at this time.

The BLM believes that the Solar PEIS does present a meaningful analysis of cumulative impacts at an appropriate level of detail to support the solar development program on public lands. This analysis, however, did not conclude that such impacts would be extraordinarily high, as suggested in the comment. The large footprints of utility-scale solar facilities were considered in analysis and were significant contributors to impacts from solar development, along with potential water demand, depending on solar technologies used. Even under development of the SEZs to an assumed 80%, cumulative impacts of solar development when combined with other foreseeable actions were not estimated to be high for any affected resource. Actual development of SEZs may be less than 80% given limitations on water availability under the Rio Grande Basin Act and on transmission out of the valley. Mitigations and required design features identified in the Solar PEIS will protect communities and the environment, while future NEPA analysis of proposed solar projects will provide an ongoing assessment of cumulative impacts that would be considered in future leasing decisions.

The cumulative impacts analysis in the Solar PEIS considered past, present, and foreseeable actions of a variety of types within 50 mil (80 km) of each SEZ, which covered a large portion of the San Luis Valley. Several ongoing and foreseeable solar energy projects on private land were included in this analysis. While the contributions to cumulative impacts from the four proposed SEZs assumed 80% development, actual levels of development will depend on a number of factors, including the availability of transmission within and out of the valley. More detailed NEPA analysis will be performed for specific project proposals on public land in the future.

3.15.24.14 Cumulative Impacts Assessment for the Proposed Amargosa Valley SEZ

Summary: These comments concerned modeling desert tortoise and groundwater consumption effects; adding projects to the table of reasonably foreseeable projects and including them in the analysis; and including new and updated infrastructure like t-lines, substations, and access roads in the cumulative effects analysis.

Response: For the analysis of impacts on resources, the Solar PEIS does consider such effects in a qualitative or, in some cases, semiquantitative manner, consistent with the current high level of uncertainty in future solar development within or outside of SEZs. More detailed analysis at the programmatic level would be speculative. Potential impacts on resources are discussed under the cumulative impacts analysis in each SEZ chapter. For cumulative effects on

desert tortoise, for example, the size of the SEZ has been reduced to only 9,737 acres (39.4 km^2), with a developable area of 8,479 acres (34.3 km^2) since the Draft Solar PEIS was issued. This reduction to about one third of the original acreage was a result in part of concerns for sensitive species and water use by solar projects. It is also indicative of the level of uncertainty of future solar development and the appropriateness of the analysis methodology used in the Solar PEIS. For the issue of groundwater modeling, while uncertainties surround the level of eventual solar development, solar technologies deployed, and the availability of water rights, an effort to bound effects on groundwater flow has been performed for the Amargosa Desert Basin since the Draft Solar PEIS was issued. The one-dimensional groundwater model that was used examined the range of water use that could occur assuming SEZ build-out and various solar energy technologies. The results of this modeling are presented in the Final Solar PEIS and were used to review the conclusions in the Draft Solar PEIS regarding cumulative effects on groundwater-dependent species. Regarding increasing competition for water in the area, Section 11.1.22.4.8 of the Draft Solar PEIS notes specifically the cumulative demands of other foreseeable projects, including the nearby Amargosa Farm Road Solar Energy Project. In addition, trends in water use are discussed in Section 11.1.22.3.3. Analyzing the socioeconomic effects of allocating water use to energy production would be speculative at this time and would be appropriately performed at the project level.

The DOE has withdrawn the proposed Solar Demonstration Project. The proposed Lathrop Wells Solar Project was added to the list of foreseeable projects for the Amargosa Valley SEZ and its contributions to cumulative effects are considered in the Final Solar PEIS.

The UNEV Pipeline Project, now under construction, was included in the Cumulative Impacts section for the Dry Lake SEZ in the Draft Solar PEIS, as was the proposed Toquop natural gas power plant. The SWIP was likewise analyzed in the Draft Solar PEIS for both the Dry Lake and Dry Lake Valley North SEZs. The status of the projects was updated in the Final Solar PEIS in Tables 11.3.22.2-1 and 11.4.22.2-1. The analysis of substations needed to connect solar energy projects within proposed SEZs can only be anticipated in general in the Solar PEIS. The analysis of specifically proposed substations would be performed in future NEPA analyses at the project level.

Section 11.1.20.2 of the Final Solar PEIS for the Amargosa Valley SEZ does note relevant environmental justice concerns from solar development, including from "noise and dust during the construction; noise and electromagnetic field (EMF) effects associated with operations; visual impacts of solar generation and auxiliary facilities, including transmission lines; access to land used for economic, cultural, or religious purposes; and effects on property values." While these are legitimate concerns of tribes, as this section goes on to note, "there are no minority populations defined by CEQ guidelines (Section 11.1.20.1) within the 50-mi (80-km) radius around the boundary of the SEZ; this means that any adverse impacts of solar projects would not disproportionately affect minority populations." That is, the concerns noted in the comment are presented in the Solar PEIS, but the concerns do not constitute an environmental justice issue for Native Americans or other minorities, because these groups do not represent a disproportionate fraction of the surrounding population.

3.15.24.15 Cumulative Impacts Assessment for the Proposed Dry Lake SEZ

Summary: These comments concerned adding projects to the table of reasonably foreseeable projects and including them in the analysis; supporting particular SEZ locations; considering water resources issues; revising wording for groundwater rights; confirming wetlands data; considering land use issues; and including new and updated information on infrastructure, transmission lines, substations, and access roads.

Response: The acceptability of the Dry Lake SEZ location expressed by some commentors is noted. The Final Solar PEIS includes revised wording related to groundwater rights.

The Moapa Solar Project was added to Cumulative Impact Section 11.3.22.2 and included on Table 11.3.22.2-1 of the Final Solar PEIS. The potential effects of the project on water resources and on desert tortoise are analyzed in Section 11.3.22.4 of this Final Solar PEIS.

In the Draft Solar PEIS, National Wetlands Inventory data and the SEZ boundary were used to determine the amount of wetland in the Dry Lake playa and in the SEZ. However, after the SEZ boundary changes, the area is now much lower. Now only 218 acres (0.88 km^2) of Dry Lake fall within the SEZ and 144 of those acres are in a non-development zone. There are now 2,475 acres (10 km^2) in the area of indirect effects.

The Draft Solar PEIS analyzed the cumulative effects of several proposed transmission line projects routed through or near the SEZ, including the Trans West Transmission Project (Table 11.3.22.2-1), as well as the mentioned Southern Nevada Water Authority (Clark, Lincoln, and White Pine Counties) groundwater development project (Table 11.3.22.2-3).

The UNEV Pipeline Project, now under construction, was included in the Cumulative Impact section for the Dry Lake SEZ in the Draft Solar PEIS, as was the proposed Toquop natural gas power plant. The SWIP was likewise analyzed in the Draft Solar PEIS for both the Dry Lake and Dry Lake Valley North SEZs. The status of these projects was updated in Tables 11.3.22.2-1 and 11.4.22.2-1, respectively, of the Final Solar PEIS. The analysis of substations needed to connect solar energy projects within proposed SEZs can only be anticipated in general in the Solar PEIS. The analysis of specifically proposed substations would be performed in future NEPA analyses at the project level.

3.15.24.16 Cumulative Impacts Assessment for the Proposed Dry Lake Valley North SEZ

Summary: These comments concerned consideration of grazing issues; addition of projects to the table of reasonably foreseeable projects and their inclusion in the analysis; updating of text; updating and addition of projects; consideration of water resource issues; inclusion of new and updated infrastructure, transmission lines, substations, and access roads; addition or updating of maps; and consideration of inconsistent analysis, analysis methodology, quantification of effects, and land use issues.

Response: In general, new projects for which information has become available since publication of the Draft Solar PEIS were added to the updated SEZ cumulative impact section tables for the Final Solar PEIS.

Section 11.4.22.4.1 of the Draft Solar PEIS does acknowledge the possibility of cumulative effects on grazing from foreseeable development, including projects mentioned in the comment.

The analysis of cumulative effects on resources in the Solar PEIS is necessarily primarily qualitative, Thus, while the potentially disturbed acreages for some projects are given, for example, in Table 11.4.22.2-2, for many of the identified foreseeable projects information on disturbed acreage was not available. Moreover, such estimates would typically contain large uncertainties and are often not comparable among different types of projects due to differences in degree of disturbance. Some projects may never be built. An estimate of total disturbed acres or AUMs lost could thus produce misleading conclusions. The level of future solar development within the SEZ is similarly uncertain. Thus, for the needs of this Solar PEIS, it was sufficient to identify and describe the projects and the nature of their potential effects on resources. More quantitative analysis of cumulative effects would be appropriately performed at the proposed project level in a future NEPA analysis.

The population of Pioche was corrected in the Errata to Section 11.4 in the Final Solar PEIS. An additional correction was placed in Section 11.4.24 Errata to Section 11.4 of the Draft Solar PEIS. Transmission lines and substations that pass near or through Dry Lake Valley were addressed in the Draft Solar PEIS.

The status of the Southwest Intertie Project was updated in the Final Solar PEIS. The spelling of "County" in Section 11.4-314/27 was corrected in the errata list for this section. Table 11.4.22.2-3 was updated in the Final Solar PEIS to reflect the correct name of the Caliente Rail Alignment project. For shared commercial use, the Final Solar PEIS for the project includes the following statement: "DOE anticipates that the small additional construction and operations activities would result in very little additional impacts over those described for the Proposed Action without shared use." Thus, no changes in the analysis of the cumulative impacts of the project are needed in the Final Solar PEIS. The status of foreseeable projects analyzed in the Draft Solar PEIS was updated in the Final Solar PEIS, including the wild horse gathers mentioned in the comment.

The mentioned rail line branch was removed from the figure in the Final Solar PEIS. This correction was included in Section 11.4.24 of the Final Solar PEIS.

Table 11.4.22.1-1 includes all resource areas for consistency with analyses for other SEZs. For the geographic extent of affected resources, the extent is generally taken as the continuous extent of the resource potentially affected by developments within the SEZ. In the case of counties selected for the socioeconomic effects analysis, the extent of county effects is the county that is affected.

The discussion in Section 11.4.22.19 of the Draft Solar PEIS considers qualitatively the possibility that environmental justice impacts could occur in the future.

The Solar PEIS analyzed the cumulative effects of the mentioned Southern Nevada Water Authority (Clark, Lincoln, and White Pine Counties) groundwater development project (Table 11.4.22.2-3 in the Draft Solar PEIS) in the cumulative impacts analysis for the Dry Lake Valley North SEZ. The UNEV Pipeline Project, now under construction, was included in the Cumulative Impacts section for the Dry Lake SEZ in the Draft Solar PEIS, as was the proposed Toquop natural gas power plant. The SWIP was likewise analyzed in the Draft Solar PEIS for both the Dry Lake and Dry Lake Valley North SEZs. The status of these projects was updated Tables 11.3.22.2-1 and 11.4.22.2-1, respectively, in the Final Solar PEIS. The analysis of substations needed to connect solar energy projects within proposed SEZs can only be anticipated in general in the Solar PEIS. The analysis of specifically proposed substations would be performed in future NEPA analyses at the project level.

3.15.24.17 Cumulative Impacts Assessment for the Proposed Millers SEZ

Summary: These comments concerned land use; air quality: dust hazard within 100 mi (160 km) of the SEZ, fugitive dust from solar development; environmental justice; contributions to climate change and/or effects of climate change on resources; and Native American concerns about spiritual issues and water resources.

Response: While the proposed SEZ lies in a remote area, it does meets BLM's screening criteria for an SEZ. While the area is served by roads and designated electrical transmission corridors, future developers would have to determine the feasibility of building solar facilities in the proposed SEZ.

Dust hazards are analyzed in Section 11.7.22.4.12 of the Draft Solar PEIS. The geographic extent of such effects is reasonably encompassed within the 31 mi (50 km) radius analyzed. Also, dust control water would be used to the extent and for the duration needed to minimize exceedances of the NAAQS for particulate matter at the site boundary of a given project during construction. Routine dust control watering would also be used during facility operations, for example, on roads, when dust emissions would be much less of a concern.

Tribes in the region have been and continue to be consulted on decisions regarding BLM's Solar Energy Program. Native American economic, cultural, and spiritual concerns affecting tribes are considered in Section 11.7.18 of the Draft Solar PEIS. The tribes mentioned in the comment are noted for future reference. While the environmental justice analysis in Section 11.7.20.1 did consider American Indian populations, the analysis concluded that for any minority "the number of minority individuals does not exceed 50% of the total population in the area, and the number of minority individuals does not exceed the state average by 20 percentage points or more; thus, in aggregate, there is no minority population in the SEZ area based on 2000 Census data and CEQ guidelines." Thus, while Native American populations do not strictly meet the criteria used to identify minority populations within the region of interest for

considerations of concerns on the basis of environmental justice, their concerns are considered elsewhere in the Solar PEIS.

The cumulative impacts analysis in the Solar PEIS does consider the effects of climate change in Nevada, in Section 11.7.22.3.4. The BLM agrees that dramatic climate change could affect plant and animal life in the area around the proposed Millers SEZ.

Although a wind study at the proposed Millers SEZ is beyond the scope of the Solar PEIS, the concerns mentioned in the comment regarding soil disturbance, fugitive dust, soil erosion, and removal of vegetation over large land areas are considered in the Solar PEIS, as are Native American concerns related to medicinal and food plants, trails, and sacred places. Section 11.7.22.4.17 analyzes the potential cumulative effects on Native American concerns, while Section 11.7.18.3 lists measures that would be taken to mitigate such effects, including avoidance of sensitive areas.

Section 11.7.22.4.8 of the Draft Solar PEIS notes the limited water resources available in the Tonopah Flat basin and the fact that water resources are over-appropriated. Groundwater drawdown is mentioned as one of the potential effects of large withdrawals, should they be allowed. Drawdown could affect all area groundwater uses. The likely infeasibility of solar technologies that require large quantities of cooling water is also noted here. Limited availability of groundwater and potential drawdown would be major considerations in the selection of solar technologies used in the proposed SEZ.

3.15.25 Hazardous Materials and Wastes

Summary: Comments expressed concern over the potential for solar facilities to emit pollution from construction equipment, or to have accidental spills of hazardous materials. Concerns regarding waste ponds and for contaminated runoff from solar facilities adversely affecting off-site areas were expressed.

Response: Extensive discussion of the hazardous materials and wastes potentially associated with solar energy facilities was provided in Section 3.5.1 of the Draft Solar PEIS. Design features required to control impacts from hazardous materials and waste are presented in Section A.2.2.21 of Appendix A. Design features include a requirement that engineering controls be used to eliminate or minimize the impacts of accidental spills at solar facilities. These design features adequately address the concerns expressed in the comments.

3.16 SOLAR ENERGY DEVELOPMENT ADVANTAGES AND PROBLEMS

3.16.1 General Comments in Support of Developing Solar Energy Resources

Summary: Many commentors support solar energy as a way to end the reliance on fossil fuels and to create local jobs. Commentors recommended that the federal government promote

and support clean energy while subsidies for oil, coal, and nuclear energy should be reduced. Commentors argued that solar energy is a clean and unlimited source of power and is better for national security and for reducing climate change. Many agencies and organizations indicated their support for solar energy in their comments.

Response: The comments are supportive of solar energy development in general.

3.16.2 Comments Opposing Solar Development and Use of Public Lands

Summary: A few commentors stated their opposition to solar development because it would not be sufficient to replace the nation's dependence on foreign oil. They also added that solar power is not clean or sustainable, because of the necessary use of gas, water, and toxic heat transfer fluids. Commentors also thought that solar energy will not create jobs because the components are not built in this country.

A number of commentors expressed their opposition to the use of public land for solar development. Commentors argued that (1) as some of the last ecosystems of this size, public land should be saved for conservation or other low-intensity multiple use; (2) solar energy development will permanently destroy the landscape and sacred areas; and (3) use of BLM lands should be as a last resort, not a first option. Several commentors disagreed that private companies should be allowed to develop public land for their own profits and should only develop private, non-pristine lands. Comments suggested that any mitigation can be accomplished through establishing conservation areas within public lands, and that offering incentives and having zones of development on public land will encourage a new industrial "gold rush."

Response: The comments opposing solar development in general are noted; the agencies acknowledge that solar energy development is only a part of the national energy strategy. Developing solar energy on non-BLM lands does not respond to the purpose and need for agency action in this Solar PEIS and would not meet the objectives established for the BLM by the Energy Policy Act of 2005 and Secretarial Order 3285A1, both of which require the BLM to facilitate renewable energy development on public lands.

3.16.3 Comments Opposing Utility-Scale Solar Development

Summary: Several commentors are opposed to utility-scale solar energy development because the scale of environmental destruction is too large and will result in long-term, cumulative, ecological impacts on fragile desert and western lands. Commentors argued that solar fields should be kept out of the desert, so that the region is not dominated by this type of development. Concern was expressed that the industrial scale model does not work, with subsidies and tax incentives that benefit only large corporations. Other commentors stated that having concentrated energy development creates more risks of power interruption and is a risk to national security, the environment, and the economy.

Response: In accordance with FLPMA (Section 103(c)), public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources. The Secretary of the Interior is authorized to grant ROWs on public lands for systems of generation, transmission, and distribution of electric energy (Section 501(a)(4)).

As discussed in Section 1.1 of the Final Solar PEIS, the Energy Policy Act of 2005 (P.L. 109-58) requires the Secretary of the Interior to seek to approve non-hydropower renewable energy projects on public lands with a generation capacity of at least 10,000 MW of electricity by 2015; this level of renewable energy generation cannot be achieved without utility-scale generation systems. In addition, Order 3285A1 issued by the Secretary of the Interior requires the BLM and other DOI agencies to undertake multiple actions to facilitate large-scale solar energy production.

The BLM has identified 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 and to ensure consistent application of measures to avoid, minimize, and mitigate the adverse impacts of such development. The BLM is therefore considering replacing certain elements of its existing solar energy policies with a comprehensive Solar Energy Program that would allow the permitting of future solar energy development projects to proceed in a more efficient, standardized, and environmentally responsible manner. The BLM's proposed Solar Energy Program under both action alternatives employs a mitigation hierarchy to address potential impacts—avoidance, minimization, and offset of unavoidable impacts. The BLM is considering restricting utility-scale solar energy development from lands where it has determined such development is incompatible with existing resources, resource uses, and special designations. The BLM has a process for identifying priority areas for solar energy development that have low or relatively low resource conflicts and a comprehensive process for approving projects outside of priority areas. In addition, the BLM has included a set of programmatic design features required of all solar energy development on BLM-administered lands to avoid, minimize, and/or mitigate adverse impacts.

The DOE recognizes that the present electric grid, built decades ago, was based on a centralized generation approach and was not designed to handle high levels of distributed renewable energy systems. It has therefore launched the Renewable Systems Interconnection study to identify the technical and analytical challenges that must be addressed to enable high penetration levels for distributed energy systems, as well as the Solara Rooftop Challenge to reduce administrative barriers to residential and small commercial PV solar installations by streamlining, standardizing, and digitizing administrative processes. Complex permitting and grid connection processes increase the cost of solar energy systems and limit the growth of the solar industry. The objective of the Solar Rooftop Challenge is to make the process of going solar simpler, faster, and more cost-effective for residents and businesses.

3.17 OTHER ISSUES

3.17.1 Distributed Generation

Summary: Many commentors stated that generating electricity in a centralized area and transmitting it over long distances is antiquated and creates utility monopolies. Commentors supported distributed generation, in which electricity is generated on a smaller scale in homes and businesses and which has proven successful in countries such as Germany. Commentors mentioned residential and commercial rooftops, parking lots, government buildings, abandoned agricultural fields, brownfields, and the perimeters of highways and in-city canals in the Southwest as ideal locations for solar development. By using existing infrastructure, commentors argued that more open space would remain available for recreation and wildlife, be better for national security, and be more secure from natural disasters.

Response: As discussed in Section 1.2, the scope of the 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. The development of distributed-generation, small-scale solar energy facilities, such as rooftop-mounted PV systems, is not included in the scope of this PEIS. Although 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 of the Final Solar PEIS), current research indicates that the development of both distributed-generation and utility-scale solar power will be needed, along with other energy resources and energy efficiency technologies. Because these systems typically do not include electricity storage, they cannot provide power during the evenings or at night, and the power output can fluctuate significantly during cloudy weather. As a result, buildings equipped with rooftop PV systems remain dependent on the transmission grid, and electric utilities must maintain adequate generating capacity to provide electricity to these customers when needed. Ultimately, both utility-scale and distributed-generation solar power will need to be deployed at increased levels, and the highest penetration of solar power overall will require a combination of both types.

Alternatives incorporating distributed generation with utility-scale generation, or focusing exclusively at distributed generation, do not respond to the agencies' purpose and need for agency action in this Solar PEIS. As discussed in Section 1.1, the Energy Policy Act of 2005 (P.L. 109-58) requires the Secretary of the Interior to seek to approve nonhydropower renewable energy projects on public lands with a generation capacity of at least 10,000 MW of electricity by 2015; this level of renewable energy generation cannot be achieved through distributed-generation systems. In addition, Order 3285A1 issued by the Secretary of the Interior requires the BLM and other DOI agencies to undertake multiple actions to facilitate large-scale solar energy production.

The evaluation of distributed-generation systems does fall within the scope of DOE's mission; however, it is being handled in other initiatives separate from this PEIS. The DOE recognizes that the present electric grid, built decades ago, was based on a centralized generation approach and was not designed to handle high levels of distributed renewable

energy systems. In 2007, the DOE launched the Renewable Systems Interconnection (RSI) study to identify the technical and analytical challenges that must be addressed to enable high penetration levels for distributed energy systems, with a particular emphasis on solar PV systems (see Section 2.5.1 of the Final Solar PEIS). As a result of the RSI study, in 2008, DOE initiated the Solar Energy Grid Integration Systems (SEGIS) program to further develop electronics and build smarter, more interactive systems and components. In addition, in 2011, the DOE launched the Rooftop Solar Challenge to accelerate significant improvements in market conditions for solar PV projects.

Through these efforts, the DOE is actively pursuing the expansion of distributed-generation systems and their contribution to the country's electricity supply. While distributed generation of solar energy clearly is an important component of DOE's SunShot Initiative and Solar Energy Technologies Program, inclusion in this analysis of an alternative incorporating distributed generation does not address the DOE's purpose and need to satisfy both E.O.s and respond to this congressional mandate and 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 (see Section 1.4.1).

3.17.2 Conservation and Demand-Side Management

Summary: A few commentors believed strongly there is a need to conserve energy and that there should be stringent conservation measures for maximum efficiency in homes, businesses, and manufacturing.

Response: Recommendations that the BLM and DOE evaluate alternatives incorporating conservation of energy and demand-side management do not respond to the purpose and need for agency action in this Solar PEIS. Like the requests for distributed-generation alternatives (see 3.17.1 above), recommendations that the BLM and DOE evaluate alternatives incorporating conservation of energy and demand-side management do not respond to the purpose and need for agency action in this PEIS. In general, conservation initiatives would be designed to reduce energy consumption levels in order to reduce the need for increased electricity generation capacity. Demand-side management would involve specific actions taken by utilities, their regulators, and other entities to induce, influence, or compel consumers to reduce their energy consumption, particularly during periods of peak demand.

While these types of initiatives are important components of the country's efforts to address future energy needs, they do not respond to the purpose and need for agency action in this PEIS as defined by the agencies. These efforts do not address the agencies' purpose and need to satisfy both E.O.s and respond to this congressional mandate and 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.

3.17.3 Analysis of Life-Cycle Impacts of Solar Energy Development

Summary: Commentors were concerned that replacing carbon-sequestering desert and grassland ecosystems with solar energy development will result in long-term environmental impacts. Comments included the lack of scientific evidence to support the claim that solar energy reduces GHG emissions, and that utility scale solar projects use the same amount of raw materials and water resources as conventional electrical generation plants. In addition, commentors argued that the land area footprints and ecosystem destruction are larger than those of open pit mining. Commentors requested that life-cycle calculations be made regarding the amount of natural resources consumed in manufacturing and the amount of waste products generated. Commentors also recommended that the loss of CO_2 sink capability should be factored into mitigation calculations.

Response: The agencies recognize that consideration of life-cycle impacts will provide valuable information supporting energy policy development in this country. However, the impacts associated with other solar energy life-cycle activities were not determined to be connected actions for the purposes of this Solar PEIS. As appropriate, these types of activities would be addressed as part of the cumulative effects analysis in project-specific environmental reviews.

For the DOE, life-cycle analysis of energy development is an important research topic. Such analyses are being conducted by the DOE across its programs, including life-cycle analyses for solar energy technologies.

3.17.4 Analysis of Development on Other Federal, State, or Private Lands

Summary: Many commentors would like to see solar development happen on other non-BLM lands, both public and private lands. The recurring request is that these lands are previously disturbed, have low resource value, no longer contain native vegetation such as abandoned agricultural fields, or are currently brownfields, military bases, or small sites owned by towns and school districts. Commentors asserted that the public could help in identifying disturbed lands appropriate for solar energy development. Commentors suggested that expansion should be allowed on private lands because of perceived fewer resource conflicts and an accelerated permitting process and that there may be some owners willing to sell their land with attached water rights. Additional suggestions included locations adjacent to roads, urban areas, existing transmission lines, and substations.

Response: Developing solar energy on non-BLM lands do not respond to the purpose and need for agency action in this Solar PEIS and would not meet the objectives established for the BLM by the Energy Policy Act of 2005 and Secretarial Order 3285A1, both of which require the BLM to facilitate renewable energy development on public lands.

The benefits and opportunities associated with the use of areas in, or adjacent to, previously contaminated or disturbed lands for solar energy development are highlighted in the variance process, the Identification Protocol for New SEZs, as well as the incentives for SEZs

(partnering with suitable nonfederal lands) in the Final Solar PEIS. The BLM has also decided to leave small, in some cases isolated, parcels in the variance land base to allow for the opportunity to combine federal and nonfederal lands (that may or may not be disturbed or degraded).

Note that the analysis of solar energy development on other federal or private lands is encompassed in the scope of the Solar PEIS analysis. The geographic scope of DOE's analysis includes all lands in the six-state study area. As discussed in Section 1.4.1, the DOE may support solar projects on all types of lands, including BLM-administered lands and other federal, state, tribal, and private lands. The description of the affected environment in Chapter 4 and the results of the analysis of potential impacts and mitigation measures in Chapter 5 may be applicable, as appropriate, across all lands within the study area. Because the scope of Chapters 4 and 5 encompasses all lands within the six-state study area, parties other than the BLM and DOE may be able to use the information in this Solar PEIS to support their own analyses of utility-scale solar energy development in this area.

3.17.5 Development on Previously Disturbed Lands

Summary: Several commentors strongly believed that utility-scale solar energy development should be limited to already disturbed lands before pristine desert landscapes are compromised. Commentors made several suggestions for alternative locations of solar energy development projects, including both private and public disturbed lands. In addition, commentors recommended siting solar energy development near existing transmission lines and utilities, and new transmission lines should also be located on disturbed lands. Comments also stressed the need for solar energy developments to be in close proximity to cities or large towns, and in locations that do not disturb important migratory corridors, wilderness areas, or important habitats.

Response: Note that there is no clear and well-established definition of what constitutes "previously disturbed public lands," nor are there any clearly defined thresholds for determining when lands cannot be restored to their former, undeveloped state. The BLM does see the potential value of development on such lands, however. The benefits and opportunities associated with the use of areas in, or adjacent to, previously contaminated or disturbed lands for solar energy development is highlighted in the variance process, the Identification Protocol for New SEZs, as well as the incentives for SEZs (partnering with suitable nonfederal lands) in the Final Solar PEIS. For example, a preference under the variance process would be given to proposed projects that will be located in, or adjacent to, previously contaminated or disturbed lands such as brownfields identified by the EPA's RE-Powering America's Land Initiative (http://www.epa.gov/renewableenergyland); mechanically altered lands such as mine-scarred lands and fallowed agricultural lands; idle or underutilized industrial areas; lands adjacent to urbanized areas and/or load centers; or areas repeatedly burned and invaded by fire-promoting non-native grasses where the probability of restoration is determined to be limited. The BLM has also decided to leave small, in some cases isolated, parcels in the variance land base to allow for the opportunity to combine federal and nonfederal lands in areas that are disturbed.

As described in the Solar PEIS, sources of information on degraded, disturbed, or previously disturbed areas should include (1) landscape-scale information and landscape-scale ecological assessments (e.g., landscape conservation cooperatives, rapid ecological assessments, and state-level crucial habitat assessment tools), which identify converted or highly degraded lands on BLM-administered and adjacent federal and nonfederal lands; (2) coordination with the EPA and relevant state agencies that catalog degraded, disturbed, or previously disturbed sites; and (3) outreach to local communicates and the public regarding possible degraded, disturbed, or previously disturbed sites.

3.17.6 Restricting Development to Populated Areas

Summary: Several commentors stated that solar energy development should be restricted to populated areas and that resources should be developed in cities where they are needed. Commentors believe that there would be less transmission loss than transmitting from remote wilderness areas to areas of high demand. Also, distances traveled by employees and for hauling construction materials would be reduced if solar development were located near existing communities. Commentors listed brownfields, industrial buildings, abandoned factories, and parking areas as ideal locations for solar energy development within urban areas. One commentor did mention that most industrial facilities prefer to locate away from populated areas because of possible concerns from the local populace that will result in additional project costs.

Response: Although the issue of locating solar energy development in populated areas was not incorporated into the Solar PEIS as an independent alternative, consideration was given to proximity of available lands to existing infrastructure such as transmission lines. Some of the proposed SEZs are located close to population centers. The Solar PEIS also analyzes the social, economic, and environmental impacts of constructing and operating solar energy facilities that may be located away from population centers.

From the DOE's perspective, it may elect to establish programmatic guidance that promotes utility-scale solar development near populated areas

3.18 TOPICS OUTSIDE THE SCOPE OF THE SOLAR PEIS OR NOT REQUIRING A RESPONSE

3.18.1 Requests for Analysis of Non-solar Technologies

Summary: Many commentors stated that the use of natural gas at solar facilities and the impacts from fossil fuel use at co-generation facilities should be assessed in the Solar PEIS.

Response: The PEIS recognized that small amounts of natural gas may be used at solar facilities to maintain the temperature of the heat transfer fluids and for other purposes; this small use is considered to have low emission potential (see Section 5.11.2.1 of the Draft Solar PEIS). In addition, co-generation projects involving a mix of solar energy technologies and other energy

technologies (e.g., natural gas, wind, and hydropower) would be subject to the requirements of the new Solar Energy Program if the solar energy component is 20 MW or greater. The impacts (including climate change impacts) of the use of conventional fossil fuel at co-generation facilities have been well documented in environmental studies for such conventional fuel facilities, and are beyond the scope of the Solar PEIS.

3.18.2 Comments Regarding Government Subsidies for Solar Development

Summary: Commentors provided comments related to government subsidies including suggestions that the government should provide tax credit incentives for homeowners to install PV systems on their rooftops. Other commentors opposed subsidies including cash grants and loan guarantees for solar energy development because they thought the subsidies would drive up electricity costs for the consumer. One commentor asked whether grant programs are available for low-income populations. Commentors recommended that the PEIS take into account federal subsidies in the evaluation of the efficiency of developing solar energy on public land. Other commentors requested that subsidies for nuclear and petroleum energy sources be redirected towards solar energy development.

Response: Government subsidies, including grants and loan guarantees for utility-scale solar development, small PV distributed generation, and all other forms of energy development are beyond the scope of the Solar PEIS.

3.18.3 General Comments for Which No Response Was Required

Summary: These comments were generally introductory text included in comment documents explaining the mission of the organization submitting the comments or otherwise providing background context for the comments submitted. Some comments were simply statements supporting or opposing solar development, with no supporting rationale.

Response: No response is needed.

3.19 FACTUAL ERRORS OR EDITORIAL CONSIDERATIONS AND REQUESTS FOR TEXT CHANGES

Summary: Many comments were specific, stating that some of the information given in the Draft Solar PEIS or the Supplement to the Draft So9lar PEIS was incorrect or requesting that additional details be added to certain discussions.

Response: The PEIS technical staff reviewed these requests and incorporated revisions into the Supplement to the Draft and into the Final Solar PEIS as appropriate.

TABLE 3-1 Comments Submitted on the Draft Solar PEIS or the Supplement to the Draft Solar PEIS via the Project Web Site, by Mail, or Orally during Public Meetings (presented alphabetically by organization or commentor last name)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
21st Century Telecommunications, Inc.	SEDDsupp20004	3.18.3
29 Palms Inn/Innkeepers Association	Solar_IW_012	3.15.20.4, 3.1.5, 3.15.24.12, 3.15.15.1, 3.15.20.7, 3.17.1, 3.15.20.10, 3.15.19.2, 3.15.23.3, 3.14.1, 3.1.6, 3.1.7, 3.15.18.2
29 Palms Inn/Innkeepers Association	SolarS_PD_14	3.15.18.7, 3.15.20.4, 3.17.5
Abbott, Patricia	SEDD10667	3.2.3
Abeles-Allison, Mark	SEDDsupp20020	3.17.4
Abengoa Solar Inc., Amonix, Inc., Audubon California, BrightSource Energy, Inc., Center for Energy Efficiency and Renewable Technologies, Defenders of Wildlife, enXco – an EDF Energies Nouvelles Company, First Solar, Inc., Iberdrola Renewables, Inc., Large-scale Solar Association, Natural Resources Defense Council, NRG Solar LLC, Pacific Gas and Electric Company, Solar Energy Industries Association, SolarReserve, LLC, Southern California Edison, SunPower Corporation, Systems, The Nature Conservancy, The Vote Solar Initiative, The Wilderness Society, Torresol Energy	SEDDsupp20177	3.16.1, 3.5.6, 3.8, 3.11.2, 3.7.22, 3.7.3, 3.7.21, 3.2.6, 3.2.2.1, 3.1.6, 3.8.2, 3.8.5, 3.3.2
Abeyta, Aaron	SolarS_AL_18	3.7.2, 3.15.14.3
Abeyta, Alfonso	Solar_AL_021	3.15.9.1, 3.7.2.1, 3.18.3, 3.15.9.5
Abrams, Sally	SEDD10330	3.2.3
Acerro, Theresa	SEDD10314	3.2.3, 3.17.5
Adams, Mikanuk	SEDD11155	3.2.2.3
Adamyan, Eva	SEDD10987	3.18.3
Adsit, Roy	SEDD10784	3.17.1
Advisory Council on Historic Preservation	Solar_DC_005	3.6.2
Advisory Council on Historic Preservation	Solar_030	3.6.2
Agnew, Grace	SEDD10521	3.2.5
Agnew, Grace	SEDD10522	3.2.5
Aguirre, Sabrina	SEDD11593	3.1.7
Alamosa County	SolarS_AL_09	3.15.20.2, 3.15.22.2, 3.6.3.2
Alamosa County Commission	SolarS_AL_06	3.15.22.2, 3.15.20.1, 3.15.20.2, 3.7.2, 3.7.13, 3.6.1
Albert, Anthony	SEDD10224	3.2.5
Allaire, Lois	SEDD10973	3.2.3
Allen, Carolyn and Tisdale, Donna (Backcountry Against the Dump)	SolarS_029	3.16.3, 3.15.20.8, 3.6.1, 3.7.15, 3.7.5, 3.7.14, 3.15.13.4, 3.15.24.11, 3.2.3, 3.5.1, 3.5.6, 3.13, 3.17.1, 3.15.23.3, 3.15.9.1, 3.18.3, 3.15.5.1, 3.2.2, 3.8.2, 3.6.4, 3.4.1
Allen, Sundra	SEDD11145	3.16.1
Allen, Victoria	SEDD10026	3.17.1
Alongi, Claudia	SEDD10029	3.16.2
Altamirano, Juan	Solar_AL_005	3.15.20.2, 3.7.2

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Alton Strategic Environmental Group	SEDD11871	3.6.4, 3.7.20, 3.14.8, 3.7.1, 3.7.6
Amargosa Conservancy	SEDD11841	3.14.2, 3.1.12, 3.6.4, 3.3.2, 3.11.2, 3.11.3, 3.6.3.3, 3.15.9.1, 3.15.9.2, 3.15.9.4, 3.15.9.7, 3.15.9.6, 3.15.13.4
American Rock Art Research Association	Solar_037	3.15.18.10, 3.14.1, 3.15.18.1
Amsden, Liz	SEDD10956	3.2.3, 3.18.3
Anderson, Ginger	SEDD11139	3.2.3
Anderson, Jerald	Solar_SL_002	3.14.1, 3.15.9.1, 3.15.9.4, 3.15.6.3, 3.7.15, 3.7.2, 3.15.20.1, 3.18.3, 3.7.19, 3.1, 3.15.3.1, 3.3.1, 3.5.1, 3.15.24.5
Anderson, Melanie	SEDD11899	3.16.3, 3.16.2
Anderson, Timothy	Solar_IW_019	3.16.2
Andresen, Sherry	SEDD10818	3.18.3
Andrus, Melanie	SEDD10489	3.2.2.3
Angel, Beth	SEDD10567	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Angus, Jerry	SEDD10162	3.15.6.3
Annon, Consuelo	SEDD10859	3.17.6
Antonovich, Michael	SolarS_006	3.6.1, 3.2.2, 3.14.2, 3.8, 3.6.3.2
Anza Borrego Foundation	Solar_018	3.2.2.1
Apgar, Barbara	SEDD11398	3.14.1
Arboleda, Lillian	SEDD11277	3.14.1
Arcana, Judith	SEDD10288	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Arizona Department of Environmental Quality	Solar_010	3.1.1, 3.1.2, 3.1.3, 3.15.14.5
Arizona Department of Environmental Quality	SEDD10150	3.15.9.2, 3.14.2
Arizona Department of Transportation	SEDD10024	3.2.2, 3.15.22.1
Arizona Department of Water Resources	Solar_001	3.14.2
Arizona Game and Fish Department	SEDD11740	3.2.3, 3.15.10.8, 3.14.1, 3.17.5, 3.6.3.1, 3.8.3, 3.14.2, 3.7.14, 3.15.13.6, 3.15.24.7, 3.15.11.7, 3.15.11.10, 3.15.13.5, 3.15.11.5, 3.7.5
Arizona State Historic Preservation Office	Solar_039	3.2.2, 3.15.18.2, 3.2.1, 3.14.1, 3.6.2
Arizona Wilderness Coalition	Solar_PH_005	3.14.1, 3.14.2, 3.2.2.4, 3.4.1, 3.17.5, 3.8.3
Arizona Wilderness Coalition	Solar_TU_002	3.14.2, 3.2.2.4, 3.14.8, 3.6.3.3
Arizona Wildlife Federation	SEDD11803	3.14.1, 3.8, 3.6.5, 3.18.3, 3.7.11, 3.11.2, 3.4.1, 3.15.11.9
Arkema, Carroll	SEDD10931	3.2.5
Aronowitz, Judi	SEDD10300	3.16.1
Arrow-Weed, Preston	SolarS_EC_02	3.16.2, 3.15.19.3, 3.6.2, 3.16.3
Ashborn, Janice	SolarS_018	3.2.2.1, 3.7.18
Au, Shari	SEDD10871	3.18.3
Audubon New Mexico	Solar_042	3.6.4, 3.14.1, 3.14.2, 3.2.1, 3.8, 3.1.19, 3.6.1
Aughey, Arlene	SEDD10210	3.2.5
August, Boyer	SEDD10544	3.16.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Austin, Barara	SEDD11259	3.2.5
Austin, Kevin	SEDD10323	3.2.5
Autrey-Schell, Yovonne	SEDD10278	3.2.2.3, 3.16.1
Baggs, Bo	SEDD11040	3.16.1
Bahn, Theodore	SEDD10915	3.2.5, 3.1.5, 3.1.7, 3.1.12
Baier, Bryan	SEDD11176	3.2.5
Baier, Mary	SEDD10334	3.18.3
Bailey-Pruc, Susan	SEDD10342	3.2.5
Baird, Graeme	SEDD11885	3.17.1, 3.17.5
Bairstow, Diane	SEDD10095	3.16.2, 3.18.3, 3.17.1
Baker, Christine	Solar_046	3.14.1
Baker, Marina	SEDD11369	3.2.5
Baker, Nona	SEDD10382	3.2.5
Balekian, Safiya	SEDD11447	3.16.3, 3.17.1
Bandorf, Judy	SolarS_LV_05	3.17.5, 3.15.6.3, 3.5.4, 3.2.3
Baney, Gary	SEDDsupp20003	3.16.1
Banfield, David	SEDD11693	3.2.5
Banis, Randy	SEDD11895	3.15.5.1, 3.14.2, 3.14.1
Banis, Randy	Solar_BA_010	3.15.5.1, 3.14.1
Bardin, Christopher	SEDD11737	3.17.1
Barker, Claire	Solar_AL_014	3.18.3, 3.7.1, 3.17.5, 3.5.2, 3.7.2
Barker, Claire	SolarS_AL_11	3.7.2.1, 3.18.1, 3.7.1, 3.7.2, 3.17.1
Barlow, Scott	SEDD10793	3.2.5
Barnes, Lyhn	SEDD11117	3.18.3
Barnett, Justin	SEDD11609	3.16.1
Barr, Cassie,	SEDDsupp20065	3.14.2
Barr, Todd	SEDD11797	3.16.2
Barrett, Christine	SEDD11605	3.2.5
Barrett, Linn	SEDD10308	3.2.2.4, 3.2.3, 3.14.2, 3.14.1, 3.1.5, 3.1.6
Barrett, Linn	Solar_048	3.2.2.4, 3.4.1, 3.14.1, 3.1.5, 3.1.6, 3.8
Barrington, Craig	SEDD10245	3.14.1
Barrington, Tim	SEDD10908	3.2.5
Bartell, Frank	SEDD10906	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Bartlett, Palmer G	SEDD11476	3.16.1
Basin and Range Watch	SEDD11886	3.17.4, 3.14.7, 3.17.5, 3.15.13.4, 3.5.1
Basin and Range Watch	SEDDsupp20062	3.9, 3.17.5, 3.1.12, 3.15.15.7, 3.15.18.10, 3.6.1, 3.15.13.5, 3.15.13.9, 3.1.17, 3.5.4, 3.15.9.1, 3.1.18, 3.15.11.13, 3.15.11.2, 3.1.7, 3.6.4, 3.14.7, 3.15.10.3, 3.15.10.8, 3.7.2, 3.15.18.9, 3.2.2.3, 3.7.22, 3.1, 3.17.1, 3.7.1, 3.14.3, 3.14.5, 3.14.8, 3.14.1, 3.15.23.1, 3.15.23.4
Basin and Range Watch	Solar_IW_020	3.2.3, 3.1.7, 3.6.1, 3.9, 3.6.4, 3.14.7, 3.15.13.3, 3.15.20.6, 3.15.20.7, 3.18.3
Basin and Range Watch	SolarS_LV_03	3.6.1, 3.17.4, 3.17.5, 3.14.8, 3.14.7, 3.1.12, 3.15.14.11, 3.15.9.1, 3.1.7, 3.15.18.1, 3.2.2.2, 3.15.10.8
Battrick, Dennis	SEDD10684	3.1.7, 3.1.5, 3.1.12, 3.1.21

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Bauer, Kim	SEDD10035	3.2.3
Bauer, Vikki	SEDDsupp20035	3.6.1, 3.2.2, 3.18.3, 3.6.3.2
Beach, John	SEDD11866	3.14.2, 3.1.7, 3.15.9.1, 3.15.9.4
Beach, John	Solar_IW_024	3.2.3
Beal, Adam	SolarS_AL_01	3.17.1, 3.14.1, 3.2.2, 3.5.6, 3.7.11
Bea'ls, Alan	SEDDsupp20113	3.14.1
Beams, Kay	SEDD10403	3.14.1, 3.2.5
Bean, Brandon	SEDD10591	3.1.7, 3.1.5, 3.1.12, 3.1.21
Bean, Brandon	SEDD10627	3.18.3
Beaubien, Keeta	SEDD11458	3.16.1
Beaver County Commission	SEDD11633	3.16.1, 3.6.3.2, 3.15.3.1, 3.1, 3.2.1, 3.1.23, 3.1.24, 3.14.2
Beaver, Cindy	SEDD10099	3.14.2
Beavers, Nancy	SEDD11190	3.2.5
Becker, Anna	SEDD10226	3.2.5
Becker, Marsha	SEDD10741	3.2.5
Beckman, Nan	SEDD10368	3.2.5, 3.1.21, 3.1.12
Begalke, Donald	SEDD10101	3.6.1
Begalke, Donald	Solar_016	3.6.1, 3.1.1, 3.5.1, 3.12, 3.15.10.5, 3.1.3, 3.15.11.6, 3.15.11.10, 3.14.1, 3.6.2, 3.15.19.10, 3.16.1, 3.18.3, 3.2.3, 3.14.2, 3.8, 3.2.1
Bell, Chuck	Solar_033	3.7.11
Bell, Jim	SEDD10032	3.2.3, 3.17.1
Bell, Jim	SEDD11888	3.16.3, 3.17.1
Benally, Marley	Solar_PH_018	3.16.1, 3.14.2
Benedetto, Frank	SEDD10451	3.18.3
Benford, Al	SEDD10474	3.2.5
Bengtson, Peter	SEDD10080	3.17.5, 3.14.1
Benjamin, Glen	SEDD10676	3.18.3
Benjamin, Glen	SEDD11395	3.16.1
Bennett, Chelsea	SEDD10734	3.2.5
Bennett, Virginia	SEDD10254	3.2.3
Bentley, Kathy	SEDD10630	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Berger, Bradford	SEDD11802	3.16.2, 3.17.5
Berger, Bruce	SEDD11401	3.2.5
Berger, Gretchen	SEDD10967	3.18.1
Berggren, Richard	SEDD11279	3.2.5
Berkeley, Carol	SEDD11402	3.2.3
Berkshire, David	SEDD10578	3.2.5
Bernalillo County, New Mexico	SolarS_003	3.6.1, 3.2.2, 3.14.2, 3.18.3, 3.8, 3.6.3.2
Bernheimer, Rob	Solar_IW_018	3.14.8, 3.8.1
Bertaut, Carmel	SEDD10708	3.2.5
Betz, Reid	SEDD11442	3.17.1
Bevilacqua, Elaine	SEDD11218	3.2.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Big Pine Paiute Tribe of the Owens Valley	SEDDsupp20152	3.6.1, 3.14.7, 3.2.2.1, 3.1.12, 3.1.13, 3.1.14, 3.1.16, 3.1.17, 3.1.18, 3.1.22, 3.1.23, 3.1.24, 3.15.19.1, 3.17.5, 3.6.3.3, 3.17.1, 3.2.3, 3.2.2, 3.14.1, 3.8.2, 3.15.19.4, 3.14.2, 3.1.4, 3.1.7
Big Pine Paiute Tribe of the Owens Valley	Solar_051	3.14.2, 3.15.19.4, 3.2.3, 3.15.19.1, 3.17.5, 3.8.2, 3.1.4, 3.1.5, 3.1.6, 3.1.7, 3.15.19.7, 3.6.2, 3.15.19.6, 3.15.19.10, 3.9, 3.17.1, 3.18.2, 3.6.4, 3.14.7, 3.14.3
Biggs, Leon	SEDD11712	3.18.3
Billeaud, Theresa	SEDD10320	3.16.1
Bird, Jim	SEDD10988	3.18.3
Bish, Margaret	SEDD11258	3.2.3
Bishop, Norman	SEDD10820	3.2.5
Bishop, Scott	SEDD10810	3.17.1
Bisson, Henri	Solar_TU_009	3.7.11, 3.6.3.3, 3.4.1, 3.17.4, 3.2.1, 3.17.5
Bjorn, Jeff	SEDD10933	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Black, Angela	SEDD11241	3.2.5
Blackman, Barbara	Solar_PH_017	3.7.14, 3.7.3
Blackmer-Blomquist, Stacy	SEDD10058	3.16.1, 3.2.2.3
Blackwelder, Alma	Solar_050	3.2.3, 3.8, 3.14.1
Blanck, Heidi	SEDD10955	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Bley, Ann	SEDD10064	3.14.1, 3.14.2, 3.6.3.2, 3.8
Blier, Robin	SEDD11529	3.16.1
Blythe County Chamber of Commerce	Solar_041	3.16.1, 3.2.3, 3.14.1
BNSF Railway Co.	SEDDsupp20116	3.8, 3.7.3, 3.15.22.3, 3.15.9.3, 3.2.2.2, 3.3.1, 3.15.23.2, 3.15.23.3, 3.6.3, 3.6.4
Bodendorf, Jan	SEDDsupp20115	3.16.3
Boering, Don	SEDDsupp20070	3.6.1
Bollin, Joseph	SEDD11284	3.18.1
Bolt, Patricia	SEDD11180	3.16.1
Boone, James	SEDD10892	3.2.5
Boone, Jim	SEDD11731	3.2.5
Boone, Mary	SEDD10604	3.2.5
Bosco, Jessica	SEDD10423	3.2.3
Bosh, Joni	SEDDsupp20154	3.6.1, 3.17.5, 3.14.1
Bowen, Mary	SEDD11339	3.2.5
Boyd, Michael	SEDD10085	3.18.3
Boyington, Charles	SEDD10860	3.18.3
Boyle, Kenneth	SEDD10856	3.16.1
Bradley-Phillips, Sabine,	SEDD10431	3.17.1
Brady, John	SEDD11271	3.2.5
Brady, Maria	SEDD11654	3.16.1
Branagan, Jackie	SEDD11536	3.16.1
Branch, Peter	SEDD11455	3.16.1
Branson, Carih	SEDD11171	3.2.5
Braun, Beth	SEDD11116	3.2.5
Brazier, Helene	SEDD10457	3.2.1
Breakfield, Sandra	SEDD10809	3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Brebner, Linda	SEDD11289	3.2.5
Breckenridge, Bonnie	SEDD11036	3.2.3
Brennan, Patricia	SEDDsupp20092	3.14.1, 3.17.5
Bresko, Joan	SEDD10777	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Brettin, David	SEDD11266	3.16.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Brewer, Molly	SEDD10702	3.18.3
Briggs Law Corporation on behalf of Californians for Renewable Energy	SEDD11896	3.2.3, 3.14.8, 3.6.4, 3.15.19.4, 3.15.19.6, 3.15.24.2, 3.7.18, 3.15.13.4, 3.15.19.2, 3.15.9.1, 3.15.23.3, 3.3.1, 3.9, 3.14.7, 3.17.4, 3.11.1
Briggs, Sharise	SEDD10811	3.18.3
BrightSource Energy	SolarS_PD_04	3.14.2
BrightSource Energy, Inc.	SEDDsupp20187	3.14.2, 3.8, 3.14.1, 3.16.1, 3.11.2, 3.2.6, 3.6.1, 3.7.21, 3.12
BrightSource Energy, Inc.	Solar_SA_004	3.14.2, 3.5.6, 3.6.3.3
Brink, Ron	Solar_AL_009	3.7.2, 3.2.3
Brodie, Ricki	SEDDsupp20022	3.2.2.1, 3.14.1
Brodie, Rickie	SolarS_PD_06	3.16.1, 3.2.3, 3.2.2.3, 3.1.7, 3.14.1
Brooks, Deborah	SEDD10767	3.2.5
Brown, Brian	Solar_BA_003	3.16.1, 3.6.4, 3.14.2, 3.2.2, 3.1.12, 3.15.9.1, 3.15.9.2, 3.15.9.4, 3.15.24.9
Brown, Caroline	SEDD11699	3.17.1, 3.17.6
Brown, Michael	SEDDsupp20030	3.12, 3.18.1
Brown, Nancy	SEDD10965	3.2.5
Bruno, Robert	SEDD10969	3.16.1
Bruno, Rose	SEDD10977	3.16.1
Bryan, Lori	SEDD11386	3.2.5
Bryant, James	SEDD10022	3.17.5, 3.17.1
Brylski, Geraldine	SEDD10729	3.16.1
Buckingham, Hillary	SEDD11511	3.2.5
Buell, Barbara	SEDD10564	3.2.3
Bullock, Elizabeth	SEDD10839	3.2.5
Bultot, Roger	SEDD10935	3.2.5
Bundy, Ed	Solar_CC_003	3.1.16, 3.16.1, 3.7.2
Burckhardt, Deborah	SEDD11674	3.16.1
Burg, Donald	SEDD11288	3.2.5, 3.18.2
Burgi, Janice	SEDD10748	3.2.5
Burk, Joyce	SEDD10580	3.2.5
Burkhead, Renee	SEDD10727	3.18.3
Burks, Paul	SEDD10236	3.16.1
Burley, Chris	Solar_055	3.2.3, 3.16.1, 3.14.1, 3.8, 3.1.5, 3.2.2.1, 3.1.6, 3.15.11.1, 3.15.13.1, 3.15.13.3, 3.3.2, 3.15.9.1, 3.2.2.3
Burley, David	SEDD11187	3.14.1, 3.2.5
Burlingame, Linda	SEDD11220	3.18.3
Burns, Vicki	SEDD11194	3.2.5
Burpee, Kathy	SEDD10484	3.2.3
Burr, Eric	SEDD11304	3.2.5
Burt, Al,	SEDD11323	3.16.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Button, James	SEDD11094	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Button, Jerry	SEDD11027	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Buxton, Cynthia	SEDDsupp20082	3.6.4, 3.17.1
Byrd, Cynthia	SEDD10389	3.2.5
Cabeza-Kinney, Cristina	SEDDsupp20072	3.17.1, 3.16.3
Cadora, Eric	SEDD11626	3.2.5
Cadzow, Daniel	SEDD11273	3.16.1
Cain, Barbara	SEDD10473	3.16.1
Caine, William	SEDD10196	3.17.1
Caldwell, James	SEDD10362	3.2.5
California Association of Four Wheel Drive Clubs	SolarS_PD_07	3.15.5.1, 3.18.3, 3.7.13, 3.2.1, 3.15.7.4, 3.15.7.7
California Desert Advisory Council	SEDD11876	3.2.3, 3.11.1, 3.6.1, 3.15.20.10, 3.7.13, 3.2.1, 3.2.2, 3.17.5, 3.4.1, 3.14.7, 3.14.8, 3.15.24.8, 3.15.5.1, 3.15.11.11
California Desert Coalition	SEDD11780	3.5.1, 3.6.1, 3.11.2, 3.6.4, 3.14.8, 3.11.3, 3.17.3, 3.15.14.1, 3.17.5, 3.9, 3.14.6, 3.14.2, 3.2.2.4, 3.1.5, 3.1.6, 3.1.7, 3.1.4
California Desert and Renewable Energy Working Group (Sierra Club, The Nature Conservancy, Defenders of Wildlife, The Wilderness Society, Large-Scale Solar Association, kRoad Power, Audubon California, BrightSource Energy, Defenders of Wildlife, National Resources Defense Council, Center for Energy Efficiency and Renewable Technologies, First Solar, Inc.)	Solar_045	3.6.1
California Desert and Renewable Energy Working Group, courtesy of Resources Legacy Fund	SEDD11832	3.6.4, 3.6.3.3, 3.8, 3.1.5, 3.7.3, 3.11.2, 3.11.3, 3.7.14, 3.2.1, 3.17.4, 3.17.5, 3.17.6, 3.2.2, 3.15.13.1, 3.15.13.3, 3.15.13.6, 3.15.11.4, 3.6.2, 3.15.18.9, 3.5.1, 3.5.6, 3.8.4, 3.8.5
California Desert Coalition	Solar_IW_009	3.9, 3.17.1, 3.3.2, 3.15.11.11, 3.1.5, 3.1.6, 14.7
California Energy Commission, California Department of Fish and Game	Solar_SA_008	3.1.5, 3.17.4, 3.6.3.3, 3.14.1
California Energy Commission, California Department of Fish and Game	SEDD11831a	3.6.3.3, 3.17.4, 3.15.11.8, 3.15.13.9, 3.19, 3.15.13.7, 3.15.11.6, 3.8.1, 3.8.2, 3.8.5, 3.15.12.1, 3.15.13.4, 3.7.20, 3.15.24.12, 3.1.7, 3.13, 3.15.9.3, 3.15.13.10, 3.1.5, 3.1.6, 3.15.13.1, 3.19, 3.15.24.11, 3.1.4, 3.3.2, 3.15.10.1, 3.5.1, 3.5.3, 3.15.11.7, 3.15.9.1, 3.15.7.8, 3.15.9.2, 3.15.11.12, 3.15.13.3, 3.15.9.6, 3.15.10.7, 3.15.10.2, 3.15.11.9, 3.7.3, 3.15.10.6, 3.15.11.2, 3.15.11.11, 3.15.11.10

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
California Energy Commission, California Department of Fish and Game	SEDD11831b	3.19, 3.1.6, 3.15.13.10, 3.1.7, 3.15.1.2, 3.15.10.1, 3.15.11.8, 3.15.13.4, 3.15.13.1, 3.15.13.9, 3.15.9.3, 3.15.9.1, 3.15.11.4, 3.15.11.6, 3.15.11.9, 3.15.13.3, 3.15.24.12, 3.1.4, 3.15.10.6, 3.15.19.8, 3.1.5, 3.15.20.5, 3.15.18.10, 3.15.18.7
California Energy Commission; CA Department of Fish and Game	SEDDsupp20147	3.8.2
California Native American Heritage Commission	SolarS_001	3.6.2, 3.15.19.6
California Native Plant Society	SEDD11887	3.18.3, 3.1.5, 3.15.10.6, 3.1.6, 3.1.7, 3.15.10.1, 3.15.10.2, 3.15.10.3, 3.15.10.5, 3.15.10.8, 3.2.3, 3.17.5, 3.14.1, 3.6.3.3, 3.3.1, 3.15.13.1, 3.15.13.4
California Native Plant Society	SEDDsupp20169	3.16.2, 3.17.5, 3.1.4, 3.15.10.6, 3.1.7, 3.15.10.2, 3.6.1, 3.14.1, 3.7.23, 3.3.2, 3.11.2, 3.15.24.2
California Native Plant Society	Solar_SA_009	3.1.5, 3.14.1, 3.1.6, 3.6.3.3, 14.7
California Public Utilities Commission	SEDDsupp20079	3.6.1
California Public Utilities Commission	SEDD11722	3.18.3, 3.8.2, 3.8.1, 3.8.4, 3.14.3, 3.14.1, 3.5.1, 3.1.5, 3.1.7, 3.15.24.12, 3.1.4, 3.1.6, 3.15.13.4, 3.15.15.10
California Rifle and Pistol Association	SEDD11769	3.2.3, 3.17.5, 3.15.5.1
California State Historic Preservation Office	Solar_SA_014	3.6.2
California State Lands Commission	SolarS_044	3.8.2, 3.6.3.3, 3.6.1
California State Parks	SEDD11858	3.2.2.1
California State Parks	SEDD11854	3.2.2.1, 3.15.13.4, 3.15.13.9, 3.15.11.8, 3.15.18.7, 3.1.4, 3.15.13.3
California Trail User Coalition	SEDD10157	3.3.2
California Unions for Reliable Energy (CURE)	SEDDsupp20159	3.6.1, 3.5.4, 3.6.4, 3.7.23, 3.6.5
Californians for Renewable Energy	Solar_SA_007	3.6.2, 3.11.2, 3.11.3, 3.18.3, 3.14.5, 3.18.3, 3.6.4, 3.17.1
Californians for Western Wilderness	SEDDsupp20165	3.14.1, 3.2.2.4, 3.17.2, 3.17.6
Cameron, Michael	Solar_LV_007	3.2.3, 3.18.3, 3.15.13.4, 3.14.2, 3.14.1, 3.3.2, 3.15.9.1, 3.15.9.5
Camhi, Gail	SEDD10992	3.2.5
Campbell, Benita	SEDD10445	3.2.5
Canaly, Chris	Solar_AL_015	3.18.3, 3.15.1.3, 3.14.3, 3.5.1
Canaly, Chris	SolarS_AL_15	3.7.2.1, 3.5.4
Cannella, Eve	SEDD10102	3.15.18.3
Cannon Solar and Wind LLC	SEDDsupp20006	3.16.1
Capozzelli, J.	Solar_047	3.14.1, 3.14.2, 3.8, 3.3.1
Cappelletti, Regina	SEDD10548	3.2.5
Carey, Barbara	SEDD11310	3.16.1
Carlton, Alan	SEDDsupp20103	3.14.1, 3.2.2, 3.2.2.1, 3.1.6, 3.7.12, 3.7.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Carper, Janet	SEDD10768	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5, 3.18.3
Carr, Gaile	SEDD10566	3.18.3
Carroll, Mark	SEDD11746	3.16.1
Carroll, Ray	SolarS_026	3.7.14, 3.8, 3.6.3.2, 3.14.1, 3.6.1
Carter, Gary	SEDD10545	3.16.1
Carter, Nancy	SEDD10626	3.18.3
Carty, Claudia	SEDD10905	3.16.1, 3.2.5
Case, Jim	Solar_CC_007	3.5.6, 3.17.4, 3.15.13.3, 3.18.3, 3.15.15.1
Casey, Carol	SEDD10277	3.2.5
Casey, Joyce	SEDD10378	3.2.5
Cassens, Susan	SEDD10843	3.2.3
Caswell, Jack	SEDDsupp20055	3.3.2
Cathcart, Melissa	SEDD10412	3.2.3
Cell, Kristin	SEDDsupp11908	3.16.1, 3.17.1
Celtic Energy Corporation	SEDDsupp20107	3.8.1
Center for Biological Diversity	SEDD11818	3.16.1, 3.6.3.3, 3.11.2, 3.11.3, 3.3.2, 3.6.4, 3.15.13.4, 3.1, 3.2.2.3, 3.15.13.3, 3.15.11.6, 3.2.2, 3.15.14.8, 3.15.9.1, 3.15.9.2, 3.15.24.6, 3.15.24.2, 3.2.1, 3.14.2, 3.14.1, 3.14.7, 3.17.5, 3.8, 3.1.4, 3.1.5, 3.1.6, 3.1.7
Center for Biological Diversity	SEDDsupp20126	3.6.1, 3.15.9.1, 3.15.9.4, 3.15.9.7, 3.15.13.3, 3.15.13.5, 3.1.5, 3.1.6, 3.2.2.1, 3.1.7, 3.15.10.3, 3.15.10.8, 3.8.2, 3.18.3, 3.1, 3.14.1, 3.15.14.8, 3.15.9.2, 3.15.5.1, 3.15.24.2, 3.1.13, 3.1.16, 3.1.17, 3.5.4, 3.1.18, 3.15.13.9, 3.2.2.3, 3.7.22, 3.15.11.10, 3.8, 3.11.2, 3.15.13.1
Center for Biological Diversity	SEDDsupp20127	3.18.3
Center for Biological Diversity	SEDDsupp20128	3.18.3
Center for Biological Diversity	SolarS_LV_04	3.6.1, 3.2.2, 3.14.1, 3.11.2, 3.11.3, 3.11.1, 3.17.1, 3.17.2, 3.17.5
Center for Energy Efficiency and Renewable Technologies	Solar_SA_012	3.14.1, 3.6.1, 3.6.3.3, 3.5.1, 3.8, 3.8.5, 3.17.4, 3.5.6
Center of Energy Efficiency and Renewable Technologies	SolarS_PD_12	3.7.11, 3.14.1, 3.18.3, 3.15.13.3, 3.15.13.4, 3.8.2, 3.8.5
Chaffin, Kurt	SEDD10100	3.16.2, 3.7.2, 3.1, 3.14.2
Chamberlain, Richard	SEDD10611	3.2.5
Chambre, Linda	SEDD11377	3.2.3
Chandler, Lowell	SEDD10008	3.2.2.3
Charney, Danielle	SEDD10244	3.16.1
Chemehuevi Indian Tribe	Solar_BA_004	3.15.19.9, 3.15.9.1, 3.15.9.2, 3.15.24.6, 3.6.3.1, 3.15.19.10, 3.15.24.4, 3.15.19.2, 3.15.19.3, 3.16.1
Chepuru, Melissa	SEDD11247	3.18.2
Chess, Katie	SEDD10756	3.17.1
Chinn, Douglas	Solar_IW_026	3.16.1, 3.17.6, 3.16.2

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Chipman, Eric	SEDD10663	3.16.1
Chisari, Andrea	SEDD10269	3.2.5
Choate, Viviann	SEDD10646	3.2.5
Church, Michele	SEDD10840	3.18.3
Cicetti, Melissa	SEDD10179	3.16.1
Citizens for the Chuckwalla Valley	SEDD11354	3.6.1, 3.9, 3.18.3, 3.15.21.2, 3.14.3, 3.6.4, 3.17.1, 3.14.7, 3.17.5, 3.15.24.2, 3.16.3, 3.15.18.3
Citizens for the Chuckwalla Valley	Solar_IW_001	3.1.7, 3.15.21.1, 3.15.21.2, 3.6.4, 3.17.1
Citizens for the Chuckwalla Valley	Solar_IW_002	3.18.1, 3.15.14.1, 3.18.3, 3.17.1, 3.12, 3.16.2
Clark County	SEDD11738	3.16.1, 3.2.1
Clark County	SEDDsupp20146	3.6.1, 3.14.1
Clark County Board of Commissioners	Solar_020	3.14.1, 3.8, 3.17.5, 3.15.9.1, 3.15.13.4, 3.15.24.8
Clark County Board of Commissioners	SolarS_007	3.6.1, 3.2.2, 3.14.2, 3.18.3, 3.8, 3.6.3.2
Clark County Desert Conservation Program	SEDD11855	3.15.13.4, 3.19, 3.1.14, 3.15.10.1, 3.15.11.10, 3.7.22, 3.15.13.8, 3.15.10.8, 3.15.24.15
Clark County Desert Conservation Program	SEDDsupp20031	3.7.22, 3.15.13.4, 3.19, 3.1.14
Clark County Nevada Department of Aviation	SEDD11541	3.3.1, 3.15.6.1, 3.7.12, 3.11.3
Clark County Nevada Department. of Aviation	SEDDsupp20075	3.7.3, 3.7.22, 3.15.6.1
Clark, Douglas	SEDDsupp20137	3.7.9, 3.17.4, 3.17.5, 3.7.19, 3.15.15.1
Clark, Lawrence	SEDD10737	3.16.1
Clark, Matt	Solar_AL_012	3.14.1, 3.14.2, 3.17.5, 3.2.2.1, 3.15.13.3
Clements, Rhonda	SEDD11162	3.16.1
Cloner, Matthew	SEDD10930	3.2.5
Close, Jeff	SEDD10467	3.2.5
Coalition for Nevada's Wildlife	Solar_GF_002	3.6.3.2, 3.6.2, 3.6.3.3
Coalition for Sonoran Desert Protection	SEDD11846	3.14.1, 3.2.2.1, 3.7.16, 3.14.2, 3.6.3.3, 3.2.2, 3.2.2.3, 3.6.3.2
Cochise County Board of Supervisors	SolarS_009	3.16.1, 3.14.2, 3.6.1, 3.14.1, 3.18.3, 3.7.2, 3.17.4, 3.6.3.2
Coffey, John	Solar_BA_007	3.15.13.4, 3.15.13.5, 3.2.1, 3.17.5, 3.18.3, 3.6.2
Cogan, Richard	SEDD10945	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Cohen, Harriet	SEDD10180	3.14.1, 3.2.5
Coleman, Edith	SEDD10228	3.2.5
Coles, Roswell	SEDD10791	3.2.3
Collins, David	SEDD10991	3.2.5
Collins, Russell	SEDD10979	3.2.5
Collinsworth, Van	SEDD10647	3.14.7
Colorado Division of Water Resources	SolarS_AL_10	3.15.9.2

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Colorado Division of Wildlife	Solar_019	3.6.4, 3.15.13.4, 3.1.11, 3.15.11.8, 3.15.13.9, 14.7, 3.15.9.1, 3.15.9.2, 3.15.11.4, 3.15.9.6, 3.15.11.10, 3.15.5.2, 3.15.11.12, 3.15.11.9, 3.15.16.1, 3.1.9
Colorado River Indian Tribe	Solar_BA_011	3.15.18.1, 3.6.2, 3.15.19.10, 3.15.19.3, 3.7.5, 3.15.13.8, 3.7.2
Colorado River Indian Tribes	SEDDsupp20139	3.2.2, 3.8.2, 3.6.2, 3.6.1, 3.15.18.9, 3.7.15, 3.14.1, 3.15.18.10
Colschen, Wendy	SEDD11030	3.1.7, 3.1.5, 3.1.12, 3.1.21
Comfort, David	SEDD10858	3.2.5
Committee on 245 Million Acres	SEDD11813	3.13, 3.6.1, 3.7.13, 3.16.3, 3.5.6, 3.1, 3.6.4, 3.7.15
Conaway, Alvin	SEDD10073	3.18.3
Conejos County	SEDD11834	3.7.2, 3.7.13, 3.17.1
Conejos County Clean Water, Inc.	SEDD11518	3.7.16, 3.7.2.1, 3.15.20.2, 3.17.1, 3.17.4, 3.17.5, 3.18.3, 3.2.3, 3.15.7.4, 3.15.9.6, 3.15.10.1, 3.6.1, 3.15.14.11, 3.15.13.4, 3.15.11.10, 3.15.18.1, 3.15.15.8, 3.15.23.3, 3.6.3.2, 3.7.2, 3.5.1, 3.14.8, 3.15.20.1, 3.15.20.5
Conejos County Clean Water, Inc.	SEDDsupp20120	3.16.1, 3.6.4, 3.17.4, 3.5.4, 3.18.1, 3.1.8, 3.1.11, 3.7.2.1, 3.14.8, 3.18.3, 3.2.3, 3.8.1, 3.17.1, 3.15.21.1, 3.15.21.2, 3.6.1, 3.15.20.1, 3.15.20.2, 3.7.2, 3.15.20.4, 3.15.20.7, 3.15.20.8, 3.15.20.5, 3.17.5, 3.6.3.2, 3.9, 3.15.7.1, 3.15.9.1, 3.15.9.2, 3.15.9.5, 3.15.9.4, 3.15.9.6, 3.15.10.4, 3.15.14.5, 3.15.14.11, 3.15.23.1, 3.15.14.9, 3.15.11.4, 3.15.11.2, 3.15.11.11, 3.15.18.5, 3.15.18.10, 3.15.18.4, 3.15.3.3, 3.2.2.2, 3.15.15.8, 3.15.23.3, 3.15.21.3, 3.15.21.4, 3.14.7
Conejos County Clean Water, Inc.	SolarS_AL_12	3.6.1, 3.7.2, 3.9, 3.15.18.5, 3.15.23.3
Conejos County Commissioners	SEDDsupp20047	3.2.4, 3.1.8, 3.1.11, 3.7.2, 3.5.1, 3.2.3, 3.15.9.3
Congdon, Ann	SEDDsupp20102	3.6.1, 3.14.1, 3.15.20.4
Conklin, Lu	SEDD10778	3.16.1
Conroy, Faith	SEDD10747	3.2.5, 3.1.5, 3.1.7, 3.1.12, 3.1.21
Cook, Paul; California State Assembly	SEDDsupp20066	3.6.1, 3.2.5, 3.14.1, 3.15.20.4
Cook, Steven	SEDD11474	3.2.3
Coon, Johnney	SEDDsupp20117	3.16.2
Cooper, Katherine	SEDD10664	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Cooper, Kathleen	SEDD11546	3.17.1
Cordes, John	SEDD10006	3.17.1
Corriere, Jim	SEDD11179	3.2.5
Costa, Demelza	SEDD11335	3.2.5
Costa, Donna	SEDD11299	3.2.5
Couch, Sandra	SEDD11565	3.2.3
Councilman, Dave	SEDD11042	3.2.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
County of San Bernardino	SEDD11326	3.9, 3.6.4, 3.1.6, 3.15.13.4, 3.3.2, 3.15.22.2, 3.6.3.2, 3.14.8, 3.15.9.1, 3.15.9.4, 3.3.1, 3.15.9.6, 3.15.24.6
Coy, Jessica	SEDD11714	3.18.3, 3.17.1, 3.1.7
Crabill, Phillip	SEDD10417	3.2.3
Craig, Edward	SEDD11163	3.2.3
Craig, Julianne	SEDD10868	3.2.3
Crandall, Lynn	SEDD10989	3.14.1, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.2.5
Crane, Laura	Solar_BA_001	3.16.1, 3.15.9.1, 3.15.9.6, 3.2.3, 3.14.2, 3.14.3, 3.14.1, 3.8, 3.17.5, 3.1.5, 3.1.6, 3.17.4
Cravitz, Sam	Solar_CC_008	3.2.1, 3.15.3.5
Creighton, Alexander	SEDD11411	3.18.3
Cresic, Kimberly	SEDD11195	3.2.3
Crespi, Sam	SEDD10372	3.2.5
Creswell, Richard	SEDD10951	3.2.3
Crickmore, Ingrid	SEDD11373	3.16.2, 3.1.5, 3.12, 3.17.5, 3.17.6
Crickmore, Ingrid	Solar_IW_014	3.16.2, 3.14.7, 3.5.1, 3.15.20.10, 3.17.6
Crites, Dave	SolarS_AL_19	3.7.2
Crosby, Ann	Solar_023	3.14.2, 3.15.3.4, 3.16.2, 3.15.9.1, 3.6.4, 3.17.1
Cross, Elizabeth	SEDDsupp20142	3.16.2
Crossley, Jean	SEDD11532	3.18.3
Crow Canyon Archaeological Center	Solar_036	3.15.18.1
Crum, William	SEDD10113	3.14.2, 3.16.1
Crum, William	SEDD11695	3.18.3
Cruz-Ellis, Cherylta	SEDD10971	3.2.3
Cultural Resources Preservation Coalition	SEDD11810	3.14.1, 3.2.2.1, 3.1.13, 3.15.18.2, 3.1.16, 3.15.18.10, 3.15.17.1, 3.15.18.7, 3.5.1, 3.15.18.6, 3.7.14, 3.2.2, 3.1.14, 3.1.1, 3.1.7, 3.1.9, 3.3.1, 3.15.18.4, 3.1.19, 3.1.21, 3.8, 3.14.2, 3.6.4, 3.15.24.1, 3.15.18.8, 3.2.2.2, 3.15.15.4, 3.15.15.1, 3.15.18.3, 3.3.2, 3.6.2
Cunico, Juliette	SEDD11478	3.1.21, 3.2.5
Cunningham, Laura	SolarS_LV_14	3.1.18, 3.15.11.13
Cunningham, Samuel	SEDD11894	3.15.13.4, 3.15.10.6, 3.15.23.3, 3.2.4, 3.1.7, 3.15.20.10, 3.5.1, 3.15.23.5
Cuprzinski, Michael	SEDD11503	3.18.3
Cuprzinski, Michael	SEDD11504	3.18.3
Dahn, Rick	SEDD11238	3.16.1
Dai, Jianshen	SEDD11601	3.2.3, 3.15.20.1
Dajany, Adam	SEDD10020	3.16.1
D'Ambrosio, Lisa	SEDD10375	3.16.1
Dangol, Krishna	SEDD11485	3.16.1
Danner, Sarah	SEDD11686	3.2.5
Dastrup, Melinda	SEDD11268	3.18.2
Davies-Sigmund, Steven	SEDD10622	3.2.5
Davis, Clarice	SEDD10115	3.15.9.1, 3.7.2, 3.2.3, 3.18.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Davis, George	SEDD10845	3.18.3
Davis, Lynn	Solar_LV_017	3.14.1, 3.15.15.1, 3.2.5
Dawdy, Ken	SEDD11353	3.2.5
Dawson, Julie	SEDD10787	3.2.5
Deal, Jeff	SEDD10258	3.16.1
Dean, Derry	SEDD10917	3.2.5
Decker, Ronald	SEDD10109	3.16.2
Dedenroth, Brian	SEDD11029	3.17.1, 3.17.6, 3.2.3, 3.17.5
Defarge, Juliet	SEDD10786	3.17.1
Defenders of Wildlife	Solar_LC_002	3.16.1, 3.14.2, 3.2.2.1, 3.14.1, 3.17.5, 3.8.3, 3.8, 3.15.13.3, 3.2.3, 3.1.5, 3.1.6, 3.1.2, 3.2.2.4, 3.15.11.3, 3.1.21, 3.1.19
Defenders of Wildlife	Solar_PH_006	3.14.2, 3.8, 3.17.5, 3.8.3, 3.6.4, 3.18.3, 3.16.1, 3.2.2, 3.7.22, 3.2.2.1, 3.14.3, 3.14.1
Defenders of Wildlife	SolarS_PH_02	3.6.1, 3.15.13.1, 3.14.1, 3.17.5, 3.8.3, 3.1.1, 3.2.2.1, 3.1.3, 3.2.2.4, 3.1.2, 3.1.21
Defenders of Wildlife	SolarS_PD_01	3.6.1, 3.15.13.1, 3.1.5, 3.2.2.3, 3.1.6, 3.1.7, 3.2.3, 3.17.5, 3.7.18
Defenders of Wildlife	solar_SA_002	3.2.3, 3.6.3.3, 3.14.3, 3.14.2, 3.14.1, 3.1.5, 3.1.6, 3.7.14, 3.6.4, 3.8, 3.8.5
Defenders of Wildlife	Solar_IW_008	3.16.1, 3.14.2, 3.14.1, 3.1.5, 3.1.6, 3.1.7, 3.2.1, 3.15.13.4, 3.8, 3.8.5
Defenders of Wildlife	Solar_DC_006	3.6.1, 3.14.2, 3.8, 3.15.11.10, 3.7.5, 3.7.1, 3.18.3
Defenders of Wildlife	SEDDsupp20157	3.6.1, 3.6.3.2, 3.15.11.10, 3.15.11.9, 3.3.2, 3.15.13.4, 3.3.1, 3.7.5, 3.15.11.5, 3.7.1, 3.15.13.7, 3.7.22, 3.2.2.3, 3.17.5, 3.15.13.1, 3.15.13.5
DeHaven, Maxwell	SEDD10133	3.14.2
Delaney, Dan	SEDD10230	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Deller, Jeanne	SEDD11454	3.16.1
Delph, Barbara	SEDD10264	3.2.3
Denison, Mr and Mrs James	SEDD10903	3.16.1, 3.17.1, 3.18.2
Denniston, Glenda	SEDD10305	3.2.5
Department of Defense	SolarS_010	3.6.3.1, 3.3.1, 3.2.2.1, 3.1.15, 3.15.6.3, 3.19, 3.2.2, 3.1.16, 3.15.6.4, 3.19, 3.1.14, 3.7.23, 3.15.10.3, 3.1.18, 3.1.7, 3.14.1, 3.15.6.1, 3.1.13
DePould-Newmark, Carole	SEDD10570	3.2.5, 3.1.5, 3.1.7
Desert Center Area Chamber of Commerce	SEDD10034	3.1.7, 3.17.1
Desert Center Area Chamber of Commerce	SEDDsupp20067	3.1.7, 3.7.2, 3.6.3.2
Desert Center Area Chamber of Commerce	Solar_IW_023	3.15.20.4, 3.15.20.6, 3.15.20.7, 3.17.1, 3.2.3
Desert Protection Society	SEDDsupp20077	3.15.21.2, 3.7.22, 3.15.11.9, 3.2.5, 3.17.1, 3.7.13, 3.9, 3.6.4, 3.14.7, 3.17.5, 3.15.9.4, 3.15.23.1, 3.15.14.12, 3.15.13.4, 3.7.1, 3.18.3, 3.16.2, 3.15.18.9

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Desert Survivors	SEDD11808	3.6.1, 3.15.24.5, 3.6.4, 3.17.1, 3.6.3.1, 3.14.8, 3.7.7, 3.6.5, 3.16.2, 3.16.3, 3.9, 3.15.10.5, 3.7.1
DeSpain, Juell	SEDD11149	3.2.5
DeVoe, Zachary	SEDD10002	3.17.1
Dewitt, Rebecca	Solar_PH_009	3.16.1, 3.14.1
Diaz, Jonathan	SEDD10919	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Dickinson, Sarah	SEDD11691	3.2.5, 3.17.2, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.17.5
Diederichs, Barbara	SEDD11095	3.17.1
Dieterich, James	SEDD10104	3.14.2
Dion, Patricia	SEDD10327	3.16.1
Doak, Hartson	SEDD10640	3.2.3
Dobson, Carol	SEDD10461	3.16.1
Dominguez, Anthony	SEDD11839	3.18.3, 3.6.1
Donnelly-Shores, Patrick	SEDD11552	3.17.1, 3.14.5, 3.9, 3.2.1, 3.14.1, 3.17.5, 3.8.3, 3.18.2, 3.1.5, 3.1.6, 3.1.7
Donnelly-Shores, Patrick	SEDDsupp20110	3.14.2
Donnelly-Shores, Patrick	Solar_SA_003	3.14.1, 3.14.2, 3.2.2.2, 3.7.21, 3.1.5, 3.1.6, 3.1.7
Donohue, Paul	Solar_CC_006	3.2.1, 3.1.15, 3.1, 3.8.1, 3.6.3.1
Donovan, Cori	SEDD10317	3.16.3
Donovan, Stephan	SEDD10698	3.2.5
Dorer, Jeffery	SEDD11383	3.2.3
Doss, Heide	SEDD10200	3.17.1
Doutre, Emily	SEDD10167	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Downing, Rosamund	SEDD10231	3.2.5
Dranklin, Doug	SEDD11507	3.17.1
Draus, Sandy	SEDD11118	3.2.5
Duckwater Shoshone Tribe	Solar_LV_003	3.15.18.1, 3.15.19.2
Duckwater Shoshone Tribe	SEDD11892	3.15.19.2, 3.15.24.17, 3.15.21.2, 3.15.19.9, 3.15.7.2, 3.15.9.1, 3.15.9.2, 3.15.9.5, 3.15.11.9, 3.15.14.5, 3.15.18.6, 3.15.19.7
Duda, Tim	SEDD10392	3.16.1
Dumont, Wayne	SEDD10735	3.2.5
Dunton, William	SEDD10322	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5, 3.2.2
Dupree, Aleta	Solar_LV_013	3.16.1, 3.14.1, 3.15.9.1, 3.17.1, 3.18.3, 3.11.1
Dupree, Aleta	SolarS_LV_12	3.16.1, 3.18.3, 3.2.3
Dwyer, Timothy and Jan	SEDD11211	3.2.5
Early, Gayle	SEDD11569	3.18.3, 3.15.15.1
Easter, Bill	SEDD11291	3.2.3
Ebel-Bailey, Nichole	SEDD11665	3.2.3
Ebersold, Deborah	SEDD11007	3.14.1
Eddy, Shannon	Solar_SA_005	3.14.2, 3.8, 3.8.5, 3.18.3, 3.14.1, 3.5.1, 3.6.3.3
Edelman, William	SEDD10853	3.16.1, 3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Edwards, Leslie	SEDD10805	3.14.1, 3.17.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Ee, Jeff	SEDDsupp20038	3.18.3, 3.15.24.2, 3.17.1, 3.17.6, 3.17.4, 3.17.5, 3.17.2
Eisenberg, Roberta	SEDD10172	3.1.7, 3.1.5, 3.1.12, 3.1.21
Elias, Richard	SolarS_034	3.6.1, 3.2.2, 3.14.2, 3.14.1, 3.7.3, 3.2.2.1, 3.8, 3.6.3.2
Elizondo, Maricela	SEDD11285	3.18.3
Elliot, Geoff	Solar_AL_010	3.6.4, 3.2.1, 3.15.24.4, 3.15.24.13, 3.14.6
Elliott, Carole	SEDD11294	3.18.3
Ellis, Bob	Solar_IW_015	3.16.2, 3.7.18, 3.18.3
Ellison,Jane	SEDD10864	3.2.5
Engel, Christine	SEDD10759	3.17.1
Engler, chris	SEDD11500	3.16.1
Entley, Hilary	SEDD11675	3.2.5
Environmental Defense Fund	SEDDsupp20162	3.3.2
enXco	SEDD11835	3.9, 3.1.6, 3.15.11.10, 3.15.9.3, 3.15.9.6, 3.15.13.4, 3.7.3, 3.1.14, 3.11.2, 3.5.6, 3.6.3.3, 3.14.2, 3.8.1, 3.5.1, 3.2.6, 3.7.15, 3.3.2, 3.3.1, 3.15.3.4, 3.15.5.3, 3.15.6.1, 3.15.7.6, 3.19, 3.15.13.2, 3.15.10.1, 3.7.5, 3.15.15.5, 3.15.15.2, 3.15.15.3, 3.15.20.2, 3.15.20.9, 3.7.14, 3.15.15.10, 3.15.9.7
enXco	SEDDsupp20141	3.14.2, 3.14.1, 3.7.22, 3.8, 3.11.2, 3.11.3, 3.15.15.10, 3.1.7, 3.2.2.4, 3.2.2.1, 3.1.14
enXco	Solar_PH_004	3.2.2, 3.1.7, 3.15.15.1, 3.2.1, 3.15.9.3, 3.15.9.6, 3.15.11.10, 3.5.6
Epple, Melissa	SEDD11484	3.16.1
Epstein, Kelly	SEDD10671	3.2.5
Erwin, Jeffrey	SEDD10893	3.2.5
Erwin, Patricia	SEDD11410	3.16.1
Escalante, Linda	Solar_BA_002	3.14.1, 3.14.2, 3.1.5, 3.1.6, 3.8.4, 3.8.5
Escobedo, Ernie	SEDD10141	3.2.3, 3.17.1, 3.17.6
Escobedo, Luis	SEDD10140	3.2.3, 3.17.1, 3.17.6
Escobedo, Norma	SEDD10138	3.2.3, 3.17.1, 3.17.6
Escobedo, Siba	SEDD10139	3.2.3, 3.17.1, 3.17.6
Esmeralda County Commissioners	Solar_GF_006	3.1.17, 3.15.15.9
Esmeralda County Land Use Advisory Committee	SEDD10011	3.1.17, 3.1.18, 3.6.3.1
Etherton, S.	SEDD10482	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.14.1
Evans, A.S.	SEDD10629	3.2.5
Ewing, Parke	SEDDsupp20018	3.16.2, 3.17.1, 3.15.20.6
Ewing, Parke	SEDDsupp20019	3.16.2, 3.17.1
Famularo, Ralph	SEDD11497	3.16.1
Farneth, Sara	SEDD10733	3.18.1, 3.16.1
Faulkner, Roger	SEDD10019	3.5.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Faust, Malcolm and Carol	SEDD10514	3.2.5
Fay, Beth	SEDD11135	3.2.5
Fazzari, Angela	SEDD11003	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Feinstein, Joe	SEDD11559	3.16.1
Feld, Dollie	SEDD11677	3.2.2.3
Feldman, Jane	Solar_LV_002	3.16.1, 3.8.4, 3.8.5, 3.7.23, 3.3.2, 3.2.1, 3.17.5, 3.12, 3.14.2, 3.14.1, 3.8, 3.6.3.3, 3.1.5, 3.1.6
Ferguson, Lori	SEDD11198	3.18.3
Ferraro, Mary	SEDD11133	3.17.1
Field, Adrian	SEDDsupp20158	3.15.20.6, 3.17.1, 3.15.21.4, 3.15.20.1, 3.17.5, 3.2.2, 3.15.13.6, 3.15.10.4, 3.15.10.5, 3.15.18.5, 3.6.2, 3.2.3, 3.15.23.3, 3.15.22.6, 3.18.3, 3.15.24.12, 3.7.2
Figueroa, Alfred	Solar_IW_016	3.15.18.1
Figueroa, Julie	SEDD10294	3.16.1, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Figueroa, Patricia	Solar_IW_017	3.2.3, 3.15.18.1
Filipelli, Deborah	Solar_007	3.9, 3.15.14.3, 3.7.7, 3.17.1, 3.6.4, 3.17.2, 3.17.6, 3.14.8, 3.14.7, 3.16.2, 3.16.3, 3.18.2, 3.15.24.9, 3.3.1, 3.15.10.5, 3.5.1
Finholt, Tom	SEDD10854	3.16.1
Firmage, Ed	Solar_SL_004	3.14.1, 3.1.24, 3.2.2.1, 3.2.5, 3.17.1
First Solar, Inc.	SEDD11787	3.1, 3.11.2, 3.11.3, 3.5.1, 3.2.2
Fish, Kay	SEDD11192	3.2.5
Fite, Gregory	SEDD10333	3.2.5
Fitzgerral, Michael	SEDD10151	3.15.18.6, 3.15.19.6
Fitzpatrick, Barbara	SEDD10268	3.17.5, 3.17.1
Fleck, Almut	SEDDsupp20186	3.6.1, 3.17.1, 3.14.7
Fleck, Almut	SolarS_PD_10	3.15.23.1, 3.14.2
Fleet, Ron Protectors for the Ivanpah Valley	Solar_IW_021	3.18.3, 3.18.3
Fleming, Doug	SEDD10329	3.18.1
Flick, Wayne	SEDD10912	3.2.3
Flodine, Eric	SEDD10040	3.16.2
Floyd, Kim	SEDD10516	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Fogleman, Anne	SEDD10653	3.2.5
Fogli, Susi	SEDD11530	3.16.1
Foley, Gerry and Genny	SEDD10660	3.16.1
Ford, Janelle	SEDD10659	3.2.3
Forest, Max	SEDD11681	3.18.3, 3.18.2, 3.16.1, 3.17.2, 3.18.3
Forman, Donald	SEDDsupp20118	3.14.1, 3.7.12, 3.7.3, 3.2.2
Forno, Vincent	SEDD11499	3.18.2
Foster, Dorothy	SEDD10388	3.2.5
Foster, Harold	SEDDsupp20008	3.16.1
Foster, Stephanie	SEDD11641	3.14.1, 3.2.5
Fourroux, Henri Andre III	SEDD10679	3.2.5, 3.1.5, 3.1.7, 3.1.12
Fox, Robin	SEDD11400	3.16.1
Franco, Alejandra	SEDD11728	3.16.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Franco, Monica	SEDD11741	3.16.1
Frank, Lee	SEDD10654	3.17.1
Franklin, James	SEDD10779	3.18.1
Franklin, Naomi	SEDD10836	3.16.1, 3.2.3, 3.17.5
Freedland, Nancy	SEDD11487	3.18.3
Freeman, Kyri	SEDD10771	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.3
Freese, Lisanne	SEDD11300	3.2.3
Frey, Adrienne	SEDD11642	3.16.1
Friends of Ironwood Forest	SEDD11777	3.2.2.4, 3.15.10.8, 3.15.13.3, 3.15.13.4, 3.15.13.6, 3.15.11.11, 3.6.3.2, 3.6.3.3, 3.2.2.1
Friends of Old Growth Ironwoods	SEDD10158	3.15.13.4, 3.15.13.5, 3.15.9.1, 3.15.9.4, 3.17.3, 3.15.14.1, 3.15.10.5, 3.17.1, 3.17.4, 3.17.5, 3.2.3
Friends of Old Growth Ironwoods	SEDD10159	3.17.1, 3.15.23.3, 3.18.3, 3.1.5, 3.15.13.4, 3.15.13.8, 3.15.17.1, 3.15.10.6, 3.2.2, 3.15.2.1, 3.15.7.1, 3.18.2, 3.15.10.5, 3.5.1, 3.6.4, 3.15.9.1, 3.15.1.3, 3.16.3, 3.1, 3.14.5, 3.2.3, 3.7.2, 3.15.22.2, 3.15.23.4, 3.18.1
Friends of Old Growth Ironwoods	SEDD11826	3.12, 3.15.20.1, 3.18.1, 3.7.9, 3.7.13, 3.15.13.4, 3.18.2, 3.14.5
Friends of Old Growth Ironwoods	SEDDsupp20114	3.16.2
Friends of Saddle Mountain	SEDD10685	3.16.2
Friends of Saddle Mountain	Solar_043	3.16.2, 3.2.3, 3.17.4
Frink, Timothy	SEDD10913	3.16.1, 3.2.3
Fritzler, Deb	SEDD10455	3.16.1, 3.2.5
Froelich, Chris	Solar_EC_002	3.7.2
Full Circle Heritage Services	SEDD11851	3.6.2
Fuller, Jared	SEDD10023	3.1.16
Fuller, Jared	SEDD10070	3.17.5, 3.2.1, 3.2.2.3, 3.15.13.3, 3.15.13.4, 3.15.11.6, 3.2.2, 3.11.2, 3.11.3, 3.15.14.1, 3.8.3
Fuller, Jared	SEDD10103	3.17.1, 3.17.5, 3.16.2
Fuller, Jared	SEDD10156	3.2.3, 3.15.13.4, 3.15.10.5
Fuller, Jared	SEDDsupp20028	3.2.3, 3.1.7, 3.1.15, 3.1.18, 3.1.19
Fuller, Jared	SEDDsupp20034	3.2.3, 3.11.2, 3.7.3, 3.6.1, 3.2.2.3, 3.7.22
Fuller, Jared	SEDDsupp20085	3.2.2.3, 3.7.22
Fuller, Shauna	SEDD11441	3.2.5
Fullerton, Richard	SEDD10384	3.2.5
Furnish, Shearle	SEDD10962	3.2.3
Fusari, Margaret	SEDD11849	3.15.13.4, 3.3.1, 3.15.13.5, 3.7.3
Gabbard, Bruce	SEDD11657	3.1.7
Gallagher, Leslie	SEDD11756	3.2.5
Gallagher, Sarah	SEDD10920	3.18.3
Gallagher, Sean	SEDDsupp20148	3.11.2
Gallo, Patricia	SEDD11055	3.2.5
Gandress, D	SolarS_015	3.2.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Garabedian, Michael	SEDDsupp20184	3.2.3, 3.15.10.3, 3.15.10.4, 3.6.4, 3.16.3, 3.6.1
Garabedian, Michael	Solar_SA_006	3.16.2, 3.18.2, 3.1.15, 3.16.3, 3.14.2, 3.7.13, 3.5.6
Garcia, Carlos	SEDD11870	3.1.8, 3.15.3.5, 3.15.11.9, 3.15.9.1, 3.15.9.2, 3.7.2.1, 3.17.4, 3.7.3, 3.6.1
Garcia, Carlos	SEDDsupp20170	3.15.20.8, 3.15.18.3, 3.15.18.5, 3.15.13.4, 3.15.13.9, 3.15.11.11, 3.1.8, 3.15.7.8, 3.7.2.1, 3.17.4, 3.16.2
Garcia-Barrio, Constance	SEDD11011	3.16.1
Garth, Ann	SEDD11754	3.16.1
Gasperoni, John, Ph.D.	SEDD10612	3.2.5
Gaudet, Robert	Solar_LV_011	3.15.11.1, 3.15.9.1, 3.15.9.4
Gault, Carol	SEDD11350	3.2.5
Gehlert, Edgar	SEDD10862	3.17.1
Gehman, Bethanie	SEDD11225	3.2.5
George, Marvin	SEDD10271	3.1.14, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Gerhard, Delia	SEDD10674	3.2.5
Gibson, Andi	SEDD10493	3.16.1
Gibson, James	SEDD11688	3.2.5
Gibson, Katherine	SEDD10464	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5, 3.17.4
Giebel, Robert	SEDD10692	3.2.5
Gila River Indian Community Tribal Historic Preservation Office	Solar_038	3.6.2, 3.15.19.5
Gilbert, Valerie	SEDD10803	3.2.5
Gilbert, Wyn	SEDD10590	3.2.3
Gilchrist, Elizabeth	SEDD10411	3.16.1, 3.2.5, 3.1.7, 3.1.12, 3.1.21
Giles, Al	SEDD11582	3.2.5
Gillespie, Sharon	SEDD10454	3.2.5
Gilman, Monica	SEDD11598	3.2.3
Gindele, Abigail	SEDD10683	3.17.1, 3.18.2
Glasser, Mark and Susan	SEDD10416	3.16.1
Gleason, Barbara	SEDD11349	3.2.3
Glenn Stewart, Ph.D.	SEDD10846	3.14.1, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.2.5
Gloeckner, Kena	Solar_CL_001	3.1.15, 3.15.20.7, 3.15.20.8, 3.15.10.5, 3.18.3
Gloeckner, Patrick	SEDD11821	3.1.15
Gloege, Randall, Lytle Ranches	SEDD10806	3.2.3, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Gluckman, Geoffrey	SEDD10614	3.16.1
Gobely, Michelle	SEDD10291	3.2.5
Godinez, Art	SEDD10503	3.16.1
Golden, Kathleen	SEDD10986	3.2.5
Goldenberg, Helen	SEDD11666	3.2.3
Goldman, Joseph	SEDD10814	3.16.1
Goley, Patricia	SEDD11856	3.16.2

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Gonzales, Shaun	SEDD10160	3.14.2, 3.1.6, 3.1.7, 3.7.14, 3.7.3, 3.7.13, 3.7.9, 3.3.1, 3.15.13.4, 3.15.10.7, 3.15.11.10, 3.17.5, 3.7.20, 3.14.7, 3.14.8, 3.6.4, 3.15.24.2, 3.15.13.6, 3.9, 3.17.1, 3.7.6, 3.4.2
Gonzales, Shaun	SEDDsupp20090	3.14.7, 3.17.5, 3.1.5, 3.1.6, 3.1.7, 3.2.2.3, 3.7.22, 3.2.2.1, 3.11.2, 3.11.3
Gonzales, Shaun	Solar_DC_007	3.6.1, 3.9, 3.14.8, 3.15.13.4, 3.3.2, 3.17.1
Goodman, Alice	SEDD11157	3.2.5
Goodrich, Rebecca	SEDD11472	3.2.5
Goodroad, Shareen	SEDD10069	3.2.3, 3.17.5
Gorby, Terry	SEDD11173	3.14.1, 3.2.5
Gore, Jesse	SEDD11743	3.16.1
Gottberg, Kathy	SEDD11630	3.17.1
Gottesman, Nancy	SEDD10762	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Govan, Michael	SEDDsupp20173	3.2.2.1
Grace, Kathryn	SEDD10387	3.2.3
Grace, Rob	SEDD10201	3.16.1
Graffagnino , Mary Ann and Frank	SEDD10057	3.16.1
Graham, Guy	SEDD10885	3.16.1
Graham-Gardner, Rosemary	SEDD10408	3.17.1
Grant, TRoy	SEDD11296	3.16.1
Grantham, Danny	SEDD11172	3.16.1
Grasso, Dori	SEDD10332	3.2.5
Grauert, Ruth	SEDD11416	3.2.5
Graves, Caryn	SEDD10533	3.14.1, 3.2.5
Gray, H	SEDD10360	3.16.1
Green, July	SEDD10298	3.16.1, 3.2.3, 3.2.5
Greene, David	SEDD10206	3.16.1
Grenard, Mark	Solar_PH_012	3.14.1, 3.17.5, 3.4.1
Gress, Ted	SEDD10753	3.2.5
Grey, Gerald	SEDD10130	3.2.4, 3.1.7, 3.6.1
Griffin, Leah	SEDD10479	3.14.1, 3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.3
Griffith, Clayton	SEDD10690	3.18.3
Grindle, Russell	SEDD11129	3.17.6
Grishman, Joan	SEDD10742	3.16.2, 3.17.1
Groff, Robert	SEDD10480	3.17.1
Grote, Janet	SEDD10558	3.2.5
Grove, Earl	SEDD10648	3.2.3
Grunert, Brice	SEDD11065	3.14.1, 3.2.5
Guidi, Rita	SEDD10052	3.16.2, 3.14.7, 3.17.5, 3.6.4, 3.15.24.2, 3.14.2
Guillory, Renee	SEDD10065	3.14.1, 3.2.2
Guzynski, Elizabeth	SEDD11365	3.17.1, 3.2.5
Gwartney, Abra	SEDD10406	3.2.5, 3.1.7, 3.1.5
Hacker, Gloria	SEDD10084	3.2.1, 3.15.9.1, 3.15.25, 3.18.3, 3.15.10.4, 3.15.15.2, 3.6.1, 3.14.1
Hacker, Gloria	Solar_LC_004	3.6.1, 3.17.1
Hader, Karla	SEDD11307	3.16.1
Hagen, Carole	SEDD11405	3.16.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Hager, Jon	SEDD11461	3.2.3
Hague, George	SEDDsupp20097	3.17.1, 3.6.4, 3.5.1
Haley, Kimberly	SEDD10331	3.16.1
Hall, Andrea	SEDD11758	3.2.5, 3.2.3
Hall, Jamie	SolarS_EC_07	3.17.6
Hall, Jennifer	SEDD10152	3.16.2, 3.17.1, 3.14.1
Hall, Leslie	SEDD11496	3.2.5
Hall, Natalie	SEDD11077	3.2.5
Hall, Silvia	SEDD11433	3.16.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5, 3.14.1
Hamrick, Frank	SEDD11115	3.16.1
Hance, William	SEDD11382	3.14.1
Handwerker, Steven	SEDD10752	3.16.1
Hanes, Dorothy	SEDD11048	3.2.5, 3.2.3
Haney, Frazier	SolarS_EC_01	3.16.2, 3.14.7, 3.17.5, 3.17.1, 3.14.6, 3.14.1, 3.4.2, 3.2.1, 3.6.4, 3.19, 3.8.2, 3.18.3, 3.14.2
Haney, Frazier	Solar_IW_010	3.2.1, 3.15.11.11
Haney, Richard	SEDD11890	3.14.3, 3.6.4
Hanson, Barbara	SEDD10432	3.16.1
Hanson, Bruce and Michelle	SEDD11513	3.2.5
Haq, Solarpanel	SEDD11725	3.16.1
Harden, Ronald	SEDD10754	3.2.5
Harkins, Lynne	SEDD10577	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Harper, Bill	Solar_EC_001	3.15.13.4
Harper, Bill	Solar_IW_013	3.15.14.11, 3.18.3, 3.15.9.1, 3.15.23.2, 3.15.23.4, 3.7.13, 3.1.7, 3.15.15.10, 3.15.20.5
Harrington, Michael	SEDD10496	3.2.3
Harris, Charles	SEDD10369	3.2.5, 3.15.15.3
Harris, E	SEDD11517	3.14.1, 3.2.5
Harris, Laurie	SEDD10957	3.2.5
Harrison, Harry	SEDD10469	3.16.1
Harrison, Randy	Solar_044	3.14.1, 3.8, 3.2.2.3, 3.15.13.3, 3.15.11.6, 3.2.3
Hart, Kerry	SEDD10148	3.16.2, 3.17.4, 3.17.5, 3.2.1, 3.17.6, 3.17.1, 3.11.1, 3.17.3
Hartz, Norman	SEDD10981	3.18.3
Hassinger, George	SEDD11110	3.17.1
Hassinger, George	SEDD11114	3.17.1
Havens, Elizabeth	SEDD11379	3.15.13.4
HawkWatch International	SEDD11830	3.14.1, 3.15.13.9
Headley, Paul	SEDDsupp20007	3.16.2
HEAL Utah	SEDD11639	3.16.1, 3.14.2, 3.1.24, 3.1.22, 3.1.23, 3.5.1, 3.6.3.2, 3.6.3.3
Hediger, Nancy	SEDD10703	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Hedley, Diane	SEDD11185	3.2.5
Heizer, Michael	SEDD11881	3.2.2.1
Hemstreet, Steve	SEDD11685	3.17.1, 3.17.6, 3.18.1
Henes, Donna	SEDD10219	3.16.1
Hepburn, Chet	SEDD10792	3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Herbruck, Janet	SEDD10678	3.2.5
Herndon, Laura	SEDD10165	3.2.5
Herrmann, Dorene	SEDD10700	3.2.5
Herrmann, Ronald	SEDD11325	3.2.3
Herron, Andria	SEDD10409	3.16.1
Hersha, Joseph	Solar_CC_002	3.16.1
Hester, Michael	SEDD11477	3.16.2
Hetrick, Milt	SEDD10112	3.17.3, 3.15.7.2, 3.15.9.6, 3.15.13.4, 3.15.10.1, 3.15.11.10, 3.18.3, 3.2.3, 3.7.13, 3.18.1, 3.12, 3.1, 3.15.25, 3.15.1.1, 3.15.7.1
Hiemstra, Raymond	SEDD11782	3.18.2, 3.17.4, 3.12, 3.2.3, 3.17.1, 3.17.5
Hiemstra, Raymond	SEDDsupp20140	3.14.1
Higginson, Jane	SolarS_EC_08	3.16.2, 3.17.1, 3.18.3, 3.15.13.4, 3.3.2, 3.15.13.5, 3.15.13.8
Highton, Fred	Solar_TU_004	3.17.4, 3.18.3
Hill, Marian	SEDD10075	3.16.1
Hillegass, Gene	SEDD11244	3.18.3
Hilt, Kathy	SEDD10816	3.2.5
Hires, Brian	SEDD10154	3.14.1, 3.8
Hirsch, Harriet	SEDD11742	3.2.5
Hixenbaugh, Brenda	SEDD11072	3.16.1
Hodie, Jake	SEDD10596	3.16.1, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Hoehlein, Jill and Rich	SEDD11131	3.2.3
Hoggard, Jacquie	SEDD11480	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Hollander, Glen	SEDDsupp20001	3.16.1, 3.17.1
Hollar, Johann	SEDD11091	3.18.3
Hollingsworth, Presly	SEDD10621	3.2.5
Hopkins, Lynette	SEDD11473	3.16.1
Hoppenbrouwers, Elke	SEDD10934	3.2.3
Horan, Debbie	SEDD11043	3.16.1
Horn, Andrew	SEDD11169	3.2.5
Hornbeck, Rhonda	Solar_CL_007	3.6.3.3
Horne, Andy	Solar_EC_003	14.7, 3.7.2
Horst, Karla	SEDD11431	3.16.1
Hovekamp, Larry	SEDD10797	3.16.1
Howard, Gloria	SEDD10599	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Howell-Coleman, Frances	SEDD11755	3.2.5
Hubbard, Mary	SEDD11544	3.16.1
Hudgins, Janet	SEDD10500	3.16.1
Hudson, Sigmund	SEDD11217	3.2.5
Hughes, Brendan	SEDD10088	3.17.5, 3.8.3, 3.14.5, 3.2.2.4, 3.1.2, 3.2.2.3, 3.1.7, 3.15.11.11, 3.18.3
Hughes, Brendan	SEDDsupp20163	3.17.5, 3.8.3, 3.7.1, 3.17.1, 3.17.2
Hughes, Brendan	SolarS_PD_03	3.2.3, 3.14.2, 3.14.1, 3.4.1, 3.17.1, 3.7.1
Hughes, Joy	Solar_AL_001	3.17.1, 3.1.9, 3.8
Hughes, Joy	SolarS_AL_05	3.16.2
Hughes, Lisa	SEDD10460	3.16.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Hult, Philip	SEDD10458	3.16.1, 3.2.5, 3.2.2.3
Humes, Jasmine	SEDD11111	3.16.1
Hunt, Linda	SEDD10463	3.2.3
Hunt, Sharon	SEDD10643	3.16.1
Huntley, Brian	SEDD10495	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Hurst, Jetta	SEDD11018	3.16.1
Hurst, Jetta	SEDD11023	3.2.5
Hutchinson, Terrance	SEDD11736	3.2.5
Iberdrola Renewables	SEDD11878	3.18.3, 3.4.2, 3.2.2, 3.5.1, 3.7.4, 3.5.6, 3.2.2.4, 3.2.1, 3.15.9.3, 3.15.9.6, 3.1.12, 3.2.5, 3.15.15.2, 3.1.19, 3.12, 3.7.15, 3.14.1, 3.17.5, 3.6.4, 3.4.1
Imperial County	SolarS_021	3.6.1, 3.2.2, 3.14.2, 3.14.1, 3.8, 3.6.3.2
Imperial Irrigation District	SEDD10096	3.1.4
Incao, Philip	SEDD10093	3.16.2, 3.18.3, 3.17.1
Incao, Philip	SEDDsupp20025	3.14.2, 3.17.1, 3.17.2
Ingraham, E.	SEDD10225	3.2.3
International Dark Sky Association	SEDD10068	3.15.11.2, 3.15.15.3
International Dark Sky Association	Solar_PH_007	3.15.15.3, 3.15.11.2
Inyo County	SEDD10163	3.8, 3.7.16, 3.6.3.2
Inyo County	SEDD11837	3.7.16
Inyo County	SEDDsupp20064	3.8, 3.2.2, 3.6.3.2, 3.7.16
Irby, Harriet	SEDD10876	3.2.5
Irvin, Katja	SEDDsupp20095	3.14.1, 3.2.2
Ivanova-Hathcock, Vanja	SEDD11765	3.2.5
Iversen, Sheryl	SEDD10980	3.2.5
Jackson, Bruce	SEDD11031	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Jackson, Donald	SEDD10476	3.2.5
Jacob, Linda	SEDD11050	3.16.1
Jacobs, Len	SEDD10509	3.2.5
Jacobson, Clara	SEDD10440	3.17.1, 3.2.5
Jacobson, Lisa	SEDD11450	3.2.5
Jagielo, Linda	SEDD11385	3.2.5
Jantzen, Veronica	SEDD10763	3.16.1
Jasper, Marilyn	SEDDsupp20104	3.7.12, 3.7.3, 3.2.2
Jasu, Barry	SEDD10353	3.16.1
Jasu, Barry	SEDD11361	3.16.1
Jeffrey, Eiffler	SEDD11255	3.2.5
Jennings, Kathleen	SEDDsupp20091	3.6.1
Jensen, Donna	SEDD10595	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Jernquist, Harriet	SEDD11868	3.16.1
Jessler, Darynne	SEDD10619	3.2.5, 3.1.5, 3.1.7, 3.1.12
Johnson, Anne	SEDD11549	3.2.5
Johnson, Michael	SEDD11113	3.16.1
Johnson, Parvin	Solar_AL_006	3.14.7, 3.2.2.3
Johnson, Patricia	SEDD10114	3.17.1, 3.15.9.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Johnson, Sandra	Solar_035	3.15.15.9, 3.15.22.1, 3.15.7.7, 3.15.23.3, 3.15.7.8, 3.15.23.5, 3.15.11.4, 3.15.11.7, 3.18.3, 3.15.20.2, 3.15.20.5, 3.15.20.7, 3.15.20.4, 3.15.20.6, 3.15.25, 3.15.14.11, 3.7.2, 3.18.2, 3.2.1, 3.17.5, 3.2.2, 3.5.1, 3.15.11.2, 3.15.11.9, 3.6.3.2, 3.6.2, 3.6.1, 3.15.24.9, 3.2.3, 3.1, 3.6.3.3, 3.2.4, 3.17.4, 3.14.8, 3.18.3, 3.7.9, 3.15.19.6, 3.15.15.3, 3.15.6.3
Johnson, Sandra	Solar_GF_005	3.1.17, 3.6.3.1, 3.6.1
Johnson, Sarah	SEDD11086	3.14.1
Johnson, Stephen	SEDD10528	3.14.1
Jones, Cynthia	SEDD10119	3.7.2, 3.15.9.1, 3.15.9.4, 3.1.7, 3.15.10.2, 3.15.10.5, 3.17.1, 3.17.5
Jones, Loren	SEDD10183	3.16.1
Jordan, Judith	SEDD10015	3.17.1
Jordan, Patrick	SEDD10033	3.14.1, 3.3.2, 3.2.5
Jordan, Patrick	SEDD11857	3.16.1
Jorgensen, Bob	SEDD11375	3.2.5
Jr., Norman	SEDD10553	3.6.1
Judd, Deborah	SEDD11275	3.2.3
Judd, Deborah	SEDD11276	3.2.3
Jurczewski, Carol	SEDD10472	3.2.3
Kagan, Nathan	SEDD11362	3.18.3
Kalblein, Amy	SEDD10405	3.16.1
Kaneko, Sylvia	SEDD11449	3.2.3, 3.16.1
Kaplan, Robert	SEDD10719	3.2.5
Karen White, MSW	SEDD10344	3.2.3
Karie, Piper	SEDD11282	3.16.1
Karpiscak, Martin	Solar_TU_005	3.16.1, 3.17.4, 3.12, 3.2.3
Katten Muchin Rosenman, LLL on behalf of BNSF Railway Company	SEDD11901 SEDD11903 SEDD11904	3.15.22.3, 3.15.9.6, 3.15.23.5, 3.2.2.2, 3.3.1, 3.7.3, 3.6.3.1, 3.13, 3.2.1, 3.15.23.2, 3.14.2, 3.7.4
Kavanagh, Maureen	SEDD11420	3.2.5
Kavanaugh, Michael	SEDD10377	3.2.3, 3.2.5, 3.14.1
Keddem, Aliza	SEDD10170	3.16.1
Keegan, Helen	SEDD10972	3.14.1
Keeling, Gailen	SEDD10562	3.2.5
Kelly, Ann	SEDD10886	3.2.3
Kelly, Barbara	SEDD11553	3.16.1
Kelly, Doreen	SEDD11772	3.18.3
Kelly, Frances	SEDD11297	3.17.1
Kelly, Pamela	SEDD10309	3.16.1
Kennedy, Ann	SEDD11505	3.2.5
Kenvin, David	Solar_AL_003	3.15.5.2, 3.15.11.6
Kerncrest Audubon Society,	Solar_052	3.14.2, 3.18.3
Kesich, John	SEDD10524	3.2.5, 3.17.1
Kestler, Ronald	SEDD10658	3.2.5
Kethler, Dorothy	SEDD10326	3.1.7, 3.1.5, 3.1.12, 3.1.21
Kieffer, Ramsay	SEDD10227	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Kim, Young	SEDD10266	3.2.5
King, Jim	Solar_049	3.15.20.4, 3.12, 3.17.5, 3.16.1
King, Terry	SEDD10177	3.16.1
Kingma, Kevin	SEDD11833	3.16.2, 3.14.7, 3.14.8
Kingma, Kevin	SEDDsupp20166	3.17.1, 3.11.1, 3.6.4, 3.17.5
Kinner, Jamie	SEDD10466	3.16.1
Kiss, Teresa	SEDD10301	3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.2.5
Klerer, Leona	SEDD10207	3.2.5
Kneibert, Walter	SEDD11034	3.16.1
Knepper, Matt	SEDD10014	3.18.3
Knoll, Carolyn	SEDD10260	3.2.5, 3.14.1
Koenig, James	SEDD11550	3.16.1
Kohl, Dianea	SEDD10939	3.2.3
Kohler, William	SEDD11146	3.2.5, 3.17.1
Kolter, Phillip	SEDD10554	3.14.1
Korshak, Yvonne	SEDD10229	3.2.3, 3.2.5
Kosek, Raphael	SEDD10841	3.16.1
Kram, Ruth	SEDD11202	3.2.5
Kramer, Joan	SEDD11446	3.2.5
Kramer-Dodd, Gay	SEDD10982	3.2.3
Kraus, Brad	SEDD11104	3.2.3
Krikorian, Linnell	SEDD10874	3.2.5
Krohn, Fred	SEDD11374	3.2.3
Krouse, Donald	SEDDsupp20112	3.6.1
Kruzen, Debbie	SEDD10487	3.18.1
Kuehler, Steve	SEDD11068	3.16.1
Kukkonen, Holly	SEDD11305	3.16.1, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Kunz, James	SEDD11703	3.2.3
Kurland, Anthony	SEDD10634	3.2.5, 3.18.3
Kurman, Michael	SEDD10865	3.16.1, 3.2.3
L, Carmen	SEDD11183	3.2.5, 3.17.1
La Cuna de Aztlan Sacred Sites Protection Circle	SEDDsupp20050	3.11.1, 3.15.11.9, 3.16.2, 3.17.1, 3.17.5, 3.2.2.1, 3.15.18.3
Lackey, Mercedes	SEDD11069	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Lakiish, Mattie	Solar_AL_019	3.16.3, 3.14.3, 3.1.8, 3.1.9, 3.1.1, 3.1.11, 3.18.3, 3.6.4
Lakish, Matie	SolarS_AL_14	3.15.11.11, 3.7.2
Lamfrom, David	Solar_BA_009	3.14.1, 3.2.1, 3.5.5, 3.6.2, 3.1.5, 3.1.6, 3.1.7, 3.14.2, 3.8, 3.17.4, 3.15.9.1, 3.1.12, 3.16.1
Landau, Doug	SEDD11645	3.2.5
Lane, Jana	SEDD10926	3.2.5
Langlois, Theresa	SEDD10031	3.2.3, 3.2.5, 3.7.2
Lankford, Mitch	SEDD10107	3.15.11.9, 3.15.9.1, 3.7.2
Larson, Mark	SEDD10725	3.2.5
Latendresse, Jacqueline	SEDD10276	3.2.5
LaVerne, David	SEDD10243	3.2.5
Law, Patricia	SEDD11233	3.2.3
Lawless, Doris	SEDDsupp20089	3.6.1, 3.16.1
Lawless, William	SEDD11204	3.16.1
Lawrence, Bonnie	SEDD11561	3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
LeBlanc, Edward	SEDD11734	3.17.1, 3.2.3
Ledden, Dennis	SEDD11495	3.2.5
Lee, Toni	SEDD10198	3.16.2
Leinbaugh, Tracy	SEDD10214	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.17.1
Lenk, Vivienne	SEDD11280	3.17.1, 3.2.5
Leppla, Joan	SEDD10724	3.16.1
Leske, Jim	SEDD11063	3.16.1
Levin, Francee	SEDD11152	3.16.1
Levin, Jon	SEDD11010	3.1.7, 3.1.5, 3.1.12, 3.1.21
Levitt, Jeff	SEDD11097	3.2.5
Lewis, Courtney	SEDD10280	3.16.1
Lillard, Renee	SEDD11453	3.2.5
Lim, Yee	SEDD11057	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Lincoln County	SolarS_LV_09	3.16.1, 3.6.3.2, 3.7.5, 3.2.2, 3.1.13, 3.1.15, 3.1.16, 3.15.6.4
Lincoln County Board of Commissioners	Solar_002a	3.6.3.1, 3.19, 3.5.1, 3.1.15, 3.1, 3.5.3, 3.15.1.2, 3.18.3, 3.15.3.4, 3.15.6.2, 3.15.7.6, 3.15.10.1, 3.15.11.3, 3.15.13.5, 3.15.13.9, 3.15.19.6, 3.5.2, 3.15.20.2, 3.15.20.3, 3.15.20.5, 3.15.20.8, 3.15.21.2, 3.15.22.5, 3.12, 3.15.3.2, 3.15.3.5, 3.7.11, 3.15.9.1, 3.15.9.7, 3.15.9.2, 3.15.10.4, 3.15.10.5, 3.15.11.9, 3.1.13, 3.7.17, 3.15.14.3, 3.15.14.6, 3.15.17.2, 3.15.18.5, 3.15.18.8, 3.15.1.1, 3.15.24.16, 3.14.1, 3.14.2, 3.2.2, 3.1.16, 3.5.6, 3.15.20.4, 3.15.6.3, 3.15.7.2, 3.3.1, 3.7.14, 3.15.3.1, 3.15.9.6, 3.15.13.2, 3.15.11.10, 3.15.15.2, 3.15.16.2, 3.15.18.1, 3.15.20.9, 3.6.4, 3.2.1, 3.15.22.1, 3.15.14.5, 3.15.13.4, 3.7.1
Lincoln County Commission	SEDDsupp20032	3.6.3.2, 3.6.3.3, 3.6.1, 3.1, 3.17.5
Lincoln County Commissioners	SolarS_LV_08	3.6.1, 3.6.3.2
Lincoln County NV Planning Department	SEDD11779	3.14.1, 3.5.1, 3.1.13, 3.1.15, 3.1.16
Lincoln County, N-4 Grazing Board	Solar_CL_003	3.14.1, 3.6.3.3, 3.15.3.2, 3.1.13, 3.1.15, 3.1.16, 3.15.24.16
Lincoln County, Nevada	SEDDsupp20088	3.1.15, 3.1, 3.7.19, 3.4.2, 3.11.2, 3.7.11, 3.7.6, 3.7.10, 3.14.3, 3.2.2.1, 3.1.13, 3.1.16, 3.7.14, 3.7.3, 3.7.13, 3.3.1, 3.15.6.4, 3.7.5, 3.14.1, 3.18.3, 3.14.8, 3.2.2, 3.8, 3.6.3.1, 3.3.2, 3.6.3.2, 3.7.9, 3.6.3.3, 3.16.1, 3.15.7.1, 3.15.10.4, 3.14.6, 3.15.3.2, 3.15.5.1, 3.15.9.2, 3.15.9.3, 3.15.9.6, 3.15.11.5, 3.17.5
Lincoln County, Nevada, Board of Commissioners	Solar_002b	3.15.21.2, 3.1.13, 3.15.21.3, 3.15.22.4, 3.3.1, 3.15.23.2
Lincoln, Sarah	SEDD11203	3.18.3
Link, Mike	SEDD10632	3.2.3
Link, Virgene	SEDD10891	3.2.5, 3.17.4

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Lipsitz, Mike	SEDDsupp20136	3.6.1
Lish, Christopher	SEDD10123	3.2.3, 3.16.1, 3.2.1, 3.14.2, 3.6.3.3, 3.14.1
Lish, Christopher	SEDD11796	3.2.3, 3.14.1, 3.2.5, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.8, 3.2.2.3
Lish, Christopher	SEDDsupp20059	3.16.1, 3.14.2, 3.6.1, 3.2.5, 3.2.2.3, 3.2.3, 3.17.1, 3.11.2, 3.14.1, 3.2.2.4
Liske, Patricia	SEDD10526	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Little, Chrisiina	SEDD11527	3.18.3
Livesay, Corinne	SEDD10633	3.17.1, 3.18.2
Livingston, Dr.	SEDD10585	3.18.3
Lloyd, Jason L Bar C Ranch	SEDD11807	3.1.15
Lofroos, Catharine	SEDD10996	3.16.1
Lofton, Saab	SEDD10187	3.2.1
Logue, Michael	SEDD10738	3.2.5, 3.1.5, 3.1.7, 3.1.12
Lommel, Patricia	SEDD10706	3.2.5
Lonneman, Valerie	SEDD10938	3.14.1, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.2.5
Lopez, Irene	Solar_013	3.1.5, 3.14.1, 3.1.6, 3.2.3
Lopez, Tomas	SEDDsupp20040	3.1.11, 3.17.4
Lopez, Vince	SEDD11732	3.16.1
Los Angeles County Board of Supervisors	SolarS_036	3.6.1, 3.2.2, 3.14.2, 3.14.1, 3.8, 3.6.3.2
Louie, Denise	SEDDsupp20087	3.2.3, 3.17.1
Louis Harris, Jr.	SEDD11249	3.2.3
Lowery, Karen	Solar_006	3.14.2, 3.2.2.1, 3.14.1
Lowry, Jeff	SEDD11659	3.16.1
Lubin, Hari	SEDD11158	3.2.5
Lucerne Valley Economic Development Association. (LVEDA)	SEDD10111	3.5.1, 3.7.9, 3.17.1, 3.17.5, 3.11.1, 3.15.13.4, 3.3.2, 3.11.2, 3.11.3, 3.2.1, 3.2.3, 3.18.3
Ludvik, Chris	SEDD11727	3.16.1
Lujan, Virginia and Steve; Archuleta, Fabian; Garamillo, Lucy; Casias, Amy; Cisneros, Frances; Hores, Armando; Sanchez, Dominic; Espinoza, B.; Armentis, Robert	Solar_028	3.1.8
Luke LS Power Development, LLC	SEDD11873	3.7.4
Luke, Robert CTA/NEA	SEDD10649	3.18.3
Lukensmeyer, Pat	SEDD10078	3.18.2
Lumcloon Energy	Solar_PH_002	3.18.3, 3.14.2
Lundgren, Theodore	SEDD10356	3.17.1, 3.2.5
Lunn, Sally	SEDD10688	3.2.5
Lutringer, Emily	SolarS_AL_17	3.16.1, 3.17.1, 3.7.2
Lyda, Mary	SEDD10535	3.2.5
Lyles, Jeff	SEDD10601	3.15.15.1
Lyons, Steve	SEDD10832	3.18.3
Lyte, Phyllis	SEDDsupp20083	3.6.1
Lytle, Cory	Solar_CL_004	3.6.3.2, 3.14.1, 3.18.3, 3.15.11.3
Lytle, Donna, Cross Over V Ranch	SEDD11805	3.1.15
Lytle, Kenneth, Lytle Ranches	SEDD11804	3.1.15
MacDonald, John	SEDD10606	3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Macdonald, Kevin	SEDD10559	3.2.5
Mackiewicz, Frances	SEDD11435	3.14.1
MacLaren, Hannah	SEDD11126	3.17.1, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
MacLeod, Ramsay	SEDD10822	3.18.3
MacPhail, David	SEDD11563	3.2.5
Macrohon, Leah	SEDD11679	3.16.1
Maddoxce, Charles	SEDD11341	3.2.5
Mainstream Renewable Power	SEDDsupp20123	3.8.1
Mainwaring, Constance	SEDD11616	3.2.3
Malone, Paul	SEDD11867	3.12
Malone, Tony	Solar_BA_008	3.18.3, 3.15.13.1, 3.18.3
Manning, Kelly	SEDD11000	3.2.5
Marchioli, Marc	SEDD10215	3.16.2
Marchyn, Judith	SEDDsupp20093	3.6.1
Margeson, Donald	SEDD10557	3.2.5
Marquis, Amy	SEDD10188	3.16.1, 3.2.1, 3.17.1, 3.17.5, 3.2.5
Marra, Albert	SEDD10910	3.16.1
Marraffino, Leonard	SEDD10255	3.2.3
Marsh, Sherry	SEDD10852	3.16.1
Marshall, Linda	SEDD11723	3.2.5
Marshall, Margaret	SEDD11208	3.2.5
Marti, Duane	Solar_017	3.15.18.5, 3.15.19.8
Martin, Benjamin	SEDD11344	3.17.5
Martin, Butch	Solar_LV_004	3.12
Martin, Drew	SEDD11750	3.2.2.3
Martin, Helen	Solar_AL_011	3.17.1
Martin-Brodak, Diane	SEDD10879	3.2.5
Martinez, Leroy	Solar_AL_020	3.16.1, 3.7.2
Mason, Penny	SEDD11791	3.2.5
Massey, Susan	SolarS_EC_04	3.16.2, 3.2.3, 3.18.3, 3.18.2, 3.17.5
Matera, Stephen	SEDD10211	3.2.5
Mathews, Mary	SEDD10745	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Mauney, Laura	SEDDsupp20002	3.17.1
Mauney, Laura	SEDDsupp20005	3.17.1
Maurer, Lora	SEDD10318	3.2.5
McArtor, Robert	SEDD10943	3.12, 3.2.3
McBride, Margaret	SEDD10404	3.2.2.3
McCabe, Rita	SEDD11082	3.2.5
McCall, Jan	SEDD10890	3.2.5
McCarten, Louis	SEDD11053	3.2.5
McCarthy, Christine	SEDD11250	3.16.1
McCarthy, Maureen	SEDD10984	3.18.3
McCausland, Christopher	SEDD10942	3.16.1
McClain, Joseph	SEDD11320	3.18.3
McDermott, Ann	SEDD10063	3.17.5, 3.2.2.4
McDonough, Rebecca	SEDD10775	3.2.5
McGilligan, Mary	SEDD10884	3.16.1
McGlocklin, David	SEDD11475	3.18.3
McInerney, Anton	SEDD11046	3.18.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
McIntyre, Siobhan	SEDD11790	3.1, 3.6.4, 3.15.9.1, 3.15.9.2, 3.15.20.1, 3.7.7, 3.6.3.3, 3.6.5
McKimmie, Tim	SEDD10081	3.14.1, 3.17.5
McKnight, Rick	Solar_TU_007	3.2.4
McKown, Julie	SEDD11865	3.2.2.1
McManus, Tracey	SEDD11578	3.16.1
McMillan, Ashlee	SEDD11516	3.2.3
McNamara, Eileen	SEDD10537	3.2.5
MD, Joseph	SEDD11054	3.2.5
Medina, Kathleen	SEDD11753	3.16.1
Meeks, Alayn	SEDD10594	3.17.1, 3.15.23.3
Mehrotra, Siddharth	SEDD11033	3.17.6
Mein, Joen	SEDD11232	3.2.5
Mendelson, Ruth	SEDD11591	3.16.1
Mendoza, Steve	SEDD11506	3.16.1
Menyuk, Paula	SEDD11534	3.2.3
Merritt, Stephen	SEDDsupp20098	3.6.1
Mesa County Commission	SolarS_035	3.6.1, 3.2.2, 3.14.2, 3.14.1, 3.8, 3.6.3.2
Mesilla Valley Audubon Society	SEDD11874	3.15.13.5, 3.14.2, 3.14.1, 3.1.19, 3.1.2, 3.1.21
Messenger, William	SEDD10761	3.2.3
Mestas, Joe	SEDD10082	3.7.2
Metropolitan Water District of Southern California	SEDD11568	3.6.3.3, 3.15.9.2, 3.15.25, 3.15.9.5, 3.15.24.11, 3.19, 3.15.7.8, 3.15.20.2, 3.1.6, 3.7.4, 3.7.14, 3.5.1, 3.1.5, 3.7.3, 3.5.6, 3.1.7
Metropolitan Water District of Southern California	SolarS_013	3.15.9.5, 3.15.1.2, 3.1.5, 3.1.6, 3.1.7, 3.7.3, 3.19, 3.15.9.4, 3.19
Meyer, Joe	SEDD10710	3.16.1
Meyer, Twyla	SEDD11160	3.16.1
Michalak, Deborah	SEDD11793	3.16.2, 3.17.5
Michalak, Deborah	SEDDsupp20027	3.7.2, 3.6.1
Michalak, Elizabeth	SEDD11794	3.16.2, 3.17.5
Michalak, Elizabeth	SEDDsupp20058	3.6.1, 3.17.1, 3.15.20.1, 3.2.3, 3.7.2, 3.7.19, 3.17.6
Michalak, Joseph	SEDDsupp20029	3.14.1, 3.7.2, 3.7.19
Michalak, Katherine	SEDD11788	3.16.3, 3.17.1, 3.18.3
Michalak, Katherine	SEDDsupp20024	3.7.2.1
Michel, Lance	SEDD11141	3.18.3
Mickelson, Ryan	SEDD10819	3.2.5
Miller, Bonnie	SEDD11193	3.2.5
Miller, Cameron	SEDD11733	3.5.1, 3.7.2.1, 3.7.2
Miller, Cameron	Solar_AL_004	3.7.2.1, 3.5.1, 3.2.1, 3.17.1
Miller, Lori	SEDD10687	3.2.5, 3.1.5, 3.1.7, 3.1.12, 3.1.21
Milligan, Keith	SEDD10499	3.16.1
Mitchell, Carol	SEDD10257	3.18.3
Mitson, Loretta	SEDD11845	3.16.3, 3.17.1, 3.16.2
Mitson, Loretta	SEDDsupp20160	3.16.2, 3.7.2, 3.2.3, 3.7.19, 3.17.4, 3.17.6
Mitson, Loretta	Solar_AL_024	3.17.1, 3.16.2, 3.5.1, 3.15.18.1
Modarelli, David	SEDD10625	3.16.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Moderacki, Deidre	SEDD11357	3.17.1
Moeller, Faith	SEDD10899	3.2.5
Moeller, Robert	SEDD11602	3.2.5
Moffat, Lorna	Solar_004	3.15.3.4, 3.15.9.1, 3.15.9.4, 3.15.9.5, 3.15.9.6, 3.17.1, 3.14.2, 3.2.3
Mohave County, Arizona	SEDDsupp20145	3.2.2
Mojave Desert Land Trust	SEDDsupp20133	3.14.2, 3.14.1, 3.8.2
Mojave Trails Group	SEDD11689	3.15.24.3, 3.15.5.1, 3.6.4, 3.15.24.2, 3.17.1, 3.17.5, 3.18.3, 3.6.1, 3.3.2, 3.5.1, 3.1
Mojave Trails Group	SEDD11801	3.6.4, 3.15.5.1
Mojave Trails Group	SEDD11869	3.6.4, 3.15.5.1
Mojave Trails Group	SEDD11875	3.6.4, 3.3.1, 3.15.5.1
Molina, Elisa	SEDD10203	3.16.1, 3.2.3
Molina, Ron	SEDD11213	3.18.3
Mono County	SolarS_043	3.14.2, 3.6.1, 3.6.3.2
Mono County	SEDDsupp20060	3.14.1, 3.2.2, 3.6.3.3, 3.2.2.1, 3.15.18.2
Monroe, James	SEDD10263	3.16.1, 3.2.3
Montapert, Anthony	SEDD10520	3.2.5
Montgomery, G.	SEDD11392	3.18.3
Montgomery, Roger	SEDD10880	3.2.5
Montijo, Patricia	SEDD11439	3.2.5
Montney, Bruce	SEDD11543	3.16.1
Moody, Michelle	SEDD10970	3.2.3
Moore, Dallas	SEDD10589	3.16.1
Morgan, Linda	SEDD10552	3.2.5, 3.1.7, 3.1.12
Morisset, Schlosser, Jozwiak and Somerville on behalf of the Quechan Indian Tribe of the Fort Yuma Indian Reservation	SEDD10091	3.15.19.6, 3.15.19.8, 3.6.2, 3.15.19.5, 3.15.18.10, 3.15.19.3, 3.15.18.3, 3.15.19.4, 3.2.2, 3.15.24.1, 3.15.19.2, 3.7.14, 3.7.3, 3.7.18, 3.15.19.10, 3.14.2, 3.9, 3.14.3, 3.14.1, 3.11.2, 3.1.4, 3.15.19.1
Morongo Basin Conservation Association	SEDDsupp20175	3.2.3, 3.2.2, 3.6.3.2, 3.2.5, 3.15.20.4, 3.17.1, 3.14.1, 3.15.13.4, 3.15.13.5, 3.7.16, 3.15.20.2, 3.7.5
Morongo Basin Conservation Association	SolarS_PD_05	3.7.2, 3.2.4, 3.7.3, 3.7.1
Morongo Basin Conservation Association	SEDD11850	3.17.1, 3.14.2, 3.15.13.4, 3.14.8, 3.14.7, 3.6.4
Moscoso, Mary	SEDD10897	3.2.5
Moser, Janet	SEDD11710	3.2.3
Moskowitz, Marilyn	SolarS_EC_05	3.17.1, 3.17.6, 3.7.13, 3.12, 3.15.9.1, 3.4.1, 3.18.1, 3.15.7.1, 3.16.2
Moss, Rhea	SEDD10857	3.16.1
Moye, Joe	SEDD10694	3.16.1
Mrowka, Rob, on behalf of Senator Dean Miller	Solar_LV_015	3.14.1, 3.14.2, 3.15.11.12, 3.15.9.1
Mueller, Eleanor	SEDDsupp20049	3.7.2.1
Mueller, Helmut	SEDD10730	3.18.1
Mullen, Dianna	SEDD11406	3.16.1
Murakami, Maki	SEDD10686	3.2.5, 3.14.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
N-4 Grazing Board	SEDDsupp20063	3.1.13, 3.1.15, 3.1.16, 3.2.2.1, 3.11.2, 3.6.3.2, 3.6.3.3, 3.8, 3.1
N-4 Grazing Board	SolarS_LV_16	3.6.1, 3.2.2.1, 3.1.13, 3.1.15, 3.1.16, 3.14.1, 3.6.3.2
N-4 State Grazing Board	SEDD10127	3.18.3
N-4 State Grazing Board	SEDD10128	3.1.13, 3.1.15, 3.1.16
Name withheld upon request	SEDD10788	3.16.1
Name withheld upon request	SEDD11215	3.2.5
Name withheld upon request	SEDD11562	3.1.7
Name withheld upon request	SEDD11587	3.16.2
Name withheld upon request	SEDD10004	3.1.7, 3.15.14.7
Name withheld upon request	SEDD10010	3.6.1
Name withheld upon request	SEDD11637	3.16.1
Name withheld upon request	SEDD11781	3.2.4, 3.2.3
Name withheld upon request	SEDD10949	3.1.7, 3.1.5, 3.1.12, 3.2.5
Name withheld upon request	SEDD11150	3.2.3
Name withheld upon request	SEDD10574	3.16.1
Name withheld upon request	SEDD11560	3.1.7, 3.2.3
Name withheld upon request	SEDD10901	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Name withheld upon request	SEDD10517	3.2.5
Name withheld upon request	SEDD10001	3.16.2
Name withheld upon request	SEDD11872	3.2.3, 3.17.1
Name withheld upon request	SEDD10383	3.2.5, 3.1.5, 3.1.7, 3.1.12
Name withheld upon request	SEDDsupp20033	3.16.3
Name withheld upon request	SEDD10497	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Name withheld upon request	SEDD11210	3.16.1
Name withheld upon request	SEDD10146	3.15.20.1
Name withheld upon request	SEDD10904	3.2.3
Name withheld upon request	SEDD10028	3.2.3
Name withheld upon request	SEDD10720	3.2.3, 3.15.23.4
Name withheld upon request	SEDD11768	3.16.2
Name withheld upon request	SEDD11597	3.2.5
Name withheld upon request	SEDD11098	3.17.1, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Name withheld upon request	SEDDsupp20023	3.17.1, 3.17.6, 3.7.5
Name withheld upon request	SEDD11343	3.2.5
Name withheld upon request	SEDD11798	3.16.1
Name withheld upon request	SEDD11493	3.2.2.3
Name withheld upon request	SEDD11088	3.18.1
Name withheld upon request	SEDD10715	3.2.3
Name withheld upon request	SEDD10588	3.16.1
Name withheld upon request	SEDD10696	3.2.5, 3.17.5
Name withheld upon request	SEDD10471	3.2.5
Name withheld upon request	SEDD11295	3.18.3
Name withheld upon request	SEDD11883	3.17.4, 3.1, 3.15.9.1, 3.15.9.2, 3.7.2.1, 3.15.3.5, 3.2.1
Name withheld upon request	SEDD10038	3.1.7
Name withheld upon request	SEDD10644	3.2.5
Name withheld upon request	SEDD10054	3.2.2.3
Name withheld upon request	SEDD10863	3.2.5
Name withheld upon request	SEDDsupp20036	3.7.18

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Name withheld upon request	SEDD10153	3.16.2, 3.17.1
Name withheld upon request	SEDDsupp20078	3.6.1
Name withheld upon request	SEDD10637	3.2.3
Name withheld upon request	SEDD10602	3.18.3
Name withheld upon request	SEDD11751	3.16.1
Name withheld upon request	SEDD11134	3.2.3
Name withheld upon request	SEDD10556	3.14.1, 3.1.7, 3.1.12, 3.1.21
Name withheld upon request	SEDD10281	3.2.5
Name withheld upon request	SEDD10506	3.2.3
Name withheld upon request	SEDD11415	3.16.1
Name withheld upon request	SEDD10608	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Name withheld upon request	SEDD11558	3.14.2
Name withheld upon request	SEDD11081	3.16.2
Name withheld upon request	SEDD10794	3.2.3
Name withheld upon request	SEDD10872	3.2.5
Name withheld upon request	SEDD10363	3.1.5, 3.1.7, 3.1.12, 3.2.5
Name withheld upon request	SEDD11479	3.2.5
Name withheld upon request	SEDD11860	3.7.2.1
Name withheld upon request	SEDD11595	3.2.5
Name withheld upon request	SEDD10284	3.16.1, 3.2.5, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.14.1
Name withheld upon request	SEDD10062	3.17.1, 3.2.2.3, 3.14.1, 3.7.6, 3.17.5
Name withheld upon request	SEDD10216	3.2.5
Name withheld upon request	SEDD10776	3.2.5
Name withheld upon request	SEDD10675	3.2.3
Name withheld upon request	SEDD10699	3.2.5
Name withheld upon request	SEDDsupp20051	3.14.2
Name withheld upon request	SEDD10902	3.16.1
Name withheld upon request	SEDD11672	3.2.3
Name withheld upon request	SEDD11843	3.8
Name withheld upon request	SEDD11108	3.16.1
Name withheld upon request	SEDD10459	3.2.5, 3.1.5, 3.1.7, 3.1.12
Name withheld upon request	SEDD10060	3.2.3
Name withheld upon request	SEDD11391	3.2.3, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Name withheld upon request	SEDD11248	3.18.3
Name withheld upon request	SEDD10650	3.2.5
Name withheld upon request	SEDD10831	3.14.1, 3.18.3, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Name withheld upon request	SEDD11783	3.16.2, 3.17.1, 3.17.5
Name withheld upon request	SEDD11764	3.17.5
Name withheld upon request	SEDD11711	3.2.3
Name withheld upon request	SEDD11283	3.17.1, 3.1.7, 3.1.12, 3.2.5
Name withheld upon request	SEDD11599	3.1.7
Name withheld upon request	SEDD11671	3.2.5
Name withheld upon request	SEDD11006	3.2.3
Name withheld upon request	SEDD11061	3.2.5
Name withheld upon request	SEDD10616	3.16.1, 3.14.1, 3.2.5
Name withheld upon request	SEDD11319	3.2.5
Name withheld upon request	SEDD10813	3.2.5
Name withheld upon request	SEDD11547	3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Name withheld Upon Request	SEDDsupp20149	3.14.1, 3.17.5
Name withheld Upon Request	SEDDsupp20150	3.14.1, 3.17.5
Name withheld upon request	SEDD10695	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Name withheld upon request	SEDD11227	3.2.5
Name withheld upon request	SEDD10895	3.16.1
Name withheld upon request	SEDD10136	3.16.2, 3.18.1
Name withheld upon request	SEDD11585	3.2.5
Name withheld upon request	SEDDsupp11909	3.16.1
Name withheld upon request	SEDD10927	3.17.5
Name withheld upon request	SEDD10549	3.2.5
Name withheld upon request	SEDD11062	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Name withheld upon request	SEDD11702	3.2.3
Name withheld upon request	SEDD10197	3.2.3, 3.17.1
Name withheld upon request	SEDD11540	3.2.3, 3.17.5
Name withheld upon request	SEDD11770	3.16.1
Name withheld upon request	SEDD10173	3.2.3
Name withheld upon request	SEDD11652	3.17.6
Name withheld upon request	SEDD11463	3.2.3
Name withheld upon request	SEDD10396	3.2.3
Name withheld upon request	SEDD11338	3.16.1
Name withheld upon request	SEDD10295	3.16.1
Name withheld upon request	SEDD10426	3.2.3
Name withheld upon request	SEDD10419	3.2.3
Name withheld upon request	SEDD11389	3.2.5
Name withheld upon request	SEDD11105	3.2.5
Name withheld upon request	SEDD10379	3.2.3
Name withheld upon request	SEDD10954	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Name withheld upon request	SEDD10551	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Name withheld upon request	SEDD10105	3.14.2, 3.3.2
Name withheld upon request	SEDD10025	3.16.1
Name withheld upon request	SEDDsupp20042	3.14.7
Name withheld upon request	SEDD10922	3.16.1
Name withheld upon request	SEDD10282	3.16.1, 3.17.1, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.2.5
Name withheld upon request	SEDD11352	3.2.3, 3.16.3
Name withheld upon request	SEDD10736	3.2.5
Name withheld upon request	SEDD10546	3.16.1
Name withheld upon request	SEDD10547	3.16.1
Name withheld upon request	SEDD11784	3.2.2.2, 3.15.5.1, 3.1, 3.2.2, 3.4.1, 3.15.5.3
Naples, Jean	SEDD10731	3.2.5
Nasif, Maria	SEDD11644	3.16.1
National Park Conservation Association	SolarS_LV_13	3.16.1, 3.6.1, 3.17.1
National Park Conservation Association	SEDD10563	3.2.3
National Parks Conservation Association	Solar_PH_001	3.16.1, 3.14.1, 3.2.5, 3.17.5, 3.2.2, 3.14.2, 3.6.2
National Parks Conservation Association	Solar_TU_001	3.14.1, 3.2.2.1, 3.2.5, 3.8, 3.17.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
National Parks Conservation Association	SEDD11815	3.2.5, 3.1.12, 3.15.9.3, 3.15.9.7, 3.1.21, 3.8, 3.17.4, 3.7.5, 3.15.24.5, 3.6.3.1, 3.7.18, 3.14.2, 3.7.12, 3.15.24.9, 3.14.6, 3.14.1, 3.3.1, 3.7.3, 3.1.5, 3.1.7
National Parks Conservation Association	SEDDsupp20156	3.14.1, 3.2.5, 3.7.3, 3.2.2, 3.1.6, 3.1.12, 3.2.2.4, 3.7.22, 3.7.2, 3.15.24.8, 3.15.13.4, 3.3.1, 3.18.3, 3.16.1, 3.6.1, 3.8.2, 3.8.4, 3.8.5, 3.17.4, 3.17.5
National Parks Conservation Association Campaign	SolarS_PD_02	3.16.1, 3.17.5, 3.6.1, 3.1.7, 3.14.1, 3.15.20.4
National Parks Conservation Association Campaign	Solar_IW_004	3.2.1, 3.2.3, 3.7.18, 3.7.1, 3.15.24.6, 3.2.5, 3.15.11.11, 3.18.3
National Public Lands News	SEDD11853	3.18.3, 3.9, 3.15.19.10, 3.6.2, 3.7.18, 3.3.2, 3.15.22.4, 3.15.8.1, 3.6.1, 3.17.1, 3.6.4
National Renewable Energy Laboratory	Solar_022	3.6.3.2, 3.15.11.10, 3.15.7.6, 3.15.9.6, 3.6.5, 3.15.12.3, 3.15.13.4, 3.15.10.1, 3.15.2.2, 3.15.15.2, 3.15.11.2, 3.15.19.3, 3.15.3.4, 3.15.7.1
National Trust for Historic Preservation	SEDD11812	3.15.18.1
National Trust for Historic Preservation	SEDDsupp20076	3.6.1, 3.15.18.4, 3.2.2.2, 3.1.9, 3.15.15.8, 3.1.14, 3.15.18.10
National Wildlife Federation	SEDD11842	3.2.3, 3.6.2, 3.7.12, 3.7.14, 3.7.3, 3.3.1, 3.15.11.10, 3.2.1, 3.17.5, 3.15.13.2, 3.15.13.3, 3.15.13.4, 3.15.13.8, 3.15.11.6, 3.3.2, 3.15.24.2, 3.15.24.6, 3.15.18.7, 3.14.1, 3.15.19.6, 3.15.18.8, 3.15.24.1, 3.15.19.2, 3.1, 3.14.2, 3.8, 3.4.1, 3.6.4
National Wildlife Federation	SEDDsupp20125	3.6.1, 3.15.13.4, 3.7.23, 3.18.3, 3.14.1, 3.7.11, 3.3.2, 3.6.2, 3.15.18.9, 3.15.18.10, 3.2.2.3, 3.1.9, 3.1.17, 3.1.23, 3.15.13.5, 3.1.24
Natural Resources Defense Council	Solar_DC_002	3.6.1, 3.14.1, 3.2.2.4, 3.14.2
Natural Resources Defense Council	SEDD11863	3.11.2, 3.11.3, 3.8, 3.7.3
Natural Resources Defense Council	Solar_IW_007	3.14.1, 3.14.2, 3.1.5, 3.1.6, 3.8.4, 3.8.5
Natural Resources Defense Council	SEDDsupp20179	3.6.1, 3.2.6, 3.5.4, 3.14.2, , 3.4.1
Natural Resources Defense Council	Solar_SA_001	3.14.1, 3.8, 3.14.2, 3.2.2, 3.1.5, 3.1.6, 3.8.4, 3.8.5, 3.6.3.3
Natural Resources Defense Council	SolarS_PD_11	3.6.1, 3.14.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Natural Resources Defense Council, Audubon California, California Native Plant Society, Californians for Western Wilderness, California Wilderness Coalition, Defenders of Wildlife, National Parks Conservation Association, Point Reyes Bird Observatory Conservation Science, Sierra Club-California, The Wilderness Society, The Wildlands Conservancy,	SEDD11786	3.9, 3.6.3.3, 3.15.13.1, 3.15.13.4, 3.1, 3.15.11.6, 3.15.11.11, 3.15.18.10, 3.15.13.9, 3.15.10.6, 3.15.7.1, 3.15.7.3, 3.15.10.3, 3.15.10.4, 3.15.10.5, 3.15.10.8, 3.17.1, 3.4.2, 3.14.2, 3.1.6, 3.7.22, 3.2.2.1, 3.2.2.3, 3.15.13.3, 3.2.2.4, 3.14.1, 3.8.5, 3.1.4, 3.15.9.1, 3.15.9.3, 3.15.9.4, 3.15.13.2, 3.15.24.11, 3.1.7, 3.15.11.8, 3.15.13.6, 3.15.11.7, 3.15.11.10, 3.15.18.5, 3.8, 3.1.5, 3.8.4, 3.12, 3.2.2, 3.15.9.2
Nature Conservancy	Solar_SA_010	3.14.1, 3.14.2, 3.8
Nave, Barbara	SEDD10296	3.16.1
Navy Region Southwest, DoD Regional Environmental Coordinator, Region 9	SEDD11747	3.1.13, 3.1.15, 3.15.6.3
Navy Region Southwest, DoD Regional Environmental Coordinator, Region 9	SEDD11748	3.1.13, 3.1.15, 3.15.6.4, 3.1.14, 3.4.2, 3.15.16.4, 3.1.16, 3.15.6.1, 3.15.6.3, 3.15.24.1, 3.2.2
Navy Region Southwest, DoD Regional Environmental Coordinator, Region 9	SEDD11749	3.1.2, 3.1.21, 3.7.20, 3.6.3.1, 3.7.14, 3.7.3, 3.8, 3.15.6.3, 3.15.23.3, 3.5.1, 3.19, 3.14.1, 3.1, 3.3.1, 3.7.15, 3.1.19, 3.18.3, 3.2.1, 3.7.3, 3.6.3.2, 3.6.3.3, 3.15.20.7
Nay, Blaine	SEDD10126	3.14.2, 3.18.2, 3.7.13, 3.18.3, 3.2.3
Neidich, Michael	SEDD10077	3.16.1
Nelson, Jerry	SolarS_PH_06	3.17.1
Nemtusak, Robert	SEDD10410	3.18.3
Nettleton, John	SEDD11424	3.16.1
Neunzert, Martin	SEDD10155	3.14.2
Nevada Association of Counties	SEDDsupp20185	3.6.3.2
Nevada Department of Wildlife	SEDDsupp20171	3.6.1, 3.1.12, 3.15.13.9, 3.7.23, 3.15.13.5, 3.8, 3.7.5, 3.5.4, 3.15.9.1, 3.6.3.1, 3.14.1, 3.15.13.4, 3.7.3, 3.12
Nevada Department of Wildlife	SEDD11825	3.6.4, 3.15.11.11, 3.5.1, 3.1.12, 3.12, 3.11.1, 3.15.13.4, 3.15.11.4, 3.15.13.5, 3.15.11.2, 3.15.11.12, 3.15.13.8, 3.15.9.1, 3.15.9.5, 3.14.1
Nevada State Office of Energy	SEDD11861	3.5.1, 3.6.3.3, 3.11.2, 3.11.3, 3.8, 3.6.3.1
Nevada Wilderness Project, Nevada Conservation League	SEDD11789	3.14.1, 3.15.12.2, 3.15.9.3, 3.15.9.4, 3.15.13.4, 3.15.7.1, 3.15.10.3, 3.15.10.4, 3.15.10.5, 3.15.10.8, 3.15.14.5, 3.15.7.3, 3.15.23.1, 3.15.23.4, 3.15.11.11, 3.15.11.6, 3.15.12.1, 3.15.14.1, 3.2.2.1, 3.1.13, 3.1.14, 3.1.15, 3.2.3, 3.15.18.10, 3.15.19.8, 3.5.1, 3.8, 3.2.1, 3.17.5, 3.2.2.3, 3.15.13.5, 3.2.2.4, 3.1.12, 3.15.13.6, 3.15.24.14, 3.15.9.1, 3.15.9.7, 3.15.9.2, 3.15.13.9,

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Nevada Wilderness Project, Nevada Conservation League (Cont.)		3.15.7.4, 3.15.14.7, 3.15.15.7, 3.14.2, 3.15.13.3, 3.15.24.15, 3.1.16, 3.12, 3.15.9.6, 3.1.18, 3.15.7.6, 3.15.7.8, 3.15.24.6, 3.1.17, 3.15.11.8, 3.15.9.5
New Mexico Department of Agriculture	SEDD10108	3.1.19, 3.1.2, 3.1.21, 3.15.3.2
New Mexico Department of Game and Fish	Solar_011	3.14.2, 3.19, 3.15.13.9, 3.17.5, 3.2.2.2, 3.1.2, 3.1.19, 3.1.21, 3.3.1, 3.4.2
New, Robert	SEDD11445	3.2.3
Newe Sogobia, Western Shoshone Nation	Solar_LV_001	3.18.3, 3.15.19.10, 3.15.11.11, 3.15.11.12
Newlon, Mark	SEDD10937	3.16.1
Newton, Carol	SEDD10953	3.2.3
Nextek Power Systems, Inc.	SEDD10009	3.18.3
Nezgoda, Dianne	SEDD11170	3.2.5
Nichols, MaryAnn	SEDD10527	3.2.5
Nieberg, Pamela	SEDDsupp20080	3.2.2, 3.14.2, 3.14.1
Nolan, Ruth	Solar_IW_003	3.16.2, 3.2.3, 3.18.3, 3.15.23.4
Nolan, Ruth	SolarS_PD_09	3.2.3, 3.18.3, 3.15.9.1, 3.15.23.4, 3.15.25
Norden, Michael	SEDD11206	3.2.5
Norruis, Enid	SEDD10536	3.16.1
North, Linda	SEDD11608	3.16.1
Note, Kathryn	Solar_AL_016	3.16.3, 3.17.1
Nutini, Michael	SEDD10689	3.2.5
Nye County	SEDD10039	3.19, 3.12, 3.1.12,
Nye County Board of County Commissioners	SEDDsupp20053	3.16.1, 3.9, 3.2.1, 3.7.23, 3.15.9.4, 3.6.3.2, 3.7.21, 3.8, 3.5.4, 3.2.2, 3.6.1, 3.14.6, 3.5.5, 3.4.1, 3.19, 3.7.11, 3.7.5, 3.6.3.3, 3.7.14, 3.3.2, 3.5.6, 3.7.13, 3.1.12, 3.17.5, 3.6.4, 3.7.16, 3.7.3, 3.8.2, 3.8.3, 3.14.1, 3.14.2, 3.15.9.2, 3.19, 3.7.1, 3.15.11.7, 3.15.13.3, 3.15.17.1, 3.15.18.7, 3.15.22.5, 3.11.2, 3.7.15, 3.7.7, 3.2.3, 3.6.5, 3.14.5, 3.15.20.1, 3.15.21.3, 3.14.3, 3.7.9, 3.15.6.2, 3.18.3, 3.15.15.4, 3.15.18.6
Oberheide, Margery	SEDD10636	3.2.5
O'Brien, Mary	SEDD11229	3.14.1, 3.2.5
Odonnell, Dawn	SEDD11092	3.18.1
Odry, Susanna	SEDD10364	3.2.3
Ogas, Daniel	SEDD11619	3.17.1
Ogas, Daniel	SEDD11620	3.2.5, 3.17.1
Ogella, Edith	SEDD11313	3.17.1
Oggiono, Nanette	SEDD10850	3.2.5
Ohland, Andreas	SEDD10711	3.18.3
O'Kiersey, Mary	SEDD10446	3.2.3
Oliver, Ann	SEDD10325	3.2.5
Oliver, Nancy	SEDD10169	3.2.5
Orawczyk, Joe	SEDDsupp20052	3.18.1, 3.17.1, 3.15.23.3, 3.14.7
Orcholski, Gerald	SEDD11515	3.2.2.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Orlinski, Patricia	SEDD11107	3.2.5
Orr, Helene	SEDD10079	3.17.1
Orr, Mark	Solar_008	3.15.9.3, 3.15.25, 3.18.3, 3.15.11.2, 3.15.9.1, 3.15.14.11
Ortega, Maria	SEDD11594	3.1.7
Orzechowski, Larry	SEDD11586	3.17.1, 3.18.3
Oser, Wendy	SEDD11384	3.16.1
O'shaughnessy, Patricia	SEDD10425	3.16.1
Ostrander, Helen	SEDD11166	3.2.5
O'Sullivan, Katherine	SEDD11729	3.16.1
O'Sullivan, Katherine	SEDD11730	3.2.3
Ottenberg, Marjorie	SEDD11692	3.2.3, 3.17.1
Overstreet, Annette	SEDD11576	3.16.1
Pacey-Field, Susan	SEDD11090	3.16.1
Pacific Gas and Electric Company	SEDDsupp20176	3.6.1, 3.7.14, 3.7.11, 3.2.2, 3.7.22, 3.1.4, 3.1.7, 3.16.1, 3.18.3, 3.14.2, 3.8.2, 3.8.5, 3.5.4, 3.3.2, 3.11.2, 3.11.3
Packer, Patti	SEDD10543	3.2.5
Pahrump Paiute Tribe	SEDD11879	3.15.19.1
Pahrump Paiute Tribe	SolarS_LV_15	3.6.1, 3.3.2, 3.15.18.10, 3.15.19.8, 3.2.3, 3.1.12, 3.5.4, 3.15.21.2, 3.15.24.14, 3.6.2
Paisley, Lorna	SEDD11649	3.16.1
Paleias, Linda	SEDD10826	3.2.5
Palladine, Michelle	SEDD10707	3.2.5
Palmer, Francis	SEDD11635	3.2.2
Palmer, Jennifer	SEDD10561	3.2.5
Paluzzi, Jeanna	SolarS_AL_13	3.4.2, 3.7.2, 3.15.9.1
Panorama Environmental, Inc. on behalf of the applicant for the Soda Mountain Solar Project	SEDDsupp20155	3.11.2, 3.15.13.3, 3.7.22
Parker, Andrew	SEDD10116	3.17.1, 3.16.3, 3.18.2, 3.14.2, 3.1.24, 3.2.1, 3.17.5, 3.7.13
Parker, Doug and Jan	SEDD11214	3.2.5
Parker, Judith	SEDD11292	3.2.5
Parshall, Sharon	SEDD11269	3.16.1
Partnership for the National Trails System	SEDD11814	3.2.3, 3.1.9, 3.15.18.2, 3.1.19, 3.1.21, 3.8, 3.15.18.10, 3.14.2, 3.15.18.3, 3.6.3.1, 3.5.1, 3.7.14, 3.2.2, 3.17.1, 3.17.2, 3.15.18.7, 3.15.24.1, 3.3.1, 3.15.18.8, 3.15.18.4, 3.2.2.2, 3.15.15.1, 3.15.5.3, 3.3.2, 3.6.2, 3.14.1, 3.15.18.6, 3.1.14, 3.1.1, 3.1.7
Partnership for the National Trails System	SEDDsupp20124	3.6.1, 3.15.18.10, 3.17.2, 3.17.1, 3.2.2, 3.15.18.4, 3.2.2.2, 3.15.15.8, 3.1.14
Patsis, Eli	SEDD11367	3.16.1, 3.18.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Paul, Hastings, Janofskky & Walter, LLP, Large-Scale Solar Association, center for Energy Efficiency and Renewable Technologies, Solar Energy Industries Association	SEDD11823	3.11.2, 3.11.3, 3.15.13.3, 3.15.13.2, 3.15.13.4, 3.15.10.1, 3.15.11.5, 3.15.11.10, 3.15.14.5, 3.8, 3.2.1, 3.15.15.2, 3.2.2, 3.15.13.1, 3.15.13.5, 3.15.13.7, 3.15.15.3, 3.15.16.2, 3.15.18.8, 3.3.1, 3.6.2, 3.15.18.10, 3.15.9.3, 3.15.9.6, 3.15.9.7, 3.1.7, 3.15.15.5, 3.17.4, 3.5.1, 3.14.1, 3.1.5, 3.1.6, 3.8.4, 3.8.5, 3.8.3, 3.15.6.2, 3.15.7.7, 3.15.9.1, 3.7.15, 3.6.3.2, 3.6.3.3, 3.7.11, 3.14.2, 3.14.8, 3.7.14, 3.2.6, 3.7.9, 3.7.13, 3.6.3.1, 3.17.5, 3.17.6, 14.7, 3.7.12, 3.7.4, 3.7.3, 3.15.23.5, 3.15.1.1, 3.2.2.4, 3.15.2.2, 3.18.3, 3.15.1.2, 3.15.5.3, 3.15.7.6, 3.15.12.2, 3.15.9.2, 3.15.9.4
Pauly, Jeff	SEDD10027	3.1.17, 3.2.1
Pauly, Jeff	SEDDsupp20037	3.1.17, 3.15.9.1
Pauly, Jeffrey	SEDD10051	3.1.17, 3.15.15.9, 3.15.23.1
Pawnee Nation of Oklahoma	SEDD10117	3.6.2, 3.15.19.5
Peach, David	SEDDsupp20081	3.6.1
Peariso, Sharon	SEDD10869	3.2.5
Peipert, Jacqueline	SEDD10465	3.16.1
Peralta, Sharon	SEDD11058	3.2.3
Perez, Ralph	Solar_015	3.17.1, 3.12
Perry, Anna	SEDD11771	3.16.1
Perry, Janna	SEDDsupp20071	3.6.1
Peterson, Joel	SEDD11761	3.2.3
Peterson, Richard	SEDD10587	3.2.5
Peterson, Susan	SEDD11545	3.2.5
Peterson, Terry	SEDD11426	3.16.1
Petitpas, Bethanie	SEDD11303	3.2.5
Petlock, Eric	Solar_GF_003	3.7.2, 3.14.1, 3.6.1
Petrulias, Linda	SEDD11067	3.2.5
Petty, Carlene	SEDD10370	3.16.1, 3.2.5
Phelps, Dwight	SEDD11270	3.2.5
Phillips, Chet	Solar_TU_010	3.6.1, 3.2.3, 3.17.5, 3.18.3
Picking, Thomas	SEDD10005	3.17.1, 3.18.2
Pima County	SEDD11824	3.2.3, 3.14.8, 3.8.1, 3.6.3.2, 3.4.1, 3.5.1, 3.14.1, 3.8.3, 3.14.2, 3.2.1, 3.2.2.1
Pima County	SEDDsupp20056	3.6.1, 3.14.1, 3.13, 3.6.3.2, 3.2.2.1
Pintus, Susan	SEDDsupp20043	3.7.18
Pittenger, John	SEDD11408	3.16.1
Poleson, William	SEDD10110	3.18.1
Politzer, Andrew	SEDD10661	3.18.3
Politzer, Andrew	SEDD11427	3.16.1
Poncha Pass Gunnison Sage-grouse Local Working Group	SEDD11877	3.15.13.3, 3.2.2.1
Pope, Robert	SEDD11638	3.2.3
Porter, Ted	SEDD10781	3.2.3
Porter, Will	Solar_AL_022	3.2.1, 3.17.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Porterfield, Duane	SEDD10037	3.16.2
Potisk, Julie	SEDD10796	3.2.5
Poulos, Bonnie	SEDDsupp20044	3.5.6
Poulson, Thomas	SEDD10478	3.2.5
Powell, Fred	SEDD11041	3.18.3
Price, Elisabeth	SEDD10898	3.2.3
Pritchard, Geraldine	SEDD10270	3.2.5
Proett, Thomas	SEDD11647	3.17.6
Protect Our Communities Foundation, Backcountry Against Dumps, East County Community Action Coalition	SEDD11820	3.16.3, 3.3.2, 3.15.10.5, 3.6.4, 3.15.24.8, 3.7.1, 3.18.3, 3.17.1, 3.14.8, 3.14.7, 3.9, 3.18.2, 3.18.3
Protectors for the Ivanpah Valley	Solar_IW_022	3.18.3, 3.6.2, 3.16.2
Provencher, Lauri	SEDD10603	3.16.1
Provencio, Rick	SEDD11168	3.2.5, 3.14.1
Public Lands Foundation	SEDD10131	3.14.1, 3.7.10, 3.7.13, 3.7.11, 3.8, 3.17.5, 3.8.3, 3.4.1, 3.2.1, 3.12
Public Lands Foundation	SEDD10132	3.2.1, 3.18.3, 3.6.3.2, 3.17.4, 3.17.5, 3.17.1, 3.8, 3.7.6, 3.7.13
Q, Kathleen	SEDD10592	3.2.3, 3.17.1
Quechan Indian Nation - Culture Committee	SEDD11819	3.15.19.1, 3.2.2.1, 3.15.18.2, 3.6.2, 3.15.19.6, 3.15.19.3
Quinlan, Michael	SEDD11893	3.14.2, 3.14.1
Quinn, Emily	SEDD11757	3.16.1
Radcliff, Ruth-Ann	SEDD11132	3.17.1
Rafferty, Janet	SEDD11640	3.2.5
Raine, JoAnn	SEDD10492	3.2.5
Ralph, Trish	SEDD10673	3.2.5
Ramirez, Steve	SEDD10137	3.2.3, 3.17.1, 3.17.6
Rapp, Kathy	SEDD10242	3.2.5
Rash, John	SEDD11121	3.18.3
Rasmussen, Kelly	SEDD10256	3.2.5
Rawinski, John	Solar_029	3.2.3, 3.15.13.9, 3.1.11, 3.15.13.3
Ray, Sharon	SEDD10086	3.14.2, 3.14.1, 3.1, 3.14.3, 3.17.5, 3.6.3.3
Raymond, Judith	SEDD11212	3.2.5
Raymond, Mike	SEDD10842	3.2.2.3
Reback, Mark	SEDD10185	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Rechner, Diane	SEDD10795	3.16.1
Red Rock Audubon Society	Solar_026	3.14.2, 3.14.1, 3.15.13.9, 3.12, 3.15.9.1, 3.15.9.4, 3.15.24.6, 3.1.13, 3.15.7.8, 3.2.1, 3.3.1, 3.7.13
Red Rock Audubon Society	Solar_LV_016	3.14.2, 3.2.1, 3.1.13, 3.15.7.8, 3.7.6, 3.14.6, 3.3.2
Red Rock Audubon Society	SolarS_LV_11	3.4.1, 14.7, 3.14.1, 3.2.1, 3.1.12, 3.15.9.1, 3.2.2.3, 3.15.11.11
Reece, Elizabeth	SEDD10124	3.2.4, 3.1.7, 3.6.1
Reece, Roger, Lake Tamarisk Desert Resort	SEDD10125	3.1.7, 3.6.1
Reese, Elizabeth	SEDD10511	3.2.3
Reese, Toby	SEDD10693	3.16.1
Refes, Necia	SEDD10651	3.16.1, 3.2.5
Rehberger, Sally	SEDD11060	3.2.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Reid, Don	SolarS_LV_17	3.5.6
Reidy, Tom	SEDD11648	3.16.1
Reisman, Emil	SEDD10313	3.2.5
Renn, Melissa	SEDD10442	3.17.1
Renner, Aileen	SEDD11337	3.16.1
Renton, Barbara	SEDDsupp20191	3.6.1, 3.17.1
Reolofs, Hans	SEDD10122	3.7.2
Revesz, Mr. and Mrs. Bruce	SEDD10705	3.2.5
Reynolds, Kevin	SEDD11290	3.2.5
Rhoads, Angela	SEDD11222	3.17.1
Rice, Chris	SEDD10946	3.2.5
Richard Van Aken	SEDD10249	3.2.3
Richard, Nancy	SEDD11252	3.2.5
Riddle, Carolyn	SEDD11020	3.2.3
Riek, Taylor	SEDD11625	3.2.3
Rieve, Theresa	SEDD11079	3.17.1, 3.18.2
Riley, Russell	SEDD11186	3.18.3
Rincon, Faviola	SEDD11567	3.7.2
Rittenhouse, Calvin	SEDD10003	3.2.1, 3.17.1
Rivera, Cree	SEDDsupp20069	3.6.1, 3.16.2
Riverside County Planning Department	Solar_021	3.15.9.1, 3.15.9.5, 3.15.14.11, 3.15.12.2, 3.15.13.4, 3.15.11.4, 3.15.5.1, 3.15.23.2, 3.5.1, 3.15.15.1, 3.15.20.2, 3.15.20.6
Riverside County Planning Department	SolarS_012	3.6.1
Robert, Sheryl	SEDD10532	3.2.5
Roberts, Herb	Solar_GF_004	3.2.5, 3.1.18, 3.16.1, 3.2.4
Roberts, Katherine	SEDD10565	3.2.3, 3.7.19, 3.17.1
Roberts, Patricia	SEDD10337	3.16.1
Roberts, Ron	SEDD11423	3.16.1
Roberts, Sarah	SEDD10398	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.3
Robertson, Bruce	SEDD10021	3.15.11.2
Robinson, Janet	SEDD11044	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Robinson, Laura	SEDD10441	3.2.3
Robinson, Marcia	SEDD10605	3.16.1
Robinson, Terry	Solar_SA_013	3.17.1, 3.17.4, 3.16.2, 3.16.3, 3.18.1
Rocca, Isabella	SEDD10486	3.2.5
Rocky Mountain Power	SEDDsupp20105	3.2.1, 3.5.4, 3.5.1, 3.5.6
Roddy, Sheila	SEDD10773	3.1.5, 3.1.7, 3.1.12, 3.1.21
Rodgers, Ron	SEDD10319	3.16.1
Roeder, Carol	SEDD11388	3.2.5
Rogers, Constance	SEDD11123	3.2.5
Rogers, Thomas	SEDD11501	3.2.5
Rogers, William	SEDD10785	3.2.5
Roland, Lorinda	SEDD11491	3.2.3
Romain, David	SEDD11309	3.2.5
Romanski, Eugene	SEDD10055	3.14.1, 3.14.2, 3.2.1, 3.8
Romero, Evangelina	SEDD11468	3.1.7, 3.15.25, 3.2.3
Romero, Evangelina	SEDD11469	3.7.2, 3.15.25, 3.1.7, 3.16.1
Romero, Freddie	SEDDsupp20119	3.2.3, 3.14.7
Rose, Amanda	SEDD10089	3.16.2, 3.17.1, 3.17.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Rose, Barbara	SEDD10061	3.17.1
Rose, Eric	SEDD10722	3.17.1
Rosenthal, Daniel	SEDD11153	3.2.5
Rosenzweig, Barbara	SEDD10721	3.2.5
Ross, Ellen	SEDD11024	3.17.1, 3.18.2, 3.2.4, 3.15.20.6, 3.15.15.1, 3.2.3
Ross, Robert	Solar_IW_011	3.4.1, 3.14.7, 3.14.1
Rossiter, Anne	SEDD11327	3.16.1
Ross-Leech, Diane Pacific Gas and Electric Company	SEDD11859	3.14.2, 3.7.14, 3.1.5, 3.1.6, 3.17.5, 3.7.12, 3.6.3.3, 3.5.1, 3.11.2, 3.3.1, 3.8, 3.19, 3.2.2, 3.11.3, 3.2.6, 3.2.2.3, 3.2.1, 3.2.2.2, 3.7.7, 3.7.3, 3.7.20, 3.15.1.1, 3.15.2.2, 3.15.5.3, 3.15.6.1, 3.15.7.6, 3.14.1, 3.15.9.6, 3.15.13.9, 3.15.13.3, 3.15.11.10, 3.12, 3.15.13.2, 3.15.10.1, 3.15.15.2, 3.15.16.2, 3.1.4, 3.1.7
Rougemont, Rachel	SEDD11422	3.16.1
Rowe, George	Solar_CL_005	3.1.15, 3.18.3, 3.2.2
Rubel, Scott	SEDD10349	3.2.5
Rush, Charlene	SEDD11533	3.18.1
Rush, Charlene	SEDD11698	3.18.3
Rusk, Bob	SEDD10540	3.16.1
Russell, Katherine	SEDD11251	3.1.5, 3.1.7, 3.1.12, 3.2.3, 3.17.6
Russo, Elizabeth	Solar_SA_011	3.15.18.1, 3.2.3, 3.1.5, 3.1.6, 3.1.4, 3.1.7
Ryan, Matt Coconino County Board of Supervisors	SolarS_037	3.6.1, 3.2.2, 3.14.2, 3.14.1, 3.8, 3.6.3.2
Ryan, Richard	SEDDsupp20021	3.17.6, 3.17.2
Safranek, Colin	SEDD11898	3.12, 3.16.3, 3.17.6, 3.18.2, 3.16.2
Saguache County	SEDD11829	3.14.2, 3.14.8, 3.6.3.1,
Saguache County	SEDDsupp20074	3.6.1, 3.6.3.2, 3.14.6
Saito, Donald	SEDD10804	3.16.2
Sall, Claudia	SEDDsupp20180	3.14.1, 3.14.2, 3.14.3
Sall, Frederick	SEDD11243	3.2.3
Salvato, Roland	SEDD10352	3.2.5
Sammons, Rita	SEDD10272	3.16.1
San Bernardino County	SEDDsupp20045	3.14.1, 3.15.9.1, 3.15.9.2, 3.15.9.3, 3.15.9.4, 3.15.9.6, 3.15.24.6, 3.14.8, 3.3.1, 3.15.13.4, 3.7.2, 3.3.2, 3.15.8.1, 3.16.1, 3.16.3, 3.6.3.2, 3.4.1
San Bernardino County Land Use Services Department	Solar_005	3.6.3.2, 3.14.8, 3.3.1, 3.15.9.1, 3.15.9.2, 3.15.9.6, 3.15.24.6, 3.1.6, 3.15.13.4, 3.15.22.2, 3.15.20.2, 3.15.20.4, 3.18.3, 3.15.11.10, 3.14.6, 3.3.2, 3.7.6, 3.15.5.1
San Bernardino County, California, Third District	SolarS_045	3.16.1, 3.6.1, 3.14.1, 3.2.5, 3.6.3.1, 3.15.20.4
San Juan County Commission	SolarS_031	3.6.1, 3.2.2, 3.14.2, 3.14.1, 3.8, 3.6.3.2
San Luis Rio Grande Railroad	SolarS_AL_07	3.16.1, 3.7.2.1, 3.1.8

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
San Luis Valley Ecosystem Counsel	SEDD11864	3.16.1, 3.15.24.13, 3.7.19, 3.7.2.1, 3.17.1, 3.7.5, 3.7.2, 3.4.1, 3.15.24.5, 3.17.4, 3.9, 3.2.3, 3.5.1, 3.14.8, 3.7.14, 3.7.10, 3.6.1, 3.1.8, 3.1.9, 3.1.1, 3.1.11, 3.6.4, 3.15.21.1, 3.15.21.4, 3.15.20.1, 3.15.20.2, 3.7.1, 3.17.5, 3.5.6, 3.15.10.1, 3.15.10.5, 3.15.9.1, 3.15.9.3, 3.15.11.10, 3.15.18.6, 3.15.14.5, 3.15.14.11, 3.15.15.8, 3.15.23.3, 3.15.24.6, 3.15.24.2, 3.15.11.7
San Luis Valley Ecosystem Counsel	SEDDsupp20188	3.18.3, 3.7.2.1, 3.2.1, 3.1.8, 3.1.1, 3.17.4, 3.17.1, 3.19, 3.5.4, 3.16.3, 3.7.15, 3.7.10, 3.1.9, 3.1.11, 3.4.1, 3.15.21.1, 3.15.21.4, 3.15.20.1, 3.15.20.8, 3.7.2, 3.7.19, 3.15.21.2, 3.15.9.1, 3.15.9.3, 3.15.9.4, 3.6.1, 3.15.11.2, 3.15.11.11, 3.15.18.2, 3.15.14.5, 3.15.23.3
San Luis Valley Ecosystem Counsel	SEDDsupp20190	3.18.3, 3.3.1, 3.7.2, 3.7.2.1, 3.5.6, 3.17.1, 3.16.1, 3.2.2, 3.17.4, 3.5.4
San Luis Valley Renewable Communities Alliance	SEDD11882	3.17.1, 3.17.2, 3.17.6, 3.17.3, 3.15.18.10, 3.18.2, 3.11.1, 3.14.2, 3.16.2, 3.9, 3.14.8 3.16.3, 3.6.4, 3.17.5, 3.14.7, 3.15.9.1, 3.15.9.4, 3.15.9.5, 3.15.24.6, 3.15.7.1, 3.15.10.5, 3.15.14.13, 3.15.10.2, 3.15.10.3, 3.15.10.6, 3.15.9.3, 3.15.14.12, 3.15.11.11, 3.2.2.1, 3.15.13.3, 3.15.13.4, 3.1.9, 3.15.13.9, 3.15.18.4, 3.15.11.6, 3.12, 3.18.3
San Luis Valley Renewable Communities Alliance	SEDDsupp20172	3.17.2, 3.1.8, 3.15.2.4, 3.1.11, 3.15.13.5, 3.15.24.2, 3.14.7, 3.14.8, 3.17.1, 3.17.5, 3.15.21.2, 3.15.21.4, 3.15.20.1, 3.15.20.2, 3.7.2.1, 3.15.18.10, 3.1.1, 3.2.5, 3.1.9, 3.15.13.3
San Luis Valley Renewable Communities Alliance	SolarS_AL_04	3.6.1, 3.17.1, 3.17.5, 3.8.3, 3.16.2, 3.14.7, 3.17.4, 3.7.2
San Manuel Band of Mission Indians	Solar_BA_012	3.15.19.3, 3.15.19.6
San Manuel Band of Mission Indians	SEDD11897	3.15.18.5, 3.15.19.8, 3.6.2, 3.11.1, 3.15.19.6, 3.1.5, 3.1.6, 3.17.5, 3.15.19.4
Sanchez, Noah-D.M.	SEDD11462	3.2.3
Sanders, John	Solar_CL_006	3.1.13, 3.15.10.5, 3.15.20.5, 3.15.20.8, 3.17.4
Sandler, Brittany, on behalf of Senator Dean Heller	SolarS_LV_01	3.16.1
Sanford, Timothy	SEDD10273	3.16.1, 3.2.5
Sanitation Districts of Los Angeles County	SEDD10090	3.1.4, 3.1.5, 3.2.2.1
Sanni, Mike	SEDD11631	3.16.1
Santa Barbara County Board of Supervisors	SolarS_042	3.14.2, 3.6.3.2, 3.6.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Santa Cruz County Board of Supervisors	SolarS_025	3.6.1, 3.2.2, 3.14.2, 3.14.1, 3.8, 3.6.3.2
Santangelo, Stephen	SEDD10178	3.16.1
Santori, Nancy	SEDD10087	3.14.1
Satrun, Peter	SEDD10092	3.17.5
Sauer, Elizabeth	SEDD10395	3.2.5
Saway, Steve	SEDD11891	3.14.2, 3.2.2.1, 3.17.5, 3.8.3, 3.1.3, 3.15.9.1, 3.15.9.2, 3.15.14.7
Saway, Steve	SEDDsupp20143	3.8.3, 3.2.2.1, 3.1.3
Saway, Steve	Solar_009	3.1.3, 3.15.9.1, 3.15.9.2, 3.15.14.7
Sayas, Herb	SEDD10302	3.16.1, 3.2.5
Schierman, Mollie	SEDD11348	3.2.5
Schilling, Francis	SEDD10241	3.2.3
Schlein, Elizabeth	SEDD11636	3.16.1
Schmid, Christian	SEDD11555	3.5.1, 3.15.9.1, 3.2.3, 3.17.5
Schmidt, Linda	SEDD11318	3.2.5
Schmidt, Louis and Jerry	Solar_027	3.15.3.1, 3.6.1
Schneider, Frank	SEDD11451	3.15.20.1, 3.15.13.4, 3.15.13.5, 3.15.11.9, 3.2.1, 3.18.3, 3.17.1
Schoene, William	SEDD11656	3.2.3
Scholl, Susan and Tim	SEDD10534	3.2.3
Scholtz, Barbara	SEDD11535	3.2.5
Schrader, Susan	SEDD11658	3.16.1
Schrupp, Elizabeth	SEDD11766	3.16.1
Schue, Shirley	SEDD10765	3.2.5
Schultz, Arnold, Ph.D.	SEDD10367	3.16.1, 3.2.5
Schultz, Nancy	SolarS_039	3.2.3, 3.2.2.3, 3.14.1, 3.17.5, 3.2.1, 3.7.22
Schultz, Peter	SEDD10571	3.16.1, 3.2.5, 3.1.21, 3.1.12, 3.1.7, 3.1.5, 3.2.3
Schultz, Peter	SEDD10579	3.16.1, 3.2.5, 3.1.21, 3.1.12, 3.1.7, 3.1.5, 3.2.3
Schumacher, John	SEDD11687	3.18.3
Schwartz, Joyce	SEDD10538	3.16.1
Schwartz, Tamar	SEDD10366	3.16.1
Scott, Angela	SEDD11792	3.2.3
Scott, Kenna	SEDD10769	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Scott, Pauline	SEDD11494	3.2.2.3
Sears, Steve	SEDD10505	3.16.1
Sears-Barker, Claire	SEDDsupp20109	3.17.1, 3.17.5, 3.7.2.1
Seff, Joshua	SEDD10998	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Seibert, James	SEDD11109	3.16.1
Selbin, Susan	SEDD10883	3.16.1, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Servis, Jeanne	SEDD11200	3.2.5
Seymour, Greg	Solar_LV_010	3.16.1, 3.14.1, 3.7.14, 3.2.2.2
Shaffer, Mary	SEDD10830	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Shannon, Janice	SEDD10849	3.16.1
Sharp, Donald	Solar_014	3.16.1, 3.6.3.1, 3.6.1
Sharp-Garcia, Philip	SolarS_EC_06	3.17.5, 3.18.3, 3.1.4, 3.15.23.4
Shauinger, Lynn	SEDD10261	3.16.1
Shaver, Mark	Solar_LV_009	3.6.3.2

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Shaw, Dorothy	SEDD10959	3.16.1
Shaw, Sara	SEDD11076	3.17.5
Shawcroft, Brett	SEDD11838	3.1.11, 3.15.3.5
Sheets, David	SEDD10529	3.16.1, 3.18.3
Shelton, Donnie	SEDD10407	3.2.3, 3.17.1
Sher, Dena	SEDD11376	3.2.5
Sherback, Harvey	SEDDsupp20153	3.17.4
Sheridan, Marlene	SEDD10385	3.18.3
Sherry Olson, Ph.D.	SEDD10575	3.2.5
Shohan, Doug	SEDD10166	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Shrader, Gregory	SEDD11762	3.16.1
Shrimplin, Charlie	Solar_BA_006	3.16.1, 3.2.3
Shult, Abby	SEDD11460	3.2.5
Sidelman, Raphael	SEDD10798	3.18.3
Sierra Club	Solar_DC_001	3.14.3, 3.14.2, 3.14.1
Sierra Club, Arizona	SolarS_PH_04	3.16.1, 3.2.2.4, 3.18.3, 3.17.5, 3.8.3, 3.6.1
Sierra Club, Arizona Chapter	Solar_PH_010	3.14.1, 3.8, 3.17.5, 3.8.3, 3.12, 3.1.3
Sierra Club, Toiyabe Chapter	SolarS_LV_10	3.6.1, 3.2.2.4, 3.3.2, 3.17.5
Sierra, Leon	Solar_TU_003	3.18.3, 3.7.2
Silva, Andrew	Solar_BA_013	3.3.2, 3.15.24.7, 3.1
Silvarahawk, Loreen	SEDD10749	3.14.1
Simkins, Connie	Solar_CC_005	3.1, 3.15.3.5, 3.15.10.5, 3.15.10.1, 3.1.16, 3.8.1, 3.15.24.15, 3.15.24.16
Simkins, Connie	Solar_CL_002	3.7.5, 3.18.3, 3.2.1, 3.6.3.2, 3.15.20.7, 3.15.24.14, 3.15.24.15, 3.15.24.16, 3.15.9.1, 3.15.3.5, 3.15.10.5, 3.1, 3.12, 3.15.19.2, 3.5.2, 3.6.3.1, 3.6.4, 3.2.2.3
Simmons, Kathleen	SEDD11066	3.16.1, 3.2.5
Simon, Martha	SEDD11128	3.16.1
Simon, Philip	SEDDsupp20068	3.14.2, 3.14.1, 3.2.2.3
Simons, Anita	SEDD10212	3.14.1, 3.2.5
Simpson, Rusty	SEDD10402	3.2.5
Sinacore, Paul	SEDD11080	3.18.3
Sircar, Subrata	SEDD10952	3.17.1
Sky Island Alliance	SEDD11809	3.14.2, 3.14.1, 3.2.2.4, 3.2.2.1, 3.8
Slawson, Diana	SEDD10287	3.2.5
Sleeper, Stephen	SEDD10523	3.14.1
Sloane, Jeanne	SEDD10413	3.2.3
Sloneker, Sam	SEDDsupp20084	3.6.1, 3.2.3
Small, Xochitl	Solar_LC_001	3.6.1
Smalling, Rita	SEDD10056	3.2.2.3
Smiley, Julie	SEDD10147	3.2.4, 3.15.13.4, 3.15.10.5, 3.15.10.8, 3.1.7, 3.14.2, 3.17.1, 3.17.5, 3.11.1
Smith, Adrian	SEDD10286	3.2.5
Smith, Ceal	Solar_AL_017	3.14.2, 3.12, 3.7.1, 3.16.3, 3.16.1, 3.14.7, 3.17.1, 3.17.5, 3.14.8
Smith, Jim	SEDD10617	3.2.5
Smith, Mary	SEDD11557	3.16.1
Smith, Nancy	SEDD11089	3.18.3
Smith, Rob	SEDD10071	3.14.1, 3.17.1, 3.17.5, 3.1.2

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Smith, Shirley	SEDD11429	3.2.5
Smith, Ted	Solar_AL_018	3.18.3
Smith, Terry	Solar_AL_013	3.18.3, 3.7.2.1
Smith, Wayne	Solar_LV_005	3.2.3, 3.15.9.3, 3.15.9.4, 3.15.9.5, 3.15.25, 3.12, 3.7.13, 3.18.2
Snyder, Robert	SEDD10217	3.2.3
Society for American Archaeology	SEDD11281	3.15.18.1, 3.8, 3.15.18.10, 3.17.5, 3.9, 3.17.1, 3.17.4, 3.7.20, 3.7.11, 3.3.1, 3.15.18.8, 3.6.2, 3.15.19.6
Society for the Protection and Care of Wildlife	SEDD10873	3.15.8.1, 3.7.18, 3.3.1, 3.18.3, 3.15.20.2, 3.15.20.6, 3.15.20.7, 3.15.20.8, 3.3.2
Society for the Protection and Care of Wildlife	Solar_040	3.7.11
Society for the Protection and Care of Wildlife	SEDD11848	3.6.4, 3.6.2, 3.7.17, 3.2.2.1, 3.1.6, 3.15.24.2, 3.15.11.11, 3.18.3, 3.15.20.2, 3.15.20.4, 3.15.20.8, 3.3.2, 3.15.11.10, 3.4.1, 3.15.11.6, 3.6.1, 3.16.3, 3.15.24.11, 3.13, 3.2.2, 3.7.9, 3.11.1, 3.7.18
Solar Done Right	SEDD10149	3.17.2, 3.11.1, 3.6.4, 3.15.7.4, 3.2.3, 3.15.14.1, 3.17.3, 3.15.10.5, 3.15.13.4, 3.15.10.3, 3.15.18.9, 3.18.2, 3.17.1, 3.14.2, 3.9, 3.16.2, 3.16.3, 3.17.5, 3.18.3, 3.6.1
Solar Done Right	SEDDsupp20073	3.17.2, 3.17.5, 3.6.4, 3.14.7, 3.17.1, 3.17.6, 3.14.2, 3.16.2, 3.9
Solar Done Right	SolarS_EC_03	3.6.1, 3.6.4, 3.14.7, 3.2.1, 3.17.5, 3.9, 3.17.1, 3.5.5, 3.1.4, 3.15.23.4, 3.15.7.8, 3.6.2, 3.15.18.9, 3.15.18.10
Solar Energy Industries Association	Solar_DC_004	3.16.1, 3.14.2, 3.8, 3.7.14
Solar Unlimited	Solar_CC_004	3.12, 3.6.1
SolarReserve	SEDD10118	3.11.1, 3.14.2, 3.7.20, 3.7.14, 3.15.15.5, 3.8, 3.5.2
SolarReserve	SEDDsupp20129	3.2.1, 3.8, 3.14.1, 3.11.2, 3.7.21
Solem, Richard	Solar_PH_008	3.14.1, 3.2.3, 3.7.3
Solution Strategies, Inc.	SEDD11880	3.1.6
Solution Strategies, Inc. on behalf of the Town of Apple Valley	SEDD11889	3.6.3.3, 3.11.2, 3.7.16
Somerville, Thane	SEDDsupp20057	3.6.1, 3.17.5, 3.15.19.5, 3.15.19.3, 3.15.19.4, 3.15.18.7, 3.15.18.9, 3.9, 3.14.3, 3.14.2, 3.14.1, 3.7.18, 3.11.2, 3.1.4, 3.15.19.1, 3.6.2
Sommers, Pacifica	Solar_TU_011	3.17.5
Sonoran Institute	SolarS_PH_05	3.14.1, 3.18.3, 3.17.1, 3.2.2.4
Sonoran Institute	Solar_PH_016	3.14.2, 3.8, 3.11.2, 3.11.3, 3.18.3, 3.6.1, 3.2.2.4, 3.15.20.1
Sorby, Jacquelyn	SEDD11403	3.2.5
Sorrells, James	SEDD11528	3.2.5
Southern California Edison	SEDDsupp20086	3.5.6, 3.7.20, 3.3.2, 3.6.3.3, 3.5.4, 3.15.24.8, 3.5.5, 3.2.2, 3.2.6, 3.8
Southern California Edison	Solar_025	3.7.12, 3.5.1, 3.5.6, 3.14.6, 3.3.1, 3.5.3, 3.8.2, 3.6.3.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Southern Nevada Water Authority	Solar_003	3.1.12, 3.1.14, 3.7.4, 3.1.13, 3.15.9.2, 3.19, 3.5.1, 3.15.24.15, 3.15.24.16, 3.1.16, 3.1.15, 3.6.3.1, 3.15.9.4
Southern Nevada Water Authority	SolarS_014	3.7.4, 3.18.3, 3.15.9.1, 3.15.9.2, 3.7.3, 3.1.12, 3.1.14
Southern Paiute Pahrump Tribe; Consolidated Group of Tribes	Solar_GF_001	3.6.2, 3.15.19.7, 3.15.18.7, 3.15.19.9, 3.6.3.1, 3.15.19.10, 3.15.19.6, 3.15.21.2, 3.6.1, 3.15.18.10
Southwest Consolidated Sportsmen	Solar_LC_003	3.18.3, 3.15.9.1, 3.15.9.7, 3.1.19, 3.1.2, 3.2.2, 3.6.3.2
Spacek, S.	SEDD10825	3.14.1, 3.1.7, 3.1.5
Speaker, Unidentified	SolarS_EC_09	3.7.1, 3.15.14.11
Spears, Ellen	SEDD10067	3.7.2, 3.1.13, 3.1.15, 3.15.9.1, 3.15.9.4, 3.15.10.2, 3.17.1, 3.12
Spears, Ellen	Solar_LV_012	3.7.9, 3.15.3.5, 3.15.10.2, 3.7.2, 3.17.1, 3.12, 3.18.3, 3.6.3.2, 3.6.3.3
Spitler, Craig	Solar_CC_009	3.15.8.1, 3.18.3
Spotleson, Vinny	Solar_LV_014	3.14.3, 3.14.2, 3.15.13.3, 3.15.9.1, 3.12, 3.5.6, 3.14.1
Spotts, James	SEDD11070	3.2.5, 3.1.5, 3.1.7, 3.1.12, 3.1.21
Spotts, Richard	SEDD11038	3.14.1, 3.7.3, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5, 3.2.3
Sprague, Scott	Solar_PH_019	3.7.5, 3.15.13.5, 3.15.11.5
Sprague, Tiffany	Solar_PH_011	3.12, 3.15.13.9, 3.14.1, 3.2.3, 3.2.2.3, 3.7.5, 3.17.5, 3.18.3
Sprayregen, Ann	SEDD10824	3.2.5
Squyres, Marianne	SEDD11272	3.2.5
Sr, J	SEDD10483	3.2.5
Stafford, Jennifer	SEDD10726	3.2.5
Stagner, Clyde	SEDD10072	3.18.1
Stambaugh, Ruth	SEDD10716	3.2.5
Stanback, Fred	SEDD10421	3.2.3, 3.17.1
Stanley, Norm	SEDD11051	3.18.3
Stanton, Sue	SEDD10999	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Stark, Krystina	SEDD10812	3.2.5
State of Utah, Office of the Governor	SEDD11321	3.7.7, 3.15.2.2, 3.2.2, 3.15.15.5, 3.8.1
State of Utah, Office of the Governor	SolarS_038	3.16.1, 3.15.9.4, 3.6.3.3, 3.14.2, 3.8, 3.8.1, 3.7.9, 3.7.14, 3.4.1
Steelman, Steve	SEDD10134	3.16.1
Steelman, Steve	SEDD10135	3.16.1, 3.7.2
Stetler, David	SEDD10205	3.2.5
Stewart, Coulter	SEDD10030	3.14.2, 3.4.2, 3.6.2, 3.16.1
Stewart, Nancy	SEDD10714	3.2.5
Stewart, Sarah	SEDD10555	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Stickney, Karen	SEDD11421	3.18.3
Stober, Paula	SEDD10672	3.2.5
Stokes, Bill	SEDD11514	3.16.1
Stone, Ransom	SEDD10923	3.18.1
Stone-Meyer, Virginia	SEDD10422	3.16.1, 3.2.5
Stowe-Longchamp, Joyce	SEDD11017	3.16.1
Stratton, Sarah	SEDD10013	3.17.5

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Strauss, Mark	SEDD11164	3.2.5
Strickland, Rose	SEDD11302	3.6.4, 3.17.1, 3.17.3, 3.15.14.1, 3.3.2
Strom, Carmi	SEDD10929	3.2.5
Stuart, Joe	SEDD11634	3.16.1
Sturges, Dorothy	SEDD10164	3.16.1
Sullivan, Christine	SEDD10963	3.2.5
Summers, Jess	SEDD11763	3.16.1
Summit Lake Paiute Tribe	SEDD10120	3.6.2, 3.15.19.11
Sumners, Robyn	SEDD11628	3.2.5
Sun Edison	SolarS_PH_03	3.11.1, 3.2.1, 3.17.1, 3.7.19, 3.14.1, 3.17.4
Sundstrom, Karl	SEDD11351	3.18.3
Swinehart, Lorin	SEDD10453	3.2.5
Switzer, Sharon	SEDD10780	3.16.1
Swope, Brian	SEDD10053	3.2.3
Swope, Brian	SEDDsupp20016	3.16.2, 3.17.1, 3.17.5
Swyers, Matthew	SEDD10192	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Syrene, Marc	SEDDsupp20041	3.1, 3.16.2, 3.17.1, 3.17.5, 3.18.2, 3.18.3
Tabin, Jean	SEDD11556	3.2.5
Taggart, Carol	SEDD11700	3.18.1
Taggart, Janet	SEDD10968	3.2.5, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Taylor, Joan	SEDD10381	3.16.1
Taylor, Joan	Solar_031	3.2.1
Taylor, Joan	Solar_IW_005	3.2.3, 3.2.1, 3.14.2, 3.4.1, 3.6.4, 3.1.5, 3.1.6
Taylor, Zelma	SEDD11197	3.16.1, 3.2.3
Temple, Glenn	SEDD10743	3.18.3
Temple, Robert	SEDD10304	3.2.3
Tendler, Marlene	SEDD10584	3.2.5
Tepper, William	SEDD11346	3.2.3
Thaler, Gary	SEDD11363	3.2.3
Tharisayi, George	SEDD10018	3.12
The California Desert Coalition	SEDDsupp20168	3.14.2, 3.14.1, 3.2.2, 3.7.21
The Hopi Tribe	SolarS_019	3.15.18.10, 3.6.2, 3.15.19.6, 3.2.2, 3.17.5
The Nature Conservancy	SolarS_LV_06	3.16.1, 3.6.1, 3.3.2, 3.18.3, 3.1.12, 3.15.9.3, 3.15.9.4

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
The Nature Conservancy	SEDD11828	3.15.11.1, 3.15.13.1, 3.15.13.6, 3.15.11.4, 3.15.11.7, 3.14.1, 3.14.2, 3.15.13.4, 3.2.1, 3.1.5, 3.1.6, 3.17.5, 3.17.4, 3.8, 3.2.2, 3.7.3, 3.7.14, 3.3.2, 3.5.1, 3.5.3, 3.5.6, 3.7.5, 3.3.1, 3.15.9.4, 3.15.9.6, 3.15.13.3, 3.15.11.11, 3.15.9.1, 3.15.9.2, 3.15.9.7, 3.11.2, 3.11.3, 3.2.2.1, 3.15.13.9, 3.15.11.3, 3.1.3, 3.1.7, 3.6.3.3, 3.15.12.3, 3.15.10.8, 3.1.12, 3.1.13, 3.1.14, 3.1.16, 3.15.11.6, 3.1.17, 3.1.19, 3.15.10.1, 3.15.10.6, 3.1.24
The Nature Conservancy	SEDDsupp20189	3.6.1, 3.3.2, 3.8, 3.2.2, 3.17.5, 3.7.14, 3.3.1, 3.15.9.6, 3.16.1, 3.1.12, 3.15.9.1, 3.15.9.2, 3.15.9.3, 3.15.9.4, 3.15.9.7, 3.15.24.6, 3.7.5, 3.2.2.1, 3.1.7, 3.11.2, 3.11.3, 3.14.1, 3.14.2, 3.2.2.4, 3.2.2.3, 3.15.13.3, 3.2.1, 3.7.3, 3.15.13.2, 3.15.13.4, 3.15.13.9, 3.4.1, 3.1.5, 3.1.6, 3.1.14, 3.1.17, 3.1.4, 3.19, 3.6.4
The Nature Conservancy, Association of Fish and Wildlife Agencies, Wildlife Management Institute, Boone & Crockett Club, Mule Deer Foundation, The Wilderness Society	SEDDsupp20151	3.3.2
The Nature Conservancy, Wildlife Management Institute, Mule Deer Foundation, Association of Fish and Wildlife Agencies, Boone & Crockett Club	SEDDsupp20174	3.3.2
The Wilderness Society	SEDDsupp20108	3.8, 3.7.14, 3.14.6, 3.18.3, 3.11.2
The Wilderness Society	SEDDsupp20130	3.6.1, 3.2.2.1, 3.2.2.3, 3.7.23, 3.1.1, 3.1.2, 3.1.3, 3.3.1, 3.8.3, 3.15.15.1, 3.15.24.2, 3.2.2.4, 3.2.2
The Wilderness Society	Solar_LV_006	3.14.1, 3.14.2, 3.8
The Wilderness Society	SolarS_AL_08	3.6.1, 3.14.1, 3.2.2
The Wilderness Society	SolarS_LV_02	3.16.1, 3.6.1, 3.14.1, 3.2.2.4, 3.7.7
The Wilderness Society	SolarS_PD_13	3.14.1, 3.6.1, 3.8.2, 3.2.2.4, 3.7.6
The Wilderness Society	Solar_DC_003	3.16.1, 3.2.2, 3.14.1, 3.8, 3.14.2, 3.2.2.4, 3.2.2.3, 3.15.13.3, 3.7.14
The Wilderness Society	SolarS_PH_01	3.6.1, 3.2.2.4, 3.18.3, 3.8, 3.14.1, 3.17.5, 3.8.3, 3.16.1
The Wilderness Society	Solar_PH_013	3.14.1, 3.8, 3.2.2, 3.17.5
The Wilderness Society		
The Wilderness Society, Audubon California, California Wilderness Coalition, Defenders of Wildlife, Natural Resources Defense Council, Sierra Club	SEDDsupp20106	3.8.2, 3.7.3, 3.1.7, 3.1.4, 3.15.13.3, 3.2.2, 3.2.2.4, 3.2.2.3, 3.15.13.9, 3.15.13.10, 3.2.2.1, 3.7.22, 3.7.5, 3.3.2, 3.18.3, 3.11.2, 3.15.24.2, 3.6.1, 3.7.18, 3.1.5, 3.1.6
The Wilderness Society, Defenders of Wildlife, New Mexico Wilderness Alliance, Western Environmental Law Center	SEDDsupp20132	3.6.1, 3.7.23, 3.15.15.1, 3.1.19, 3.15.24.2, 3.2.2, 3.14.1, 3.2.2.4, 3.2.2.3, 3.2.2.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
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 and 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, National Audubon Society, San Luis Valley Ecosystem Council, Sierra Club-California, Gila Conservation Coalition	SEDD11811	3.14.1, 3.11.2, 3.8.1, 3.8.2, 3.8.5, 3.8, 3.8.3, 3.8.4, 3.11.3, 3.14.2, 3.15.13.1, 3.15.13.4, 3.15.13.7, 3.2.2, 3.12, 3.15.9.1, 3.15.9.2, 3.15.9.6, 3.6.4, 3.7.3, 3.15.24.5, 3.14.7, 3.14.8, 3.7.1, 3.17.5, 3.2.1, 3.2.2.4, 3.15.15.4, 3.15.9.3, 3.15.9.4, 3.15.9.5, 3.15.9.7, 3.15.23.3, 3.2.3, 3.15.12.1, 3.15.14.1, 3.15.14.12, 3.15.10.6, 3.15.11.7, 3.15.11.12, 3.4.1, 3.15.12.2, 3.15.24.2, 3.15.13.6, 3.15.24.6, 3.15.24.7, 3.15.11.6, 3.15.10.2, 3.15.10.8, 3.15.7.2, 3.15.10.5, 3.3.1, 3.3.2, 3.7.12, 3.7.5, 3.15.13.2, 3.15.18.10, 3.15.19.8, 3.1, 3.13, 3.1.6, 3.7.15, 3.7.11, 3.7.10, 3.7.14, 3.15.11.10, 3.7.7, 3.18.1
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 and 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, National Audubon Society, San Luis Valley Ecosystem Council, Sierra Club-California, Gila Conservation Coalition	SEDD11811b	3.14.6, 3.4.1, 3.12, 3.8, 3.2.1, 3.2.2, 3.17.4, 3.17.5, 3.17.6, 3.5.1, 3.13, 3.18.3, 3.7.10, 3.7.12, 3.7.15, 3.7.16, 3.7.14, 3.7.3, 3.7.17, 3.7.4, 3.19, 3.4.2, 3.6.3.1, 3.15.15.5, 3.14.1, 3.14.2, 3.7.9, 3.7.13, 3.15.13.4, 3.7.5, 3.7.6, 3.7.1, 3.18.1
The Wilderness Society, Nevada Wilderness Project, Defenders of Wildlife, Sierra Club	SEDDsupp20138	3.6.1, 3.15.11.10, 3.1.12, 3.15.9.2, 3.15.9.4, 3.1.14, 3.1.15, 3.15.13.9, 3.1.17, 3.1.18, 3.15.11.5, 3.7.21, 3.15.24.2, 3.8, 3.14.1, 3.7.23, 3.6.3.3, 3.2.2.1, 3.15.13.2, 3.7.22
The Wilderness Society, Rocky Mountain Wild, Colorado Environmental Coalition, Rocky Mountain Recreation Institute, Audubon Colorado, High Country Citizen's Alliance	SEDDsupp20131	3.6.1, 3.14.1, 3.15.13.5, 3.15.15.1, 3.15.24.2, 3.8, 3.2.2.4, 3.2.2, 3.2.2.1, 3.2.2.3, 3.15.13.3, 3.7.23
The Wilderness Society, Southern Utah Wilderness Alliance, Wild Utah Project, Grand Canyon Trust	SEDDsupp20134	3.6.1, 3.7.3, 14.7, 3.1.22, 3.15.13.4, 3.15.10.4, 3.2.3, 3.1.23, 3.1.24, 3.15.24.2, 3.16.1, 3.2.2.4, 3.2.2, 3.2.2.1, 3.2.2.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
The Wildlands Conservancy	SEDDsupp20164	3.14.1, 3.17.1, 3.17.5, 3.14.6, 3.15.13.3, 3.14.2, 3.2.2.3, 3.6.4, 3.17.4, 3.17.6, 3.2.2, 3.2.2.4, 3.2.5, 3.11.2, 3.2.2.1, 3.7.15, 3.8.2
The Wildlands Conservancy	SEDD11775	3.16.1, 3.14.2, 3.2.1, 3.17.4, 3.17.5, 3.17.6, 3.2.2, 3.9, 3.2.2.1, 3.14.1, 3.11.2, 3.15.24.2, 3.8, 3.7.3, 3.11.1, 3.17.1
The Wildlands Conservancy	SEDD11778	3.16.1, 3.17.1, 3.17.5, 3.14.2, 3.2.1, 3.17.4, 3.17.6, 3.2.2, 3.9, 3.2.2.1, 3.6.1, 3.6.4, 3.14.1, 3.11.2, 3.15.24.2, 3.7.3, 3.11.1
The Wildlands Conservancy	Solar_032	3.6.4, 3.15.14.1, 3.6.1
The Wildlands Conservancy	Solar_IW_006	3.7.18, 3.4.2, 3.14.8, 3.17.4, 3.14.2, 3.1.5, 3.1.6, 3.1.7, 3.15.24.7, 3.2.2, 3.17.1
The Wildlands Conservancy	SolarS_PD_08	3.14.5, 3.17.5, 3.1.5, 3.14.2, 3.14.1, 3.8.5, 3.7.19
Thea, Kaz	SEDD10247	3.2.5, 3.1.5, 3.1.7, 3.1.12
Theodore Roosevelt Conservation Partnership	SEDD11745	3.14.1, 3.14.2, 3.7.11, 3.15.5.1
Theodore Roosevelt Conservation Partnership	Solar_SL_001	3.14.1, 3.7.15, 3.16.1, 3.6.1, 3.2.2, 3.17.5, 3.6.3.3, 3.1, 3.15.24.9, 3.7.5, 3.13
Theodore Roosevelt Conservation Partnership, National Wildlife Federation, Trout Unlimited, Sportsmen Conservation Project, Sportsmen for Responsible Energy Development	SEDDsupp20181	3.6.1, 3.11.2, 3.12, 3.3.2, 3.2.2, 3.2.2.1, 3.2.2.3, 3.14.1, 3.7.3, 3.7.5, 3.15.11.5, 3.8, 3.7.12, 3.18.3, 3.15.11.1, 3.15.13.4, 3.1, 3.15.24.8, 3.7.11, 3.15.20.4, 3.15.5.1, 3.15.9.1, 3.1.5, 3.8.2, 3.17.4, 3.7.7, 3.11.3, 3.1.15, 3.1.16
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, Sierra Treks	SEDD11715	3.2.3, 3.15.9.1, 3.15.9.2, 3.15.24.6, 3.15.9.5, 3.15.7.1, 3.15.10.4, 3.15.14.5, 3.15.10.5, 3.15.10.3, 3.15.10.6, 3.15.10.8, 3.15.9.3, 3.15.7.3, 3.15.23.4, 3.2.1, 3.17.5, 3.15.23.1, 3.15.14.12, 3.15.11.11, 3.15.7.6, 3.15.12.1, 3.15.13.4, 3.15.13.8, 3.5.1, 3.14.2, 3.2.2, 3.7.18, 3.2.2.4, 3.8, 3.7.3, 3.2.2.3, 3.15.13.3, 3.15.11.6, 3.7.22, 3.7.16, 3.2.2.1, 3.15.18.2, 3.1.1, 3.1.2, 3.1.3, 3.14.1, 3.15.14.7, 3.15.9.4, 3.15.10.2, 3.19, 3.15.13.9, 3.12, 3.15.9.6, 3.3.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
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, Sierra Treks	SEDD11719	3.2.3, 3.15.9.5, 3.15.7.1, 3.15.10.4, 3.15.10.5, 3.15.14.5, 3.15.10.3, 3.15.9.3, 3.15.7.3, 3.15.23.4, 3.15.7.5, 3.15.23.1, 3.15.14.12, 3.15.11.1, 3.15.13.3, 3.15.13.4, 3.15.7.6, 3.15.12.1, 3.15.13.8, 3.2.1, 3.17.5, 3.5.1, 3.13, 3.15.14.13, 3.2.2, 3.7.18, 3.2.2.4, 3.1.22, 3.1.23, 3.1.24, 3.15.9.1, 3.15.24.6, 3.15.7.8, 3.8, 3.7.3, 3.15.9.2, 3.5.3, 3.15.22.1, 3.15.11.10, 3.14.1, 3.15.7.2, 3.15.13.9, 3.15.9.4, 3.14.2, 3.12, 3.15.9.6
The Wilderness Society, Western Environmental Law Center, Nevada Wilderness Project, Southern Utah Wilderness Alliance, WildEarth Guardians, Soda Mountain Wilderness Council, Colorado Environmental Coalition, Rocky Mountain Wild, Audubon Colorado, Sierra Club, Defenders of Wildlife, Sonoran Institute, Arizona Wilderness Coalition, Natural Resources Defense Council, National Audubon Society	SEDDsupp20111	3.6.1, 3.2.2.4, 3.7.12, 3.2.2.3, 3.7.22, 3.7.7, 3.7.14, 3.7.20, 3.3.2, 3.7.3, 3.15.13.1
Wilderness Society, Center for Native Ecosystems, Biodiversity Conservation Alliance, Rocky Mountain Recreation Initiative, Colorado Wild, Wild Connections, High County Citizens' Alliance, Colorado Environmental Coalition, Audubon Colorado, Natural Resources Defense Council, Sierra Club, Soda Mountain Wilderness Council, Sierra Treks	SEDD11716	3.2.3, 3.15.9.5, 3.15.7.1, 3.15.10.4, 3.15.10.5, 3.15.10.3, 3.15.9.3, 3.15.24.6, 3.18.3, 3.15.23.1, 3.15.14.5, 3.15.11.11, 3.15.11.6, 3.5.1, 3.2.1, 3.17.5, 3.2.2, 3.2.2.4, 3.2.2.3, 3.15.13.3, 3.1.8, 3.1.9, 3.1.1, 3.1.11, 3.15.13.4, 3.15.13.9, 3.8, 3.7.3, 3.15.18.4, 3.15.11.10, 3.15.13.5, 3.14.1, 3.15.2.4, 3.14.2, 3.8.3, 3.12, 3.15.9.1, 3.15.9.2, 3.15.9.4, 3.15.9.6, 3.15.24.13
Wilderness Society, The Center for Biological Diversity, Defenders of Wildlife, Sierra Club, Toiyabe Chapter, National Parks Conservation Association, Natural Resources Defense Council, Soda Mountain Wilderness Council, Sierra Treks	SEDD11717	3.2.3, 3.15.9.5, 3.5.1, 3.1.18, 3.15.13.9, 3.15.12.2, 3.15.9.3, 3.15.9.4, 3.15.7.1, 3.15.10.4, 3.15.10.5, 3.15.10.3, 3.15.7.3, 3.15.23.4, 3.15.23.1, 3.15.11.11, 3.15.7.6, 3.15.12.1, 3.15.13.4, 3.2.1, 3.17.5, 3.2.2, 3.7.18, 3.2.2.4, 3.15.11.6, 3.2.2.1, 3.1.13, 3.15.18.2, 3.1.12, 3.15.24.14, 3.15.9.7, 3.8, 3.7.3, 3.15.9.1, 3.15.9.2, 3.15.9.6, 3.15.13.3, 3.15.13.5, 3.15.11.5, 3.15.7.4, 3.15.15.7, 3.14.1, 3.1.14, 3.15.24.15, 3.15.11.3, 3.1.15, 3.14.2, 3.12, 3.7.5, 3.5.3, 3.15.24.16, 3.1.16, 3.1.17, 3.15.11.8, 3.15.10.8, 3.15.11.10, 3.15.7.8

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
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, Sierra Treks	SEDD11718	3.2.3, 3.15.9.5, 3.15.9.1, 3.15.7.1, 3.15.10.4, 3.15.10.5, 3.15.10.3, 3.15.9.3, 3.15.7.3, 3.15.23.4, 3.15.23.1, 3.15.13.3, 3.15.13.4, 3.15.11.11, 3.15.7.6, 3.15.12.1, 3.5.1, 3.2.1, 3.17.5, 3.2.2, 3.7.18, 3.2.2.4, 3.2.2.3, 3.1.2, 3.2.2.1, 3.15.18.2, 3.1.19, 3.1.21, 3.15.9.2, 3.15.9.6, 3.15.9.7, 3.19, 3.15.13.2, 3.15.18.8, 3.8, 3.7.3, 3.1.9, 3.14.1, 3.14.2, 3.12, 3.15.9.4, 3.15.24.6
Thomasian, Gary	SEDD11799	3.16.1, 3.2.3, 3.17.1
Thompson, Debra	SEDDsupp20167	3.6.1
Thompson, Matthew	SEDD11287	3.2.3
Thompson, Thurston	SEDD10909	3.2.5
Thomson, Jennifer	SEDD10094	3.16.2, 3.18.3, 3.17.1
Thoresen, James	SEDDsupp20121	3.16.1
Thorpe, Kristina	SEDD11436	3.2.5
Tidd, Barbara	SEDDsupp20026	3.17.1
Tidd, Charles	Solar_AL_002	3.16.3, 3.17.1, 3.18.3
Timin, Mitchell	SEDD10074	3.15.9.1
Tipps, Ronald	SEDD11660	3.16.1
Tocci, Carmine	SEDD10855	3.16.1
Todryk, Lawrence	SEDD11022	3.16.1
Toker, Rachel	SEDD10232	3.2.3, 3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Tolley, Mark	SEDD10576	3.2.3
Tonopah Area Coalition	SEDD11884	3.14.1, 3.11.2, 3.11.3, 3.8, 3.5.1, 3.17.5, 3.8.3, 3.1.3, 3.12, 3.1.2, 3.1.1, 3.14.2, 3.2.2.1, 3.3.2, 3.2.2.4
Toscani, Olive	SEDDsupp20161	3.15.20.6, 3.17.1, 3.17.6, 3.15.21.2, 3.17.5, 3.2.2, 3.15.13.6, 3.15.10.4, 3.15.18.5, 3.6.2, 3.15.20.2, 3.2.3, 3.15.22.6, 3.18.3, 3.15.24.12, 3.7.2
Toto, Michael	SEDD11448	3.16.1
Tourism Economics Commission	SEDDsupp20096	3.15.20.4, 3.15.20.6, 3.17.1, 3.17.2, 3.17.5
Town of Saguache, Colorado	SEDD10121	3.7.2.1
Town of Springdale	SEDD11847	3.16.1, 3.2.5, 3.2.3, 3.17.5
Townsend, Cherie	SEDD11444	3.2.5
Travis, Donna	SEDD11159	3.16.1
Travis, Terence	SEDD10877	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Trecartin, Judi	SEDD11083	3.16.1
Trejo, Trish	SEDD11064	3.2.3, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Trembly, Dennis	SEDD11570	3.16.1
Trent, Bryan	SEDD10834	3.2.5
Tri-State Generation and Transmission Association	SEDD11739	3.14.2
Trout Unlimited	SEDD11817	3.2.3, 3.11.2, 3.11.3, 3.15.11.11, 3.15.5.3, 3.6.4, 3.14.8, 3.7.3, 3.14.1, 3.14.2, 3.17.5, 3.15.9.1, 3.15.9.2, 3.15.9.4, 3.15.9.5, 3.8

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Troutman, Russell	SEDD10106	3.14.2
Trujillo, Janette	SolarS_017	3.17.4
Trujillo, Michele	SolarS_AL_16	3.15.20.7, 3.15.21.2, 3.15.18.10
Trujillo, Mike	SEDDsupp20182	3.1.8, 3.6.3.2, 3.15.22.2, 3.15.9.1, 3.15.9.2, 3.15.23.3, 3.15.20.2, 3.15.20.1, 3.17.1, 3.7.2, 3.7.2.1
Turner, Michael	Solar_IW_025	3.18.3
Turner, Phoebe	SEDD10851	3.18.3
Turnquist, Martha	SEDD10083	3.16.1
Tusinac, Michele	SEDD10783	3.16.1
Twerdochlib, Orysia	SEDD11175	3.2.5
Twohig, John	SEDD10828	3.18.3
Tyler, William	SEDD11852	3.16.2
U.S. Army Corps of Engineers	SEDD11785	3.15.9.3, 3.19
U.S. DOI, Fish and Wildlife Service	Solar_057	3.15.13.4, 3.15.13.7, 3.19, 3.15.24.2, 3.14.6, 3.3.2, 3.15.11.1, 3.14.1, 3.7.14, 3.7.3, 3.7.5, 3.2.2.1, 3.15.13.1, 3.7.22, 3.1.4, 3.19, 3.2.5, 3.15.13.8, 3.1.5, 3.1.6, 3.1.7, 3.11.1, 3.5.3, 3.5.1, 3.15.10.6, 3.15.13.9, 3.5.6, 3.1.8, 3.1.9, 3.1.1, 3.1.11, 3.15.13.3, 3.1.17, 3.1.23, 3.7.7, 3.3.1, 3.2.2, 3.15.10.1, 3.15.13.2, 3.2.2.3, 3.15.7.6, 3.8.2, 3.18.3, 3.1.12, 3.7.15, 3.17.5, 3.8, 3.15.11.4, 3.15.10.5, 3.6.4
U.S. DOI, National Park Service	Solar_056a	3.1.5, 3.1.6, 3.1.21, 3.1.22, 3.1.23, 3.1.24, 3.15.13.3, 3.15.9.4, 3.19, 3.15.9.2, 3.15.24.6, 3.13, 3.15.16.3, 3.15.16.2, 3.7.12, 3.2.5, 3.19, 3.7.15, 3.3.1, 3.15.2.2, 3.15.5.3, 3.15.9.6, 3.1.7, 3.5.1, 3.15.15.10, 3.15.7.1, 3.15.7.8, 3.15.9.1, 3.15.14.5, 3.15.16.5, 3.15.16.1, 3.15.24.12, 3.18.3, 3.15.15.3, 3.12, 3.1.1, 3.15.2.4, 3.7.21, 3.15.15.8, 3.1.12, 3.15.15.2, 3.7.14, 3.15.16.6, 3.1.13, 3.1.14, 3.1.15, 3.1.16, 3.1.17, 3.15.15.9
U.S. DOI, National Park Service	Solar_056b	3.3.1, 3.15.10.6, 3.15.15.6, 3.15.24.2, 3.15.24.5, 3.19, 3.15.5.1, 3.15.15.3, 3.6.4, 3.15.13.2, 3.15.15.4, 3.2.5, 3.7.5, 3.15.14.9, 3.15.16.4, 3.15.16.2, 3.15.20.4, 3.15.22.6, 3.1.7, 3.7.3
U.S. DOI, National Park Service	SolarS_047	3.6.1, 3.2.2.1, 3.14.1, 3.2.5, 3.7.22, 3.2.2.2, 3.7.3, 3.6.4, 3.3.2

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
U.S. Environmental Protection Agency	SEDD11862	3.6.4, 3.2.1, 3.2.2, 3.8.5, 3.8.3, 3.6.3.1, 3.6.3.2, 3.17.5, 3.6.1, 3.11.2, 3.11.3, 3.14.8, 3.8, 3.17.1, 3.17.2, 3.7.3, 3.5.1, 3.7.14, 3.4.2, 3.15.24.2, 3.15.24.7, 3.15.9.2, 3.15.9.4, 3.15.9.7, 3.15.24.6, 3.15.13.3, 3.15.13.4, 3.15.13.8, 3.3.1, 3.15.9.3, 3.15.12.3, 3.15.7.7, 3.15.10.6, 3.15.10.8, 3.1.9, 3.12, 3.15.9.1, 3.1.12, 3.15.14.2, 3.15.14.4, 3.15.14.5, 3.15.14.12, 3.6.3.3, 3.7.6, 3.6.2, 3.15.19.6, 3.14.6, 3.15.19.11, 3.15.21.2, 3.15.21.1, 3.15.21.3, 3.15.20.2, 3.15.20.5, 3.15.20.9, 3.17.4, 3.2.2.1, 3.14.2
U.S. Environmental Protection Agency, Region 9	SEDDsupp20144	3.2.1, 3.7.11, 3.8, 3.15.9.3, 3.2.2.2, 3.5.4, 3.15.9.4, 3.1.12, 3.15.9.7, 3.15.14.5, 3.6.1, 3.2.2.1, 3.15.23.1, 3.15.14.10, 3.15.21.2, 3.15.21.3, 3.15.24.2, 3.14.6, 3.17.5, 3.6.2, 3.7.3, 3.1.14, 3.19, 3.11.2, 3.11.3
Ulmer, Vic	SEDD10847	3.2.1
Ultican, Lanna	SEDD10335	3.16.1
US DOI, Fish and Wildlife Service	SolarS_046	3.7.22, 3.19, 3.7.13, 3.3.1, 3.7.3, 3.2.2.3, 3.15.13.3, 3.15.13.9, 3.2.2, 3.7.14, 3.3.2, 3.8, 3.7.18, 3.8.2, 3.1.7, 3.19, 3.15.13.8, 3.15.13.4, 3.7.23, 3.6.1, 3.15.13.5, 3.1.3, 3.1.4, 3.1.15, 3.1.22, 3.11.2, 3.11.3, 3.7.11, 3.7.15
U.S. DOI, National Park Service	SolarS_050	3.14.1, 3.7.3, 3.6.3.1, 3.15.15.4, 3.15.24.2, 3.17.1, 3.17.5, 3.7.19, 3.2.2.1, 3.11.2, 3.19, 3.7.15, 3.3.1, 3.15.15.3, 3.7.5, 3.7.21, 3.15.14.9, 3.14.2, 3.2.5, 3.8, 3.2.2.2, 3.15.16.4, 3.2.2, 3.7.7, 3.7.23, 3.7.14, 3.6.4, 3.7.22, 3.1.7, 3.1.9, 3.1.1, 3.1.12, 3.1.17, 3.15.13.9, 3.15.14.12, 3.2.1, 3.15.23.1, 3.15.14.5, 3.15.14.11, 3.2.3, 3.15.24.5, 3.15.24.14, 3.14.6, 3.1.5, 3.1.21, 3.15.16.3, 3.15.9.4, 3.15.24.6, 3.15.9.2
Utah Clean Energy	SEDD11840	3.2.3, 3.2.2.4, 3.17.5, 3.14.8, 3.2.6, 3.8, 3.7.14, 3.2.1, 3.12, 3.2.2
Utah State Energy Program	SEDD10007	3.7.2
Vaaler, Jim	Solar_PH_014	3.2.2, 3.1.2
Vaccaro, Terry	SEDD11370	3.16.1
Valdez, Anne	SEDD10641	3.16.2
Valdez, Demetrio	Solar_AL_008	3.1.8
Valdez, Demetrio	SolarS_AL_02	3.16.1, 3.2.2
Valdez, Israel	SEDD10888	3.2.5
Valdez, Olive	Solar_AL_007	3.1.8, 3.16.1
Valdez, Olive	SolarS_AL_03	3.16.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Valdez, Olive; Valdez, Demetrio; Valdez, Joseph; Duran, Dora P; Sandoval, Prexedes; Madril, Illegible; Madril, Nasario; Blea, Vicki; Blea, Illegible; Atencio, Candelaria; Illegible; Illegible	Solar_024	3.1.8
Vanderhill, Margo	SEDD11329	3.2.5
Vanderhorst, Michael	SEDD10948	3.18.3
Varner-Sheaves, Donna	SEDD10184	3.2.3
Vasily, Karen	SEDD10598	3.14.1, 3.2.5
Vater, Herbert	SEDD11538	3.16.1
Vatterott, Melissa	SEDD11774	3.16.1, 3.18.3, 3.2.2, 3.14.1, 3.14.3, 3.14.2, 3.2.3
Venable, Gil	Solar_PH_003	3.2.2, 3.14.2, 3.15.15.1, 3.15.11.11, 3.15.13.3, 3.15.11.12, 3.17.3, 3.7.13, 3.5.1, 3.17.4, 3.17.5
Verhelst, Ray	Solar_LV_008	3.16.1, 3.18.3
Vesperman, Gary Blue Energy Corporation	SEDD10041	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10042	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10043	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10044	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10045	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10046	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10047	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10048	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10049	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDD10050	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDDsupp20009	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDDsupp20010	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDDsupp20011	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDDsupp20012	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDDsupp20013	3.18.1
Vesperman, Gary Blue Energy Corporation	SEDDsupp20039	3.16.2, 3.18.1
Vesperman, Gary Blue Energy Corporation	SolarS_LV_07	3.18.1, 3.16.2
Vincent, Joseph	SEDD10950	3.2.3
Vingo, Patrick	SEDD10665	3.2.3
Vinje, Avonna	SEDD11759	3.2.3
Viviane, Nervo	SEDD11366	3.16.1
Vlasopolos, Anca	SEDD10435	3.2.5
Volk, Karl	SEDD10774	3.2.3
Voorhies, Marilyn	SEDD10518	3.16.1
Vuillemot, Joanne	SEDD10059	3.14.2, 3.14.1
W, Suzanne	SEDD10328	3.18.3
Wade, James	Solar_CC_001	3.1.16, 3.2.1
Wade, Patricia	SEDD10936	3.2.5
Walker, Annie	SEDDsupp20046	3.16.2, 3.14.3, 3.14.1, 3.17.5
Walker, Dan	SEDD10568	3.16.1
Walsh, Christopher	SEDD10623	3.2.2.3
Walsh, John	SEDD11566	3.16.1
Walters, Robyn	SEDD10896	3.16.1
Walters, Sandra	SEDD10189	3.2.3
Walturz, Christine	SEDD11008	3.2.5
Wang, Nancy	SEDD11381	3.14.1, 3.2.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Washoe Tribe of NV and CA	SEDD11650	3.6.2, 3.15.19.11, 3.15.15.5, 3.15.19.9, 3.11.1, 3.15.19.10, 3.15.18.6, 3.15.19.3
Watkins, Kevin	SEDD10491	3.2.5, 3.1.7, 3.1.5, 3.1.12, 3.1.21
Watrous, Frank	SEDD10947	3.2.5
Watson, John	SEDD10297	3.2.5, 3.1.5, 3.1.7, 3.1.12, 3.1.21
Watson, Larry	SEDD10717	3.2.5
Watts, Elmer	SolarS_008	3.18.3
Webb, Elizabeth	SEDD10076	3.6.1
Webb, Marie	SEDD10347	3.2.5
Webster, Earlene	SEDD10976	3.2.5
Weeks, Chris	SEDD10790	3.16.1
Weihofen, Susan	SEDD11144	3.2.5
Weinstock, Jerry	SEDD10380	3.16.1
Welke, James	SEDD10098	3.17.1, 3.14.2, 3.18.3
Wellman, Tennyson	SEDD10246	3.2.5
Welsh, Frank	Solar_PH_015	3.17.5, 3.8.1, 3.15.9.2, 3.18.3, 3.18.3, 3.2.2, 3.15.11.5, 3.17.1, 3.12
Western Lands Project	SEDD11844	3.18.3
Western Watersheds Project	SEDD11806	3.17.4, 3.17.5, 3.3.2, 3.17.3, 3.15.14.5, 3.6.4, 3.15.14.3, 3.15.13.3, 3.15.13.4, 3.15.13.6, 3.15.24.7, 3.15.13.7, 3.15.13.9, 3.15.12.2, 3.15.24.6, 3.16.2, 3.15.3.3, 3.15.9.1, 3.15.9.3, 3.15.9.6, 3.9, 3.1.4, 3.15.18.8, 3.1.5, 3.17.1, 3.1.6, 3.1.7, 3.4.1, 3.15.9.4, 3.7.5, 3.15.10.8, 3.1, 3.13, 3.3.1, 3.15.16.1, 3.15.10.5, 3.15.25, 3.15.11.9, 3.15.24.10, 3.1.2, 3.1.3, 3.15.9.2, 3.15.18.7, 3.1.12, 3.1.13, 3.1.14, 3.1.15, 3.1.16, 3.1.17, 3.1.18, 3.15.13.5, 3.15.24.14, 3.14.8, 3.18.3, 3.1.22, 3.15.18.10, 3.1.23, 3.5.3, 3.19, 3.5.1, 3.1.24, 3.2.2.3, 3.7.22
Western Watersheds Project	SEDDsupp20099	3.9, 3.2.2.3, 3.14.7, 3.17.4, 3.14.8, 3.6.4, 3.15.13.4, 3.2.1, 3.7.22, 3.15.13.9, 3.15.13.3, 3.3.2
Western Watersheds Project	SEDDsupp20100	3.18.3
Western Watersheds Project	SEDDsupp20101	3.18.3
Westfall, Rick, Westfall Industries	Solar_TU_006	3.6.1, 3.2.4, 3.7.2
Whitacre, D.A.	SolarS_016	3.2.2.1, 3.7.18
Whitcomb, Paulette	SEDD10657	3.2.3
White, Dave	SEDD10504	3.14.1
Whitman, Lee	SEDD10036	3.17.1
Wible, Karen	SEDD11093	3.2.5
Wild Utah Project	Solar_SL_003	3.1.23, 3.17.5, 3.17.1, 3.1.22, 3.1.24, 3.15.9.1, 3.15.9.2, 3.14.2, 3.14.1, 3.2.2.4
Wiley, Carol	Solar_BA_005	3.11.2, 3.1.5, 3.14.1, 3.1.6, 3.2.1
Wilhems, Carol	SEDD10424	3.2.5
Wilkinson, Patricia	SEDD10713	3.2.3

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Williams, Angie	SEDD10772	3.18.3
Williams, Debbie	SEDD10340	3.16.1
Williams, Marylin	SEDD10097	3.14.2
Williamson, Jeff	SEDD10017	3.6.1
Wilp, Ludger	SEDD11368	3.18.3
Wilshire, Howard	SEDD11836	3.12, 3.19, 3.7.1
Wilson, Jane	SEDD10800	3.2.5, 3.17.1
Wilson, Polly	SEDD10701	3.2.3, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Winchell, Joan	SEDD10193	3.2.3
Winfrey, Harley	SEDD10799	3.2.3
Winkler, Linda	SEDD11347	3.16.1
Winston, Yvette	SEDD11800	3.2.5
Wintch, Mark	SEDDsupp20061	3.1.24, 3.19, 3.15.3.5
Winter, Blake	SEDD10900	3.2.3
Wittman, Charles	SEDD11795	3.2.3
Wolfe, Charles	SEDD10995	3.2.3
Wolfhart, Jake	SEDD10194	3.16.1
Wolfhart, Jake	SEDD11438	3.16.1
Wollman, Isaac	SEDD10607	3.16.1
Womack, Joyce	SEDD10628	3.2.5, 3.17.1, 3.18.3
Wood, Erik	SEDD10802	3.18.3, 3.16.1
Wood, Joyce	SEDD11726	3.6.1, 3.2.5
Woodall, Sandra	SEDD11127	3.17.1
Woods, Daniel	SEDD11482	3.16.1
Woolman, Marcia	SEDD11261	3.2.5
Woolsey, Genevieve	SEDD10490	3.2.5
Wright, Donald	SEDD11245	3.14.1
Wurts, Teresa	SEDD11417	3.2.5
Wynne, Diane	SEDD10889	3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Yang, Lily	SEDD11142	3.2.5
Yorkowitz, Allan	SEDD11407	3.18.3
Young, Alan	SEDD10887	3.2.3
Young, Irwin	Solar_AL_023	3.15.20.1, 3.15.20.2, 3.18.3, 3.18.3, 3.16.1, 3.7.2, 3.15.15.1
Young, Jessica	SEDD10222	3.2.3
Young, JoEllen	SEDD10209	3.14.1
Young, Nikki	SEDD11682	3.2.3
Ysleta del Sur Pueblo	SolarS_005	3.18.3, 3.15.19.6
Yung, Jill, of Paul Hastings LLP on behalf of Solar Energy Industries Association and the Large-Scale Solar Association	SEDDsupp20178	3.6.1, 3.5.4, 3.14.3, 3.11.2, 3.18.3, 3.7.3, 3.2.1, 3.14.1, 3.7.22, 3.15.9.6, 3.15.18.10, 3.7.21, 3.2.6, 3.2.2, 3.15.13.3, 3.15.18.2, 3.8, 3.8.2, 3.8.3, 3.8.5, 3.5.6, 3.7.11, 3.7.15, 3.14.6, 3.15.21.2, 3.1.7, 3.15.9.1, 3.7.4, 3.1.3, 3.15.18.7, 3.15.1.2, 3.15.19.2, 3.15.19.3, 3.15.15.10, 3.1.8, 3.15.15.2, 3.1.9, 3.1.12, 3.1.19
Yurchuck, Alan and Ruth	SEDD10283	3.14.1, 3.1.5, 3.1.7, 3.1.12, 3.1.21, 3.2.5
Zarate, Juan	Solar_EC_004	3.7.2
Zausner, Tobi	SEDD10941	3.16.1

TABLE 3-1 (Cont.)

Organization(s)/Commentor(s)	Comment Document ID Number[a]	Comment Response ID Number(s)
Zehrung, LaVerne	SEDD11432	3.2.3
Ziller-Caritey, Barbara	SEDD10443	3.2.3
Zion National Park	SEDD11822	3.2.5
Zissu, Thomas	SEDD11234	3.2.3
Zizelis, Nicholas	SEDD10760	3.18.3
Zorn, Gretta	SEDD11308	3.2.5
Zuberi, Parvez	SEDD11489	3.16.1
Zucchi, Carlo	SEDD11199	3.17.5
Zucker, Marguery	SEDD10712	3.2.5
Zurcher, Naomi	SEDD11512	3.16.1, 3.2.3

[a] See Table 1-1 for an explanation of the scheme used to catalog and identify comment documents.

4 CAMPAIGNS

Twelve organizations held campaigns regarding solar energy development through which their constituents were able to submit standardized letters. Some campaign letters were submitted as a single form letter, with signatures attached indicating support for the campaign. For other campaigns, individuals modified a standard letter provided by the organization. Table 4-1 lists the separate organizations whose members submitted campaign letters on the Draft Solar PEIS and the Supplement to the Draft Solar PEIS, along with the comment response numbers assigning applicable responses for the concerns raised in each campaign.

Some commentors submitted a form letter through the Solar PEIS Project Web site but did not identify themselves with a particular organization. In Table 4-1, this campaign is listed under Organization not identified. Each of the campaign letters is reproduced below.

4.1 CAMPAIGN LETTERS SUBMITTED FOR THE DRAFT SOLAR PEIS[3]

4.1.1 National Wildlife Federation Action Fund, Comment Document Numbers 11509 and 11510

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 establish 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. See Attachment.

[3] Some individuals modified the template campaign letters to reflect or emphasize various concerns. These modifications were reviewed, and additional comment responses were assigned for the campaign if applicable.

TABLE 4-1 Organizations Whose Members Submitted Campaign Letters on the Draft Solar PEIS or the Supplement to the Draft Solar PEIS

Organization	Comment Document ID Number[a]	Number of Participants in Campaign	Comment Response ID Number(s)
Campaign Letters Submitted for Draft Solar PEIS			
National Wildlife Federation Action Fund	11509 11510	10,600	3.14.1, 3.8, 3.2.2.3, 3.2.3
The Wilderness Society	Solar_034	16,000	3.16.1, 3.18.3, 3.2.1, 3.8, 3.6.1
Sierra Club	Solar_053	2,800	3.16.1, 3.14.1, 3.8, 3.3.1
National Resources Defense Council (NRDC)	Solar_054	10,300	3.16.1, 3.2.3, 3.14.2, 3.4.1, 3.14.1, 3.1.5, 3.2.2.1, 3.1.6, 3.8
Defenders of Wildlife	Solar_055	39,300	3.2.3, 3.16.1, 3.14.1, 3.8, 3.1.5, 3.2.2.1, 3.1.6, 3.15.11.1, 3.15.13.1, 3.15.13.3, 3.3.2, 3.15.9.1, 3.2.2.3
National Parks Conservation Association (NPCA)	Solar_058	11,400	3.2.3, 3.2.5, 3.14.1, 3.1.5, 3.1.7, 3.1.12
Organization not identified	Submitted through the Web site as multiple form letters	508	3.14.1, 3.1.7, 3.1.5, 3.1.12, 3.1.21, 3.2.5
Campaign Letters Submitted for Supplement to Draft Solar PEIS			
National Wildlife Federation	20122	15,000	3.6.1, 3.8
Defenders of Wildlife	20135	35,600	3.6.1, 3.1.5, 3.1.6, 3.14.1, 3.2.2.3, 3.17.5, 3.15.11.10
Sierra Club	SolarS_022	8,900	3.16.1, 3.11.2, 3.11.3, 3.14.1, 3.6.1, 3.2.2.3, 3.7.22
National Parks Conservation Association	SolarS_023	32,700	3.2.5, 3.2.3
National Resources Defense Council	SolarS_024	12,500	3.16.1, 3.14.2
The Wilderness Society	SolarS_028	26,300	3.16.1, 3.17.1, 3.6.1, 3.14.2, 3.2.2.4

[a] See Table 1-1 for an explanation of the scheme used to catalog and identify comment documents.

4.1.2 The Wilderness Society, Comment Document Number Solar_034

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.

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.

4.1.3 Sierra Club, Comment Document Number Solar_053

I strongly support our nation's need to transition from dirty coal and fossil fuels to clean renewable energy. I also strongly support protection of our public lands. We can do both!

Please choose the "zones only" alternative for developing solar energy on public lands. This will ensure that we focus solar in places with the fewest possible environmental impacts, and prevent fragmentation of important wildlife habitat and movement corridors.

Please do not open an additional 22 million acres to solar applications. This will fragment wildlife habitat and put ecosystems and endangered species at risk. Instead, allow careful consideration of new solar zones in the right places by using a location-specific Environmental Impact Statement (EIS) for each proposed new zone.

Finally, make sure that strong monitoring of wildlife impacts and full mitigation of all environmental impacts are included system-wide.

4.1.4 Natural Resources Defense Council, Comment Document Number Solar_054

Like you, I support a rapid transition for our nation from an economy based on fossil fuels to one that is based on clean energy, and I understand that our public lands will play an important role in making that transition. But if not properly sited and operated, large-scale solar power plants can seriously harm wildlife, wildlands, water supplies and other highly valued resources on our public lands.

Solar plants must be built in appropriate places, rather than scattered across the landscape if we are to avoid such harms and generate clean energy at a pace and scale necessary to significantly reduce pollution, create new jobs and address the global climate challenge.

The draft solar programmatic environmental impact statement (PEIS) released by your Department and the Bureau of Land Management will lay the foundation for a long-term program to manage the solar resources of a huge six-state area of the desert Southwest. The preferred alternative identified in the draft statement would allow solar development on over 22 million acres. Included in this acreage are extensive areas of the public's lands that are simply inappropriate for solar development, such as more than 1.5 million acres of lands that qualify for designation as part of the National Wilderness Preservation System as well as important wildlife habitats and corridors and other unique and sensitive resources. What's more, the PEIS reveals that this acreage amounts to nearly one hundred times more land than is necessary to meet the region's reasonably foreseeable needs for renewable energy from the sun.

I urge you to reject the preferred alternative and instead to adopt the solar energy zones alternative analyzed in the PEIS. This alternative would restrict solar power plants to zones designated by the BLM as appropriate for development based on criteria that take into account not just the technological needs of the solar industry, but also the need to direct solar projects to places that have fewer environmental conflicts as well as needed roads and transmission lines. By focusing on places with the best chances for successful projects, the zones alternative would lead to solar development that is faster, cheaper and better for the environment, consumers and project developers. I also urge you to improve this alternative first by excluding inappropriate proposed zones, such as California's proposed Pisgah and Iron Mountain zones. The new program should also include a process for developing additional zones in the future if needed, together with measures that will conserve the already limited water resources of the region and ensure that unavoidable impacts of these projects are fully and permanently mitigated.

Please choose the solar energy zones alternative to govern future solar development on our public lands so that these very large projects are guided to the most appropriate locations and precious public resources are not sacrificed.

4.1.5 Defenders of Wildlife, Comment Document Number Solar_055

As a supporter of Defenders of Wildlife, I recognize the potential impacts that climate change poses to wildlife worldwide. I also understand the growing energy demand our nation faces. But while I support BLM's attempt to develop renewable energy on our public lands, BLM must work to ensure these projects are developed "smart from the start." Renewable energy development on our public lands should be focused on areas that minimize impacts on wildlife and wildlands so that we can develop this vital energy source quickly and still protect treasured lands and wildlife. The best way for BLM to ensure the protection of wildlife and wild lands— and streamline the approval of new solar-energy projects— is for the agency to adopt a modified solar energy zones alternative in the final Solar Programmatic Environmental Impact Statement (PEIS). BLM should modify the solar energy zones alternative to:

- Include a process to modify, drop, or add zones, as necessary, but only from appropriate areas. It should exclude the Pisgah and Iron Mountain zones California.

- Ensure compliance with existing BLM wildlife policies, and ensure no net loss of wildlife and improvement in threatened and endangered species habitat where possible.

- Require proper mitigation for impacts on wildlife, both permanent and temporary, including compensatory mitigation for unavoidable impacts.

- Promote proper conservation of limited water resources in present and future zones.

- Ensure that projects that will have a high conflict with wildlife resources do not go forward.

By modifying the solar energy zones alternative with these critical elements, BLM can ensure that solar energy development on our public lands has a minimal impact on wildlife and that it also helps to streamline approvals for new solar projects. This not only presents a win-win situation for both wildlife and solar energy, but also moves our nation closer to a more secure, energy-independent future. I encourage you to strongly consider adopting a modified version of the solar energy zones alternative in the PEIS. Thank you for your consideration.

4.1.6 National Parks Conservation Association, Comment Document Number Solar_058

We need your help to protect desert tortoises, desert bighorn sheep, and iconic National Parks like Joshua Tree, Death Valley, and Mojave National Preserve in the California Desert.

We can all agree that we must break our addiction to foreign oil and move to clean, renewable energy. However, many of the solar energy projects being developed and proposed in the California desert are inappropriately sited next to our cherished National Parks and in critical

habitat vital to endangered species. The government is preparing an environmental review that will determine which locations on public land in 6 Western states are appropriate for renewable development. The best alternative identified in the review is the zone-only alternative that will restrict development to within specific areas that do not damage our national parks.

Take action today to encourage responsible energy development and protections for these important places and species!

- Tell Secretary Salazar and Secretary Chu to support renewable energy development in places that DO NOT compromise our National Parks and our efforts to protect threatened and endangered species, such as the desert tortoise.

- Let the Secretaries know that you support the Zone-only alternative to balance development and protections for National Parks and natural communities.

- Share your voice by stating that solar energy study areas should not negatively impact National Parks, and that areas such as Riverside East, Iron Mountain, and Amargosa Valley should be reconfigured or removed to protect our National Parks and their protected resources.

4.1.7 Unidentified Organization

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 on Joshua Tree National Park's wilderness and wildlife corridors.

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

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

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

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

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

4.2 CAMPAIGN LETTERS SUBMITTED FOR THE SUPPLEMENT TO THE DRAFT SOLAR PEIS

4.2.1 National Wildlife Federation, Comment Document Number 20122

Thank you for supplementing the Bureau of Land Management's draft proposal for siting new large-scale solar projects on public lands in the West. Please improve and finalize this much-needed program and continue to work to establish wildlife-friendly and consistent rules for developing solar energy on our public lands. The Supplement clearly draws on the input received from conservationists and others. Significant improvements to the draft include the commitment to do more research on wildlife impacts, the pledge to make more sensitive areas off limits to development, and the inclusion of additional incentives to drive development to low-conflict solar energy zones. With some additional work to limit development outside the designated zones and provide adequate mitigation for habitat losses, the proposed solar zoning framework will serve as an effective, strategic roadmap to developing the most appropriate solar resources on public lands. The best path going forward will guide solar development to lands with the highest quality solar resource, where the power generated can be delivered easily to consumers, and where there is the lowest potential for conflict with fish, wildlife, access, and other values and uses.

4.2.2 Defenders of Wildlife, Comment Document Number 20135

As a supporter of Defenders of Wildlife and someone who wishes to make solar energy development in the U.S. “smart from the start,” I encourage you to strengthen protections for wildlife and natural resources in the Draft Solar PEIS. First, I commend you for putting a stronger emphasis on solar energy zones—areas identified with few if any wildlife and natural resource conflicts. I encourage you to ensure that projects located in solar energy zones will be prioritized for development. Although the Bureau of Land Management did the right thing by removing some highly sensitive areas from further consideration as zones (the Pisgah and Iron Mountain Zones in California), the agency has left open the possibility that solar development on some of these lands might still occur through the “variance process.” But variances should be extremely limited so that they are only used in rare instances where the conservation benefits are clear and can be documented. Variances should be the exception, not the rule. To protect imperiled species like desert tortoises and bighorn sheep, the agency should exclude areas that have already been deemed unsuitable because of likely wildlife and resource conflicts. America's degraded lands, like brownfields and old mining sites are not now included in most solar zones. They should be. Such areas are appropriate additional lands that should be available for development. By developing degraded areas such as these—rather than more sensitive and ecologically rich sites—we can preserve important wildlife habitat and protect valuable natural resources. America is transitioning from a society reliant on fossil fuels to one built on clean,

renewable energy. But to make sure this is truly wildlife-friendly energy development, we must make sure the process is smart from the start by: 1. Supporting solar development in designated solar energy zones--areas where conflicts with wildlife and other important natural resources can be avoided or minimized; 2. Limiting variances for projects outside of zones. Make them the exception, not the rule; and 3.Requiring developers to avoid, minimize and effectively mitigate any unavoidable effects on wildlife by promoting "wildlife-friendly" solar development. I believe the changes listed above will greatly enhance your proposal and better protect America's rich natural heritage. Thank you for considering my comments. --------- Please accept these individuals' comments with regard to the U.S. Fish and Wildlife Service's proposed plan and our thanks for your agency's collaboration in ensuring that the voices of these concerned citizens are heard.

4.2.3 Sierra Club, Comment Document Number SolarS_022

Thank you for the opportunity to comment on the Supplement to the Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States. I am submitting these comments as someone with a strong commitment to developing renewable energy. I believe it is critical we halt climate change and end our dependence on fossil fuels as quickly as possible. However, I also care deeply about preserving our precious Western ecosystems and wild lands.

I strongly support developing rules to guide solar energy projects on the most appropriate locations on public lands to minimize impacts on wildlife and ecosystems. These rules should be applied to all solar energy applications on public lands, not just those filed after October 28, 2011. Your proposal to allow additional projects outside zones (the "Variance Process") could undermine this entire solar energy program if it is not limited to places with low environmental value. These proposals should meet strict environmental criteria.

I also commend the BLM for excluding fragile and ecologically important areas from solar development in response to environmental concerns ("Exclusion Areas"). Please expand the Exclusion Areas to include environmentally sensitive areas important to the survival of wildlife species such as: wildlife habitat management areas, desert tortoise connectivity areas, and the entire Ivanpah Valley in both Nevada and California. Thank you for working to balance our need for solar energy with protecting wildlife and habitats on public land.

4.2.4 National Parks Conservation Association, Comment Document Number SolarS_023

I support solar development, but not at the expense of our national parks and conservation heritage. To help ensure parks are protected, I ask that you exclude new solar development on lands within 15 miles of national park units unless the National Park Service determines these lands are suitable for consideration under the 'variance' process and can be developed without damaging park resources.

This precautionary 'smart from the start' approach is justified because these lands are critical to the ecological health of park resources and the experience of park visitors.

Without strong safeguards in place, vast solar energy facilities could potentially be built under the variance process and present the following threats:

- Fragmentation of wildlife corridors crucial to wide-ranging species. Examples include lands on Joshua Tree's north and northeast boundaries that are utilized by Desert Tortoises and connect the park to nearby wilderness areas. Also, allowing solar development in old-growth Joshua Tree woodlands, such as what could happen north of Mojave National Preserve's Clark Mountains and east of the Preserve's New York Mountains should be avoided.

- Harming scenic vistas. By placing solar projects on our national parks' doorsteps, we will negatively affect the experience so many Americans cherish. For instance, industrializing Death Valley's eastern boundary could negatively affect the parks stunning wide open vistas, as well as reduce habitat and water resources for rare and endangered species.

I thank you for considering my comments and for working to ensure America's national parks and surrounding sensitive lands are protected.

4.2.5 Natural Resources Defense Council, Comment Document Number SolarS_024

Our nation must transition from a dirty fossil fuel-based economy to one that runs on clean energy. But we must ensure that the development of large-scale renewable power plants on our public lands is done right—by protecting our wildlife, wildlands and water resources.

The Supplement to the draft Solar Energy Development Programmatic Environmental Impact Statement is a step in the right direction and I urge you to follow through on your commitment to zone-based development of large-scale solar projects on the deserts of the Southwest. Guiding solar development to appropriate places is the best way to ensure that the benefits of solar energy are realized while also safeguarding our public wildlands.

Currently, the solar resources of our public lands are being managed on the same antiquated project-by-project basis that oil and gas resources have been managed. Continuing this scatter-shot approach and permitting these very large projects to be dotted across our public lands is certain to harm sensitive wildlife species and diverse recreational opportunities, and will' also lead to costly conflicts, delays and litigation at a time when solar energy is needed to improve our energy security and provide much-needed jobs.

I commend you for recognizing the need for a better way to develop solar projects, by designating zones that minimize conflicts with wildlife and other resources and providing incentives for projects located in these zones. I also appreciate your recognition of the need to provide limited flexibility to the solar industry for well-sited projects outside zones. Adoption

of these and other proposed program components will help protect the unique and sensitive resources of our public lands while providing more certainty to all stakeholders.

By focusing on the places that have the best chances for success and having a clear plan to deal with potential impacts before they occur, we will be able to move quickly to develop our solar resources. This will enable America to better meet our clean energy demands while also preserving our nation's wildlife, wild lands and other natural treasures. Please continue on the path to finalize a comprehensive and environmentally sound framework for developing solar energy on our public lands in an environmentally sensitive way—as promptly as possible.

4.2.6 The Wilderness Society, Comment Document Number SolarS_028

As part of a clean energy future that includes robust commitments to energy efficiency and conservation, and widespread use of rooftop solar panels, I support environmentally responsible solar projects on our public lands. If done smart from the start, renewable energy development on public lands can both help meet our climate and clean energy needs and protect our beloved wildlands and crucial wildlife habitat.

We have a historic opportunity to get solar development right on public lands, and the long-term plan for solar now under development, the Supplement to the Draft Solar Programmatic Environmental Impact Statement (PEIS), will play a critical role. I applaud the BLM in responding to recommendations from the public to focus development in pre-screened, low-conflict zones. Overall, the Supplement is a step in the right direction, and most of the elements should be carried through the final plan. However, I am seriously concerned that the revised plan still leaves some wilderness quality lands open for development. To ensure that solar development on public lands is smart from the start, I recommend that:

- The BLM should carry forward most of the revised plan;
- The BLM should exclude all Citizens' Wilderness Proposal lands (wilderness quality lands) from development;
- The BLM should ensure that these large solar projects are built primarily in the zones;
- The BLM should provide a 60 day comment period on the final plan to allow public response to additional information in the final plan.

By focusing on low-conflict zones, 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 that will allow solar development that is faster, cheaper and better for the environment and consumers.