



FINAL ENVIRONMENTAL IMPACT STATEMENT

VOLUME III: RESPONSE TO COMMENTS

DEPARTMENT OF ENERGY
LOAN GUARANTEE TO ROYAL BANK OF SCOTLAND FOR
CONSTRUCTION AND STARTUP OF THE TOPAZ SOLAR FARM
SAN LUIS OBISPO COUNTY, CALIFORNIA

US Department of Energy, Lead Agency
Loan Guarantee Program Office
Washington, DC 20585

In Cooperation with

US Army Corps of Engineers
San Francisco District

August 2011

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ACRONYMS AND ABBREVIATIONS

Full Phrase

ARRA	American Recovery and Reinvestment Act
Cd	cadmium
CDFG	California Department of Fish and Game
CdS	cadmium sulfide
CdTe	cadmium telluride
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CREZ	Competitive Renewable Energy Zone
DOE	Department of Energy
EIR	environmental impact report
EIS	environmental impact statement
EPA	United States Environmental Protective Agency
EPAAct 2005	Energy Policy Act of 2005
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
MW	megawatt
NEPA	National Environmental Policy Act of 1969, as amended
PV	photovoltaic
RTC	Response to Comments
US	United States
USACE	US Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

CHAPTER I

INTRODUCTION

I.1 INTRODUCTION

The United States (US) Department of Energy (DOE) published the *Draft Environmental Impact Statement (EIS) for the DOE Loan Guarantee for the Topaz Solar Farm* in March 2011. The Draft EIS was submitted to the US Environmental Protection Agency (EPA) on March 18, 2011, and posted to the DOE Web site that day. The public review period for the Draft EIS officially began on March 25, 2011, with publication of the EPA's Notice of Availability in the *Federal Register* (76 Fed. Reg. 2011-7115) (see **Figure RTC-1**). On March 31, 2011, DOE published its own notice in the *Federal Register* (76 Fed. Reg. 2011-7583) notifying the public of the availability of the Draft EIS and announcing a public hearing on the Draft EIS to be held on April 13, 2011 (see **Figure RTC-2**). The 45-day public review period for the Draft EIS ended on May 9, 2011.

In accordance with the National Environmental Policy Act of 1969, as amended (NEPA) implementing regulations, a Final EIS shall provide responses to comments on the Draft EIS (40 Code of Federal Regulations [CFR] 1503.4). In compliance with those regulations, this Response to Comments Document presents the comments received during the public review period and responses to substantive issues raised in those comments.

This Response to Comments Document considers all comments received during the public review period. Chapter 1 describes the means through which comments were acquired, a summary of the major comments received on the Draft EIS, and a summary of the major changes in the Final EIS resulting from the public review process. Chapter 2 contains the process by which comments were analyzed, a description of how the comments and responses are organized, and a summary of the comments received and responses to those comments. Chapter 3 contains a detailed listing of commenters, the public hearing transcript, and copies of the comment letters received.

Figure RTC-1
EPA Federal Register Notice, Volume 76, No. 58, Friday, March 25, 2011, Notices,
pages 16767-16768

**ENVIRONMENTAL PROTECTION
AGENCY**

[ER-FRL-8996-1]

**Environmental Impacts Statements;
Notice of Availability**

Responsible Agency: Office of Federal Activities, General Information (202) 564-1399 or <http://www.epa.gov/compliance/nepa/>
Weekly receipt of Environmental Impact Statements
Filed 03/14/2011 Through 03/18/2011
Pursuant to 40 CFR 1506.9.

Notice: In accordance with Section 309(a) of the Clean Air Act, EPA is required to make its comments on EISs issued by other Federal agencies public. Historically, EPA met this mandate by publishing weekly notices of availability of EPA comments, which includes a brief summary of EPA's comment letters, in the **Federal Register**. Since February 2008, EPA has included its comment letters on EISs on its Web site at: <http://www.epa.gov/compliance/nepa/eisdata.html>. Including the entire EIS comment letters on the Web site satisfies the Section 309(a) requirement to make EPA's comments on EISs available to the public. Accordingly, on March 31, 2010, EPA discontinued the publication of the notice of availability of EPA comments in the **Federal Register**.

EIS No. 20110084, Draft EIS, USFS, OR, Galena Project, To Implement Several Resource Management Activities, Blue Mountain Ranger District Malheur National Forest, Town of John Day, Grant County, OR, Comment Period Ends: 05/09/2011, Contact: Robert Robertson 541-575-3061.

EIS No. 20110085, Draft EIS, FHWA, CA, State Route 180 Westside

Expressway Route Adoption Study, To Improve Mobility East and West through the Center of Fresno County and the San Joaquin Valley, Fresno County, CA, Comment Period Ends: 05/09/2011, Contact: G. William "Trais" Norris, III 559-243-8175.
EIS No. 20110086, Draft EIS, USACE, LA, New Orleans To Venice (NOV), Federal Hurricane Protection Levee. Restoring, Armoring and Accelerating the Completion of the Existing NOV, Plaquemines Parish, LA, Comment Period Ends: 05/09/2011, Contact: Christopher Koepfel 601-631-5410.
EIS No. 20110087, Draft EIS, DOE, CA, Topaz Solar Farm Project, Issuing a Loan Guarantee to Royal Bank of Scotland for Construction and Startup, San Luis Obispo County, CA, Comment Period Ends: 05/09/2011, Contact: Angela Colamaria 202-287-5387.
EIS No. 20110088, Final EIS, NRC, GA, Vogtle Electric Generating Plant Units 3 and 4, Construction and Operation, Application for Combined Licenses (COLs), NUREG-1947, Waynesboro, GA, Review Period Ends: 04/25/2011, Contact: Mallaecia Sutton 301-415-0673.

Dated: March 22, 2011.

Robert W. Hargrove,
Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 2011-7115 Filed 3-24-11; 8:45 am]

BILLING CODE 6560-50-P

Figure RTC-2
DOE Federal Register Notice, Volume 76, No. 62, Thursday, March 31, 2011, Notices,
pages 17844-17846

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public hearing. The Draft EIS analyzes the potential environmental impacts of the DOE's proposed action of issuing a Federal loan guarantee to support construction and startup of the Topaz Solar Farm Project located in San Luis Obispo County, California (Proposed Project). The Royal Bank of Scotland plc, as Lender-Applicant, with Topaz Solar Farms, LLC (Topaz) as the borrower, submitted an application to DOE under the Federal loan guarantee program pursuant to the Energy Policy Act of 2005 (EPA 2005). Topaz is a limited liability company that is owned by First Solar, Inc. The loan guarantee would support the financing arranged by the Royal Bank of Scotland for the construction and start up of the Proposed Project.

Topaz proposes to develop the Project on up to 4,100 acres of land. As proposed, the nominal 550-megawatt electric generation project would include the installation of about nine million photovoltaic (PV) solar modules within approximately 437 arrays and associated electric equipment. Generated electricity would be sold to Pacific Gas and Electric (PG&E) under a long-term power purchase agreement. The Project would be interconnected into PG&E's existing Morro Bay-Midway 230-kilovolt (kV) transmission line, which runs in an east-to-west direction through the site and portions of Kern County.

DATES: DOE invites the public to submit comments on the Draft EIS during the public comment period, which began on March 25, 2011 and ends on May 9, 2011. DOE will consider all comments postmarked or received during the comment period in preparing the Final EIS. Comments received or postmarked after May 9, 2011, will be considered to the extent practicable. In addition to receiving comments in writing and by e-mail [See **ADDRESSES**], DOE will convene a public hearing at which government agencies, private-sector organizations, Native American Tribes and individuals are invited to present oral and written comments on the Draft EIS. The public hearing will be held on April 13, 2011 at the Carrisa Plains Heritage Association Community Center, 10750 Carrisa Highway (Highway 58), Santa Margarita, California, 93458; located approximately one mile east of Soda Lake Road. Oral comments will be heard during the formal portion of the public hearing beginning at 6:30 pm. The public is also invited to an informal Question & Answer Open House beginning at 5:30 pm at the location above, during which DOE and Topaz

personnel will be available for individual discussions with attendees to answer questions about the project and DOE's Proposed Action. Displays and other forms of information about the proposed agency action, the EIS process, and Topaz's Proposed Project will also be available for review.

DOE requests that anyone who wishes to present oral comments at the public hearing contact Ms. Colamaria by phone or e-mail [see **ADDRESSES**]. Individuals who do not make advance arrangements to speak may register at the meeting. Speakers who need more than five minutes should indicate the length of time desired in their request. DOE may need to limit speakers to five minutes initially, but will provide additional opportunities as time permits. Written comments on the Draft EIS can also be submitted to DOE officials at the public hearing.

The public hearing and Question & Answer Open House will be accessible to people with disabilities. In addition, any individual needing specific assistance, such as a sign language interpreter or translator, should contact Ms. Colamaria [see **ADDRESSES**] at least 48 hours in advance of the hearing so that arrangements can be made.

ADDRESSES: Public comments can be submitted electronically or by U.S. Mail. Written comments on the proposed EIS scope should be signed and addressed to the NEPA Document Manager for this project: Ms. Angela Colamaria, Loan Guarantee Program (LP-10), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585. Electronic submission of comments is encouraged due to processing time required for regular mail. Comments can be submitted electronically by sending an e-mail to: Topaz-EIS@hq.doe.gov. All electronic and written comments should reference the following document number: DOE/EIS-0458.

FOR FURTHER INFORMATION CONTACT: To obtain additional information about this EIS, the public hearing, or to receive a copy of the Draft EIS, contact Angela Colamaria by telephone: 202-287-5387; toll-free number: 800-832-0885 ext. 75387; or electronic mail: Angela.Colamaria@hq.doe.gov. For general information on the DOE NEPA process, please contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Compliance (GC-54), U.S. Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585; telephone: 202-586-4600; facsimile: 202-586-7031; electronic mail: askNEPA@hq.doe.gov;

DEPARTMENT OF ENERGY

Notice of Availability of the Draft Environmental Impact Statement and Public Hearing for a Proposed Federal Loan Guarantee To Support Construction and Start-Up of the Topaz Solar Farm, San Luis Obispo County, CA

AGENCY: U.S. Department of Energy.

ACTION: Notice of Availability of the Draft Environmental Impact Statement and Public Hearing.

SUMMARY: The U.S. Department of Energy (DOE) announces the availability of the *Draft Environmental Impact Statement for the DOE Loan Guarantee to Royal Bank of Scotland for Construction and Startup of the Topaz Solar Farm, San Luis Obispo County, California* (DOE/EIS-0458D) (Draft EIS) for public review and comment, as well as the date, location and time for a

Figure RTC-2 (continued)
DOE Federal Register Notice, Volume 76, No. 62, Thursday, March 31, 2011, Notices,
pages 17844-17846

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or leave a toll-free message at 800-472-2756.

SUPPLEMENTARY INFORMATION: Title XVII of EPAct 2005 established a Federal loan guarantee program for eligible energy projects, and was amended by the American Recovery and Reinvestment Act of 2009 to create Section 1705 of Title XVII (42 U.S.C. 16516), authorizing a new program for rapid deployment of renewable energy projects and related manufacturing facilities, electric power transmission projects, and leading edge biofuels projects. The Section 1705 Program is designed to address the current economic conditions of the nation, in part, through financing such projects.

The Royal Bank of Scotland plc, as Lender-Applicant, with Topaz as the borrower, applied to DOE for a federal loan guarantee under the Solicitation entitled, "Federal Loan Guarantees for Commercial Technology Renewable Energy Generation Projects under the Financial Institution Partnership Program" (Solicitation No. DE-FOA-0000166), issued on October 7, 2009.

The purpose and need for action by DOE is to comply with its mandate under EPAct 2005 by selecting eligible projects that meet the goals of Section 1705 Program, as summarized above. The EIS will inform DOE's decision on whether to issue a loan guarantee to Topaz to support the Proposed Project. DOE's proposed action is to issue a loan guarantee to Topaz to support construction and start-up of the Topaz Solar Farm. The Proposed Project would be located in an unincorporated portion of eastern San Luis Obispo County, California, adjacent to Highway 58 and east of Bitterwater Road. Topaz has options to purchase approximately 10,000 acres of land in the Project area. The Proposed Project would be developed on up to 4,100 acres of land within one of two overlapping study areas.

The Proposed Project would consist of: a solar field of approximately nine million ground-mounted PV modules that collect solar radiation to produce electricity; an electrical collection system that converts generated power from direct current (DC) to alternating current (AC) and delivers it to a new Project substation which collects and converts the generated power from 34.5 kV to 230 kV for delivery via a new PG&E switching station to PG&E's existing Morro Bay-Midway 230-kV transmission line; and the aforementioned PG&E switching station that interconnects the Proposed Project to PG&E's existing transmission line. After construction, PG&E would own

and operate the switching station. As part of the Proposed Project, Topaz would also construct and operate a Monitoring and Maintenance Facility and a Solar Energy Learning Center within the Proposed Project's site boundary. The Proposed Project would also include up to 22 miles of on-site access roads as well as leach field and septic systems for the two facilities listed above.

Topaz has interconnection agreements in place for the first 400 MW of Project capacity. The California Independent System Operator has determined that network upgrades would be required to accommodate the Proposed Project's remaining 150 MW, as well as other generation projects in the region. Network upgrades could include the reductoring of 35 miles of the 230-kV transmission lines between the new PG&E switching station and the Midway Substation. Such upgrades would extend the height of every other existing tower by 20 feet, but would not introduce a new structure.

Alternatives

In determining the range of reasonable alternatives to be considered in the EIS for the Proposed Project, DOE identified the reasonable alternatives that would satisfy the underlying purpose and need for agency action. Rather than being directly responsible for the siting, construction, and operation of respective projects selected in response to solicitations under EPAct 2005, DOE's actions are limited to guaranteeing the debt obligation for the project. Therefore, DOE's overall decision will be to either provide a loan guarantee for the Proposed Project or to decline to provide a loan guarantee (*i.e.*, the No Action alternative, as discussed below). The potential environmental impacts of a No Action alternative, as well as two Project-Specific alternatives, are analyzed in the EIS.

The Project-Specific alternatives include alternate configurations for the solar arrays. Within the Proposed Project site, Topaz identified two Study Areas (Study Area A and Study Area B) that would be suitable for the Proposed Project, although construction of the Proposed Project would take place on only one Study Area if the Proposed Project is approved. DOE analyzed both Study Areas available to Topaz as project-specific alternatives (Project-Specific Alternative A and Project-Specific Alternative B).

Under the No Action alternative, DOE would not provide the loan guarantee to Topaz. In this case, Topaz may have greater difficulty obtaining financing for the Project, which may result in a delay

in the start of construction, construction in smaller phases over a longer time period, potentially increased project cost, or could possibly result in the Proposed Project not being built. Although Topaz may still pursue the Project without the loan guarantee, as defined above, for purposes of the Draft EIS analysis, it is assumed that the No Action alternative would result in no Project or in a no build scenario. DOE does not have a preferred alternative at this time, and will identify its preferred alternative in the Final EIS.

Floodplain Assessment

In the October 22, 2010 Notice of Intent to Prepare an Environmental Impact Statement (75 FR 65306), DOE provided notice of a proposed DOE action in a floodplain pursuant to DOE Floodplain and Wetland Environmental Review Requirements (10 CFR Part 1022). Overhead electrical lines would need to cross 100-year floodplains (unnamed drainages within the Carrizo Plain, northwest of Soda Lake). Since some of the floodplains on the project site are greater than 200 feet wide and posts are needed every 200 feet to support overhead lines, the installation of posts within the floodplain is anticipated. DOE has prepared a floodplain assessment as required by DOE regulations. Interested parties may comment on the floodplain assessment, which has been incorporated into the Draft EIS.

Scope of Draft EIS and Environmental Review Process

The DOE prepared this Draft EIS pursuant to the National Environmental Policy Act of 1969, as amended (NEPA), the Council on Environmental Quality (CEQ) NEPA regulations, and the DOE NEPA implementing procedures. The Draft EIS analyzes the environmental consequences that may result from the Proposed Action, including the alternative layout options, and the No Action Alternative. Potential impacts identified during the scoping process and analyzed in the Draft EIS related to the following: Air quality; greenhouse gas emissions and climate change; energy use and production; water resources, including groundwater and surface waters; wetlands and floodplains; geological resources; ecological resources, including species of special concern and threatened and endangered species such as the San Joaquin kit fox, longhorn fairy shrimp and vernal pool fairy shrimp; cultural resources, including historic structures and properties, sites of religious and cultural significance to Tribes, and archaeological resources; land use;

Figure RTC-2 (continued)
DOE Federal Register Notice, Volume 76, No. 62, Thursday, March 31, 2011, Notices,
pages 17844-17846

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visual resources and aesthetics; transportation and traffic; noise and vibration; hazardous materials and solid waste management; human health and safety; accidents and terrorism; socioeconomics, including impacts to community services; environmental justice; and cumulative impacts. Because the Proposed Project may affect listed species under the Endangered Species Act (ESA), DOE has also initiated consultation regarding the project with the U.S. Department of the Interior's Fish and Wildlife Service under Section 7 of the ESA.

The Topaz Proposed Project site is expected to impact waters subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE); therefore the Proposed Project will require a Clean Water Act (CWA) Section 404 Permit. As a result, USACE has participated as a cooperating agency in the preparation of this Draft EIS and will use this EIS (in part) to determine whether to issue a Section 404 permit. USACE will issue a separate decision document on the CWA Section 404 permit for the Proposed Project that will incorporate the environmental analyses from this EIS.

The DOE will use and coordinate the NEPA public comment process to satisfy the public involvement requirements of Section 106 of the National Historic Preservation Act (16 U.S.C. 470f) as provided for in 36 CFR 800.2(d)(3). DOE has invited Federally-recognized American Indian Tribes that have historic interests in the area to also participate in government-to-government consultation regarding the Proposed Project. In addition to these Federally-recognized tribes, the California Native American Heritage Commission provided DOE with a Native American contacts list in the project area. DOE contacted parties on the list to solicit concerns or comments on the Proposed Project.

Availability of the Draft EIS

Copies of the Draft EIS have been distributed to: Members of Congress; Native American Tribal governments, Federal, State, and local officials; and agencies, organizations and individuals who may be interested or affected. The Draft EIS is on the Department of Energy's NEPA Web site at <http://www.nepa.energy.gov> under "DOE NEPA Documents" and on the Loan Program Office's Web site at http://www.lgprogram.energy.gov/NEPA_EIS.html.

Copies of the Draft EIS are also available for review at the Simmler Public Library/California Valley Community Service District; 13080 Soda

Lake Road; California Valley, CA 93453 and the San Luis Obispo County Department of Planning and Building; 976 Osos St. Room 300; San Luis Obispo, CA 93408.

Issued in Washington, DC, on March 25, 2011.

Jonathan M. Silver,

Executive Director, Loan Programs Office.

[FR Doc. 2011-7583 Filed 3-30-11; 8:45 am]

BILLING CODE 6450-01-P

I.2 PUBLIC COMMENT PROCESS

During the public review period, interested parties were invited to comment on the Draft EIS through submission of oral and written comments. A summary of this process is provided in the sections below.

I.2.1 Public Hearing Comments

A public hearing on the Draft EIS was held at the Carrisa Plains Heritage Association Community Center on April 13, 2011. Notice of the public hearing was publicized through a notice in the *Federal Register* (see Figure RTC-2), through notices placed in local newspapers (see **Figure RTC-3** for an example notice), through an e-mail notice sent to those entities on the Proposed Project mailing list for whom e-mail addresses were available (see **Figure RTC-4**), and through a posting on the DOE Loan Programs Office Web site (<https://lpo.energy.gov/>).

Twelve people attended the public hearing, and four local residents provided oral comments. No tribal, agency, or organizational representatives attended or provided comments at the hearing.

I.2.2 Written Comments

In addition to submitting comments at the public hearing, the public was encouraged to provide written comments via US mail, facsimile, or e-mail. The methods for submitting written comments were published in DOE's *Federal Register* notice (see Figure RTC-2) and included the following:

- Comments could be submitted via US mail to Angela F. Colamaria, US Department of Energy Loan Programs Office, Environmental Compliance Division, 1000 Independence Avenue SW, LP-10, Washington, DC 20585;
- Comments could be submitted via facsimile to 1-202-586-7031; or
- Comments could be submitted via e-mail to the Proposed Project Web site at Topaz-EIS@hq.doe.gov.

Twelve written comments were received during the public review period. The breakdown by type of commenter is as follows:

- One tribe;
- Two Federal agencies;
- One local agency;
- Three organizations;
- Four individuals; and
- The Project Proponent.

Figure RTC-3
Sample Newspaper Notice of the Draft EIS Public Hearing

THE *Newspaper of the Central Coast*
TRIBUNE

3825 South Higuera • Post Office Box 112 • San Luis Obispo, California 93406-0112 • (805) 781-7800

In The Superior Court of The State of California
In and for the County of San Luis Obispo
AFFIDAVIT OF PUBLICATION

AD #6936116
TJA ADVERTISING

STATE OF CALIFORNIA
ss.
County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit; APRIL 2, 5, 2011 that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Jane E. Durand
(Signature of Principal Clerk)

DATED: APRIL 5, 2011
AD COST: \$373.00

**U.S. DEPARTMENT OF ENERGY
NOTICE OF AVAILABILITY OF THE DRAFT
ENVIRONMENTAL IMPACT STATEMENT
AND PUBLIC HEARING
Topaz Solar Farm Project**

The U.S. Department of Energy announces the availability of the Draft Environmental Impact Statement (Draft EIS) for issuing a Federal Loan Guarantee to support construction and start-up of the Topaz Solar Farm Project located in eastern San Luis Obispo County, CA. The Draft EIS analyzes the potential environmental impacts of DOE's proposed action to issue a loan guarantee in support of the financing arranged by the Royal Bank of Scotland, who will provide financing to Topaz Solar Farms, LLC, for the Topaz project. In addition to receiving written comments on the Draft EIS, DOE will conduct a public hearing to obtain public comments on the Draft EIS on Wednesday, April 13, 2011.

The Draft EIS may be accessed on the Loan Program Office's Website at www.lgprogram.energy.gov/NEPA_EIS.html. Copies of the Draft EIS are also available for review at the Simmler Public Library/California Valley Community Service District, 13080 Soda Lake Road, California Valley, CA 93453 and the San Luis Obispo County Department of Planning and Building, 976 Ocos St. Room 300, San Luis Obispo, CA 93408. DOE will consider all comments postmarked or received by May 9, 2011 in preparing the Final EIS.

In addition to receiving comments in writing and by e-mail (see addresses below), DOE will convene a public hearing at which interested parties are invited to present oral and written comments on the Draft EIS. Individuals wishing to present oral comments may register in advance by notifying DOE via phone or email as indicated below or may register at the hearing. Oral comments are given the same weight as written/email comments.

PUBLIC HEARING DATE: Wednesday, April 13, 2011
INFORMAL Q&A OPEN HOUSE: 5:30 PM
PRESENTATION AND ORAL PUBLIC COMMENTS: 6:30 PM
PLACE: Carrisa Plains Heritage Association Community Center - 10750 Carrisa Highway (Highway 58), Santa Margarita, California, 93458, approximately one mile east of Soda Lake Road.

Angela Colamaria
Loan Guarantee Program Office (LP-10)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
Office: 202-287-5387
Toll-free: 1-800-832-0885
Written Comments:
Topaz-EIS@hq.doe.gov
Questions/Oral Comments: Angela.Colamaria@hq.doe.gov
April 2, 5, 2011 6936116

Figure RTC-4
E-mail Notice of the Draft EIS Public Hearing

From: Topaz-EIS <Topaz-EIS@Hq.Doe.Gov>
Sent: Thursday, April 07, 2011 12:48 PM
To: Topaz-EIS
Subject: NOTICE OF PUBLIC HEARING: Topaz Solar Farm, San Luis Obispo County, CA

This email is to notify you of a Public Hearing regarding the proposed Topaz Solar Farm, in San Luis Obispo County, CA. The Department of Energy (DOE) is considering whether to give a Federal loan guarantee to the project sponsor.

The DOE has prepared a Draft Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act, to assess the potential environmental impacts of its proposed action of issuing a Federal loan guarantee to Topaz Solar Farms, LLC (Topaz) (DOE/EIS-0458). Topaz submitted an application to DOE under the Federal loan guarantee program pursuant to the Energy Policy Act of 2005 to support construction of the Topaz Solar Farm Project located in San Luis Obispo County.

WRITTEN COMMENTS: The Draft EIS may be accessed on the Loan Program Office's Website at: www.lgprogram.energy.gov/NEPA_EIS.html. Copies of the Draft EIS are also available for review at the Simmler Public Library/California Valley Community Service District, 13080 Soda Lake Road, California Valley, CA 93453 and the San Luis Obispo County Department of Planning and Building, 976 Osos St. Room 300, San Luis Obispo, CA 93408. DOE will consider all comments postmarked or received by May 9, 2011 in preparing the Final EIS.

PUBLIC HEARING/ORAL COMMENTS: In addition to receiving comments in writing and by e-mail (see addresses below), DOE will convene a public hearing at which interested parties are invited to present oral and written comments on the Draft EIS. DOE and project personnel will be available for informal discussions and to answer questions prior to the presentation of oral comments. Individuals wishing to present oral comments may register in advance by notifying DOE via phone or email as indicated below or may register at the hearing. Oral comments are given the same weight as written/email comments.

PUBLIC HEARING DATE: Wednesday, April 13, 2011
INFORMAL Q&A OPEN HOUSE: 5:30 PM
PRESENTATION AND ORAL PUBLIC COMMENTS: 6:30 PM
PLACE: Carrisa Plains Heritage Association Community Center – 10750 Carrisa Highway (Highway 58), Santa Margarita, California, 93458, approximately one mile east of Soda Lake Road.

Individuals wishing to present oral comments may either register in advance by notifying Angela Colamaria via phone or e-mail, as indicated below, or register at the meeting. Comments presented at the meeting or postmarked by May 9, 2011, will be considered in preparing the Final EIS.

CONTACT INFO: For questions, written comments, or to sign up for oral comments please contact:

Angela F. Colamaria
U.S. Department of Energy
Loan Programs Office
Environmental Compliance Division
1000 Independence Avenue, S.W., LP-10
Washington, DC 20585
Direct: 202-287-5387
Toll-free: 1-800-832-0885
Written Comments (or send to address above): Topaz-EIS@hq.doe.gov
Questions/Oral Comments: Angela.Colamaria@hq.doe.gov

I.3 MAJOR COMMENTS RECEIVED DURING THE PUBLIC REVIEW PERIOD ON THE DRAFT EIS

As described above, twelve written comment letters were received during the public review period on the Draft EIS. In addition, four commenters spoke at the public hearing. The major comments the public presented on the Draft EIS included the following:

- Commenters requested that DOE expand their purpose and need statement and evaluate a wider range of alternatives, including proposal for projects that would promote conservation and efficiency as well as those that eliminate impacts on Waters of the United States, sensitive species and their habitats, and agricultural lands, and minimize the need for new infrastructure.
- Commenters expressed their desire to see the Proposed Project array layout that was approved by the San Luis Obispo County (County) Planning Commission (termed “Alternative 3B.1” in the County’s final environmental impact report [EIR] and “Alternative A with County-approved project layout” in the Final EIS) fully analyzed in the Final EIS.
- Commenters requested that final mitigation measures and mitigation and monitoring plans be included in the Final EIS to provide for a better analysis of potential direct and cumulative environmental impacts from the Proposed Project.
- Commenters felt that there are better alternatives by which to implement solar energy development, including rooftop (distributed) solar and developing the Proposed Project on already contaminated lands or in the Westlands Water District Competitive Renewable Energy Zone (CREZ).
- Commenters expressed concern that the Proposed Project would have significant adverse impacts due to conversion and loss of agricultural land.
- Commenters expressed concerns about the Proposed Project’s direct and indirect impacts on wildlife, particularly on special status species (including the California condor, golden eagle, bald eagle, burrowing owl, loggerhead shrike, Swainson’s hawk, giant kangaroo rat, Tipton kangaroo rat, Nelson’s antelope squirrel, San Joaquin antelope squirrel, blunt-nose leopard lizard, San Joaquin kit fox, longhorn fairy shrimp, vernal pool fairy shrimp, and Kern primrose sphinx moth) and their associated habitats.

- Commenters expressed concerns regarding the placement of PV arrays and their proximity to jurisdictional waters and floodplains located on site and on adjacent private lands, as well as impacts from construction and operation on groundwater resources, namely from the Carrizo Plain Groundwater Basin.
- Commenters requested a more in-depth and thorough cumulative impacts analysis (particularly with regard to land use changes, special status species, and wildlife movement) due to the number of large-scale solar development proposals in the area.
- Commenters expressed concerns over the effects construction and operation would have on local residents, including traffic-related congestion and safety concerns related to increased traffic and cadmium in the proposed solar modules.

I.4 MAJOR CHANGES FROM THE DRAFT EIS

In response to comments received on the Draft EIS, to include data not available at the time of the development of the Draft EIS, and to correct inaccuracies and omissions, DOE made changes to the Draft EIS. Volume I of the Final EIS contains these changes, which are presented in tracked-change mode to allow the public to see text that has been inserted, modified, or deleted as a result of comments received during the public review period. A summary of the more meaningful changes is provided below.

- The County land use planning process has been updated to reflect the approval of the conditional use permit (CUP) for the County-approved project layout (termed “Alternative 3B.1” in the final EIR and “Alternative A with County-approved project layout” in the Final EIS). A description of the County-approved project layout has been added under the Alternative A description in Section 2.1.3 of the Final EIS, and analysis has been added to the Alternative A environmental impact sections in Chapter 3 to identify where impacts specific to the County-approved project layout are identical to the impacts that were described for Alternative A in the Draft EIS and where impacts are different.
- Conditions of Approval that were included by the County in the CUP for the Proposed Project have been added as Table 2-10 of the Final EIS. These conditions were based largely on the mitigation measures contained in the County’s final EIR for the Proposed Project; these mitigation measures, as reflected in the Conditions of Approval, were determined by the County to be necessary to mitigate significant impacts on the human and natural environment.

- A summary of compensatory mitigation requirements, as required by the County of San Luis Obispo and the US Army Corps of Engineers (USACE), and conservation lands, as required by the US Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG), has been added as Table 2-11 of the Final EIS.
- Analysis of impacts on agricultural lands under Alternative A has been revised, and the level of impact has been changed from not significant to a moderate adverse level of impact. A summary of these changes is included in Section 3.2.2, *Prime and Important Farmlands* and the full analysis is included in Appendix C of the Final EIS.
- The Biological Opinion issued by the USFWS has been added to Appendix E and a summary of the Biological Opinion has been added to Section 3.10.2 of the Final EIS. As discussed above, a summary of the conservation land requirements has been included in Table 2-11, and Conditions of Approval that must be implemented to avoid, reduce, or offset impacts on listed species have been included in Table 2-10 of the Final EIS. Additional compensatory mitigation measures related to conversion of agricultural lands and fill of Waters of the US have also been included in Table 2-11 of the Final EIS. The Vegetation Management Plan and Biological Assessment have been updated, and a draft Habitat Mitigation and Monitoring Plan, a Habitat Restoration and Revegetation Plan, and an Avian and Bat Protection Plan and Bird Monitoring and Avoidance Plan have been added to Appendix E of the Final EIS.
- The cumulative impacts analysis in Section 3.18 has been expanded to include a wider discussion of the health and historical context of land use and agricultural resources, water resources, and biological resources, as well as the potential cumulative impacts on these resource areas.
- A statement of findings for floodplains has been added to Section 3.7.2 per the requirements of 10 Code of Federal Regulations (CFR) 1022.
- In addition to the changes to Appendix E described above, the Volume II appendices have been updated to include changes to the PG&E Reconductoring Project environmental analysis, visual simulations for Alternative A with County-approved project layout, the Section 106 concurrence letter, USACE Section 404-related information, the Final EIS distribution list and the County's Mitigation Monitoring and Reporting Plan.

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CHAPTER 2

COMMENT SUMMARIES AND RESPONSE TO COMMENTS

2.1 INTRODUCTION

Chapter 2 describes the process by which DOE considered the comments received on the Draft EIS and provides a summary of all comments received and responses to those comments. As discussed in Chapter 1 of this Response to Comments Document, DOE received 12 comment letters on the Draft EIS from elected officials, tribes, agencies (Federal, state, and local), organizations, and individuals. In addition, four speakers provided oral comments during the public hearing.

2.2 HOW DOE CONSIDERED PUBLIC COMMENTS

DOE assessed and considered public comments on the Draft EIS both individually and collectively. Some comments led to modification of the Final EIS; others resulted in a response to explain policy questions, to refer readers to information in the Final EIS, to answer technical questions, to explain technical issues, or to provide clarification. A number of comments provided valuable suggestions on improving the Draft EIS. As applicable, the responses in this chapter identify changes that DOE made in the Final EIS as a result of the comments received during the public review period.

The following list highlights key aspects of DOE's approach to capturing, tracking, and responding to public comments on the Draft EIS:

- DOE reviewed and considered every comment received, including written and oral comments, to identify, categorize, and summarize those comments. As shown in Chapter 3 of this Response to Comments Document, the public hearing transcript and the written documents received have been annotated with sidebars and comment codes. Those sidebars and comment codes identify where those comments are addressed in this Response to Comments

Document. In some cases, multiple comment codes were assigned to a comment to indicate that an identified comment was considered in multiple comment summaries and responses. Introductory and summary text or restatement of the project description were not coded where this information was also conveyed in the main body of the comment letter.

- After comment identification, individual comments were grouped by issue categories, and each comment group was assigned to an expert in the appropriate discipline to address the comments.
- Comment summaries are intended to capture the substantive issues raised by a comment. Comments grouped and summarized for response are paraphrased, but every effort was made to capture the essence of comments included in a comment summary. If the meaning of a comment was not clear, an attempt was made to interpret the comment and respond based on that interpretation. In some cases, DOE used specific language from one or more commenters to develop a particular comment summary. This should not be interpreted to mean that DOE considered any comment to be more or less important than other comments received relative to that comment summary; rather, DOE felt that a comment's particular language was a reasonable articulation of many comments for a particular subject. Where a commenter submitted a comment that was unique, it was responded to individually.

Through this process, DOE has attempted to provide an accurate record of the comments received, as well as DOE's responses to those comments. The responses indicate whether any changes were made in the Final EIS, the reasons for making those changes, and the locations where the changes can be found in the Final EIS.

2.3 ORGANIZATION OF COMMENT SUMMARIES AND RESPONSE TO COMMENTS

The comment summaries and responses that follow are organized using the comment codes shown in **Table RTC-I**, Summary of Comment Issues. Comment summaries and responses within comment codes generally follow the order the topic appears in the EIS and thus are not presented in any order of importance. Where comments were interrelated, responses to these comments may refer the reader to another issue category for more information in response to that comment.

TABLE RTC-1
SUMMARY OF COMMENT ISSUES

COMMENT CODE	COMMENT ISSUE	COMMENTS	COMMENTS
G-1	Comments in Support of or Opposition to the Proposed Action		
G-1.1	Comments in Support of the Proposed Action		Northern Chumash Tribal Council
G-1.2	Comments Against the Proposed Action		David Webb (oral) Jean Public North County Watch Samuel B. Johnston
G-2	Statement of No Comment		US DOI
G-3	Alternative 3B.1		
G-3.1	Full Analysis of Alternative 3B.1		US EPA Defenders of Wildlife Mike Strobridge (oral) Samuel B. Johnston
G-3.2	Alternative 3B.1 Impacts		Law Office of Samuel B. Johnston
G-4	Final Mitigation Measures and Plans		
G-4.1	Final Mitigation Measures and Plans in Final EIS		US EPA
G-4.2	Approval of Mitigation Measures and Plans		Defenders of Wildlife
G-4.3	Conservation Easements		Defenders of Wildlife
G-5	Purpose and Need (DOE)		Center for Biological Diversity Defenders of Wildlife
G-6	Purpose and Need (US Army Corps of Engineers)		Center for Biological Diversity Defenders of Wildlife
G-7	Range of Alternatives		
G-7.1	Alternative Project Site and Locations		Center for Biological Diversity Defenders of Wildlife
G-7.2	Power Purchase Agreements		Defenders of Wildlife
G-7.3	Rejected Alternatives		Center for Biological Diversity
G-8	Alternatives to the Proposed Action		
G-8.1	Distributed Systems and Contaminated Lands		Jean Public Defenders of Wildlife North County Watch Jenny Strobridge (oral) Center for Biological Diversity Brendan Hughes Samuel B. Johnston
G-8.2	Westlands CREZ Alternative		Mike Strobridge (oral) North County Watch Jenny Strobridge (oral) Brendan Hughes

TABLE RTC-1
SUMMARY OF COMMENT ISSUES

COMMENT CODE	COMMENT ISSUE	COMMENTS	COMMENTER(S)
G-8.3	Conservation and Efficiency Measures		Center for Biological Diversity
G-8.4	Alternatives Avoiding Impacts to Waters of the US		Center for Biological Diversity
G-9	Climate Change		
G-9.1	Local Effects of Global Climate Change on Biological Resources		Defenders of Wildlife Center for Biological Diversity
G-9.2	Local Effects of Global Climate Change on Biological Resources		Defenders of Wildlife
G-9.3	Nonrenewable Generation Sources		North County Watch
G-9.4	Climate Mitigation and Adaptation Strategies		Center for Biological Diversity
G-10	Impact Analysis		
G-10.1	EIS Analysis vs. EIR Analysis		Mike Strobridge (oral)
G-10.2	Baseline Environmental Setting Information		Center for Biological Diversity
G-11	Impacts on Residents		Mike Strobridge (oral) Samuel B. Johnston
G-12	Supplemental/Revised Draft EIS		Center for Biological Diversity Mike Strobridge (oral) Samuel B. Johnston
G-13	Cumulative Impacts		
G-13.1	Adequacy of Cumulative Impact Analysis		US EPA Center for Biological Diversity
G-13.2	Cumulative Impacts of Carrizo Plain		Defenders of Wildlife
G-13.3	Cumulative Impacts on Sensitive Biological Resources		Center for Biological Diversity Samuel B. Johnston
G-14	Miscellaneous Edits		US EPA
G-15	Non-applicable Comments		Samuel B. Johnston
LU	Land Use		
LU-1	Loss of Farmland		San Luis Obispo County Department of Agriculture
LU-2	Prime Farmland Designation		San Luis Obispo County Department of Agriculture
LU-3	Farmland Conversion Impact Rating Analysis		San Luis Obispo County Department of Agriculture
LU-4	Loss of Farmland Mitigation		Jenny Strobridge (oral)
LU-5	Prime Farmland Designation		Mike Strobridge (oral)
LU-6	Loss of Farmland Mitigation		North County Watch
VR	Visual Resources		
VR-1	Medium Voltage Lines		Adele Stern
VR-2	Aesthetic Character		Samuel B. Johnston
VR-3	Night Sky		Samuel B. Johnston

TABLE RTC-1
SUMMARY OF COMMENT ISSUES

COMMENT CODE	COMMENT ISSUE	COMMENTS	COMMENTER(S)
AQ	Air Quality and Climate Change		
AQ-1	Greenhouse Gas Emission		Center for Biological Diversity
NZ	Noise		
NZ-1	Noise Impacts		Samuel B. Johnston
WR	Water Resources		
WR-1	Alternative 3B.1 Jurisdictional Water Analysis		Mike Strobridge (oral) US EPA
WR-2	Section 404 Permit Requirements		US EPA
WR-3	Inclusion of Jurisdictional Delineation		US EPA
WR-4	Mitigations		US EPA Center for Biological Diversity
WR-5	Floodplains		US EPA
WR-6	Jurisdictional Waters on Adjacent Private Properties		Mike Strobridge (oral)
WR-7	Conditions of Water Basin		Mike Strobridge (oral)
VEG	Vegetation		
VEG-1	Sheep Grazing		David Webb (oral)
SS	Special Status Species		
SS-1	San Joaquin Kit Fox		Defenders of Wildlife
SS-2	Cumulative Impacts on Special Status Species and Wildlife Connectivity		Defenders of Wildlife North County Watch
SS-3	San Joaquin Kit Fox Fence Passage		Defenders of Wildlife
SS-4	Impacts to Mountain Plover		Defenders of Wildlife Center for Biological Diversity
SS-5	Impacts on Burrowing Owls		Defenders of Wildlife
SS-6	Trash Clean-up Mitigation Measure		Defenders of Wildlife
SS-7	State Protected Game Species		Defenders of Wildlife Center for Biological Diversity
SS-8	Significance and Mitigation of Loss of Habitat and Endangered Species		Jenny Strobridge (Oral) Brendan Hughes Center for Biological Diversity Samuel B. Johnston
SS-9	Unmitigable impacts on Biological resources		North County Watch Center for Biological Diversity Mike Strobridge (Oral)
SS-10	Direct and Indirect Impacts to Biological Resources		North County Watch Center for Biological Diversity Samuel B. Johnston
SS-11	State Fully Protected Species		Center for Biological Diversity

TABLE RTC-1
SUMMARY OF COMMENT ISSUES

COMMENT CODE	COMMENT ISSUE	COMMENTS	COMMENTER(S)
SS-12	San Joaquin Kit Fox		Center for Biological Diversity Samuel B. Johnston
SS-13	San Joaquin Kit Fox		Center for Biological Diversity Samuel B. Johnston
SS-14	San Joaquin Kit Fox		Center for Biological Diversity
SS-15	Giant Kangaroo Rat and San Joaquin Antelope Squirrel		Center for Biological Diversity
SS-16	Biological Surveys for Reconductoring Project		Center for Biological Diversity
SS-17	Blunt-nosed Leopard Lizard Habitat Mitigation Measures		Center for Biological Diversity
SS-18	Fairy Shrimp		Center for Biological Diversity
SS-19	Eagle Territory Disturbance		Center for Biological Diversity
SS-20	Eagle Habitat Loss		Center for Biological Diversity
SS-21	White-tailed Kite		Center for Biological Diversity
SS-22	Raptor Foraging Habitat		Mike Strobbridge (Oral) Brendan Hughes Center for Biological Diversity
SS-23	California Condor		Center for Biological Diversity
SS-24	Badger		Center for Biological Diversity
SS-25	San Joaquin Coachwhip		Center for Biological Diversity
SS-26	Western Spadefoot Toad		Center for Biological Diversity
SS-27	Migratory Birds and Sensitive Birds		Center for Biological Diversity
SS-28	Burrowing Owl		Center for Biological Diversity
SS-29	Rare Plant Species and Communities		Center for Biological Diversity
SS-30	Insects		Center for Biological Diversity
SS-31	Polarized Light Pollution		Center for Biological Diversity
CUL	Cultural Resources		
CUL-1	Compliance with Tribal Consultation		Northern Chumash Tribal Council
CUL-2	Tribal Consultation Update		US EPA
SOC	Socioeconomics Resources		
SOC-1	Reconductoring Cost to Taxpayers		North County Watch
PHS	Public Health and Safety/Hazardous Materials and Waste		
PHS-1	Cadmium Amount and Breakage Plan		US EPA
PHS-2	Cadmium Release Potential During Grass Fires		US EPA
PHS-3	Panel Recycling		US EPA
PHS-4	Independent Study and Cadmium Recycling		Mike Strobbridge (oral)
PHS-5	Valley Fever		Samuel B. Johnston

TABLE RTC-1
SUMMARY OF COMMENT ISSUES

COMMENT CODE	COMMENT ISSUE	COMMENTER(S)
TT	Traffic and Transportation	
TT-1	Construction Traffic Congestion	Jenny Strobridge (oral)
TT-2	Construction Traffic Safety	Yafet Tekle (oral)
OT	Other Considerations	
OT-1	Long-term Impacts	Yafet Tekle (oral)
OT-2	Indirect Impacts	Center for Biological Diversity

2.4 COMMENT SUMMARIES AND RESPONSE TO COMMENTS

2.4.1 General Comments

Comment G-1. Comments in Support of or Against the Proposed Action

Comment G-1.1: One commenter expressed support for the Proposed Project.

Response to G-1.1: The commenter's support for the Proposed Project is noted.

Comment G-1.2: Several commenters expressed opposition to the Proposed Project.

Response to G-1.2: The commenters' opposition to the Proposed Project is noted.

Comment G-2. Statement of No Comment

Comment G-2: The US Department of the Interior stated that it has no comments on the Draft EIS.

Response to G-2: The absence of comments is noted.

Comment G-3. Alternative 3B.1 from the San Luis Obispo County Final EIR

Comment G-3.1: Several commenters, including the EPA, commented that Alternative 3B.1, the array configuration approved by the Planning Commission on May 12, 2011, should be included and fully analyzed in the Final EIS. EPA requested that it be presented in the Final EIS in a format comparable to that of the other alternatives.

Response to G-3.1: Information on Alternative 3B.1 (identified as "Alternative A with County-approved project layout") has been added to the Final EIS as follows:

- The County permitting process has been updated and a description of the process by which the County, the Project Proponent, and agencies with jurisdiction over potentially affected resources arrived at the County-approved project layout has been added to Section 1.4.2, County Permitting Overview.

- A description of Alternative A with County-approved project layout has been added to Section 2.1.3, Project-Specific Alternatives, under the Alternative A description, and the Alternative A with County-approved project layout has been shown on Figure 2-3 of the Final EIS.
- A discussion of the impacts associated with Alternative A with County-approved project layout has been added to each resource section of Chapter 3 and summarized in Table S-4 of the Final EIS.

Because the County had not yet approved the Proposed Project at the time the Draft EIS was being prepared, the exact development footprint was not known. Therefore, DOE analyzed photovoltaic (PV) development areas within Study Area A (Alternative A) and within the Study Area B (Alternative B) to capture the full range of impacts that could be expected from approving array construction anywhere within these PV development areas. Thus, Alternative A was defined in the Draft EIS as a project layout “on up to 4,100 acres of a larger 7,800-acre study area termed Study Area A.” The County-approved project layout is a 3,500-acre project layout that falls entirely within the potential PV development area analyzed under Alternative A of the Draft EIS. Therefore, impacts associated with this array layout were encompassed within the Draft EIS’s analysis of impacts of Alternative A. However, now that the layout has been approved, additional analysis on the effects of this layout has been added to the Final EIS as follows:

- Where impacts specific to Alternative A with County-approved project layout are identical to the impacts described in the Draft EIS for Alternative A for a particular resource, it is noted in the applicable Chapter 3 resource sections.
- Where impacts specific to Alternative A with County-approved project layout have a narrower or more specific focus than were described in the Draft EIS, this information has been included in the applicable Chapter 3 resource sections. For example, consolidation of the arrays would reduce wildlife corridor impacts by avoiding some of the established grasslands in Sections 34 and 35 of the Project Site, and this information has been added to Section 3.8, Vegetation, and Section 3.10, Special Status Species. Likewise, the consolidation of arrays within areas adjacent to Federal Emergency Management Agency (FEMA) Zone A floodplains, the effects of which were discussed in the Draft EIS, have been further detailed in the floodplains discussion of Section 3.7, Water Resources.
- No additional or new significant impacts occur under the Alternative A with County-approved project layout than with the Alternative A impact analysis described in the Draft EIS.

Comment G-3.2: The Project Proponent submitted information on Alternative 3B.I (the County-approved project layout), including details of the proposal and the process by which the alternative was developed.

Response G-3.2: As discussed in response to Comment G-3.1, above, information on the County-approved project layout has been incorporated into the Final EIS.

Comment G-4. Final Mitigation Measures and Plans

Comment G-4.1: EPA requested that the Final EIS incorporate final compensatory mitigation proposals (including acreages, estimates of species protected, costs to acquire compensatory lands, etc.) for unavoidable impacts on Waters of the US and biological resources. EPA recommended consolidating this information into a table format for a clearer understanding of the total compensatory mitigation strategy.

EPA also requested that the Habitat Mitigation and Monitoring Plan resulting from consultation with USFWS, California Department of Fish and Game, and other regulatory agencies be included in the Final EIS, along with a Managed Grazing Plan. Lastly, EPA requested that the Final EIS include the provisions that will ensure habitat selected for compensatory mitigation will be protected in perpetuity and that a formal adaptive management plan be considered for adoption.

Response to G-4.1: The Final EIS has been updated to include the following information:

- Compensatory mitigation requirements have been added as Table 2-11 of the Final EIS. These include County- and USACE-required compensatory mitigation acreages as well as conservation lands resulting from Section 7 consultation;
- The Vegetation Management Plan, which includes a Grazing Plan, and Biological Assessment have been updated, and the USFWS's Biological Opinion, a draft Habitat Mitigation and Monitoring Plan, a Habitat Restoration and Revegetation Plan, and an Avian and Bat Protection Plan and Bird Monitoring and Avoidance Plan have been added to Appendix E of the Final EIS; and
- Table 2-10 has been added to incorporate the Conditions of Approval required by the County in its CUP permit for the Proposed Project. These Conditions of Approval include compensatory mitigation ratios/requirements and the mechanisms by which conservation easements will be established and administered (see MM BR-1.4, MM BR-7.2, and MM BR-8.3, MM BR-9.2, MM BR-10.2, MM BR-16.2, MM BR-17.2, MM BR-19.2, and MM BR-22.2 of Table 2-10). In addition, the County's draft Mitigation Monitoring and Reporting Plan has been added as Appendix K of the Final EIS.

Comment G-4.2: Defenders of Wildlife commented that throughout the Draft EIS, mitigation measures were described as sufficient to mitigate the adverse environmental consequences of the Proposed Project. However, the Draft EIS also stated that the measures set forth in the table “may be eliminated or revised, or new measures added, during the course of the CUP permitting process for the Proposed Project, expected to be finalized in mid-2011.” The commenter felt that DOE and the USACE have no assurance that the mitigation measures presented in the Draft EIS would be incorporated into the final Proposed Project as ultimately permitted, the analysis in the Draft EIS was premature, and that the agencies should supplement the analysis in the Draft EIS with an analysis of the mitigation measures to be incorporated into the Proposed Project once those measures are finalized. This same comment was made in references to pre-construction surveys and avoidance measures.

Response to G-4.2: As described in the Draft EIS, the measures contained in the Draft EIS were those being considered by the County of San Luis Obispo County in its California Environmental Quality Act (CEQA) process. This process has been completed, and final measures, including pre-construction survey requirements, have been incorporated by the County Planning Commission as Conditions of Approval for the conditional use permit for the Proposed Project. These Conditions of Approval have been incorporated into the Final EIS as Table 2-10. Incorporation of these revised Conditions of Approval identified no new or increased impacts on any resource compared with those presented in the Draft EIS.

Comment G-4.3: Defenders of Wildlife commented that the Draft EIS stated that the Project Proponent will place mitigation lands into conservation easements, but contained no information about the nature of such easements nor the agency or organization that will hold such easements. The commenter recommended that the agencies review a complete mitigation strategy that includes proposed conservation easement terms and identification of the agency or organization responsible for enforcing such easements.

Response to G-4.3: Table 2-11 has been added to the Final EIS to identify the amount of land to be placed in open space easements, the responsible agency, and how mitigation land requirements for agriculture, habitat, and special status species have been nested (i.e., lands satisfying multiple compensatory or conservation land requirements). Measures MM BR-1.4, MM BR-7.2, and MM BR-8.3, MM BR-9.2, MM BR-10.2, MM BR-16.2, MM BR-17.2, MM BR-19.2, and MM BR-22.2 in Table 2-10 describe the mechanism(s) by which such easements would be established and administered. See also response to Comment G-4.1, above.

Comment G-5. Purpose and Need (DOE)

Comment G-5: Defenders of Wildlife commented that DOE should broaden their Purpose and Need statement to “address the need to generate greater amounts of electrical energy from renewable energy sources so that dependency on carbon-based fuels is reduced and to contribute to the requirement to generate certain minimum

amounts of renewable energy to comply with state and Federal standards.” Center for Biological Diversity also commented that the purpose and need were too narrowly defined, that deadlines for funding should not result in rushed or inadequate NEPA review, and that the Purpose and Need is flawed in its assumption that the Proposed Project would displace energy produced by nonrenewable sources because these sources are not identified in the Draft EIS.

Response to G-5: DOE appreciates the commenters’ concerns regarding DOE’s Purpose and Need statement and their desire to see a broader statement that would produce a wider range of alternatives. However, as stated in Section 1.3.2 of the Draft EIS, DOE’s purpose and need in preparing this EIS is to comply with its mandate to select eligible projects that meet the goals of the Energy Policy Act of 2005 (EPA 2005), as amended by the American Recovery and Reinvestment Act of 2009 (ARRA). Under these Acts, DOE is responsible for the decision on whether to fund a loan for applicable projects that meet the qualifications as set forth under the specific solicitation described in Section 1.4.1 of the Draft and Final EIS. Because DOE has authority only to fund or not fund the Applicant’s proposal, the Purpose and Need statement in the Draft EIS is necessarily limited in scope. For that reason, the Purpose and Need Statement is adequate and has not been revised in the Final EIS.

The information provided in the Final EIS is intended to inform DOE decision makers on the potential environmental impacts that the Applicant’s specific proposal will have on the environment. The EIS assumes that the generation of 550 MW of renewable energy would offset the need for generation of this energy by a nonrenewable source, rather than that the Proposed Project will result in the closure of specific existing fossil fuel or other nonrenewable generation sources. This is discussed in Section 3.4.2 of the EIS under *Greenhouse Gases and Climate Change*.

Comment G-6. Purpose and Need (US Army Corps of Engineers [USACE])

Comment G-6: Defenders of Wildlife commented that the USACE too narrowly defined their purpose and need statement and therefore it “impermissibly narrows the range of alternatives considered in the Draft EIS.” The commenter recommended that the USACE Purpose and Need statement be broadened to “address the need to generate greater amounts of electrical energy from renewable energy sources so that dependency on carbon-based fuels is reduced and to contribute to the requirement to generate certain minimum amounts of renewable energy to comply with state and Federal standards.” Center for Biological Diversity commented that the purpose and need statements were confusing and that the USACE should reject the Proposed Project based on inaccuracies in the Draft EIS.

Response to G-6: DOE and the USACE appreciate the commenters’ concerns regarding the USACE’s Purpose and Need statement and their desire to see a broader statement that would produce a wider range of alternatives. As described in the Draft EIS, the USACE is responsible for the decision on whether to issue a Clean Water Act Section 404 permit for the Proposed Project. The Purpose and Need statements described the

basic and overall purpose of the Proposed Project as contained in the Section 404 permit application. The USACE has used the information contained within the EIS in addition to the Clean Water Act alternatives analysis and determined that Alternative A with County-approved project layout qualifies as the least environmentally damaging practicable alternative (see Appendix H). The commenter's statement that the USACE should reject the Proposed Project is noted, and the USACE will take all comments into consideration when making its decision whether or not to issue a Section 404 permit.

Comment G-7. Range of Alternatives

Comment G-7.1: Defenders of Wildlife and Center for Biological Diversity commented that agencies are required to consider a range of reasonable alternatives to the proposed action in the EIS. Defenders of Wildlife commented that since the two alternatives analyzed in the Draft EIS were, for purposes of their environmental impacts, identical, it forecloses an opportunity for DOE, the USACE, and the public to meaningfully compare the impacts of the Proposed Project with reasonable alternatives that could minimize adverse consequences to wildlife and wildlife habitat. Defenders, along with other commenters such as Center for Biological Diversity, felt that the Draft EIS should analyze the environmental impacts of alternative project sites and locations, including those that may not be located within San Luis Obispo County; project extent and electrical power generation that differ from the Project Proponent's proposal; and the potential for different technology that may reduce adverse impacts on sensitive environmental resources.

Response to G-7.1: DOE appreciates the commenters' request for a range of alternatives of the scope described in the comments. As discussed in Section 2.1.2 of the Draft EIS, the term "a range of reasonable alternatives" under NEPA must be determined in the context of the statutory purpose expressed by the underlying legislation (in this case, EAct 2005). As such, an agency should take into account the needs and goals of the Applicant in determining the scope of the EIS for the Applicant's Proposed Project.

The range of reasonable alternatives for a financial assistance project that is proposed by commercial participants is typically limited to the alternatives or project options under consideration by the Project Proponent or that are reasonable within the confines of the project as proposed (e.g., the particular location of the arrays, on-site transmission lines, and potential measures to mitigate potential environmental impacts) and a "no action" alternative. Under EAct 2005, as amended by Section 1705 of ARRA, DOE's decision is limited to guaranteeing private financing secured by Applicants for the project they have submitted in their application for a loan guarantee. It is not for DOE to define the project for the Applicant. In the case of the Proposed Project, Royal Bank of Scotland applied for a loan guarantee for Topaz Solar Farms, LLC to develop the facility on private lands at a Project Site in eastern San Luis Obispo County. Since in this case the County had not yet decided the final project configuration that it would permit, in the Draft EIS DOE evaluated a reasonable range of alternatives that bounded the potential impacts of the alternatives likely to be permitted by the County in its

conditional use permit process. As described in Section 2.1.3, Alternative A encompassed potential development on the southern portion of the Project Site (Study Area A), and Alternative B encompassed potential development on the northern portion of the Project Site (Study Area B). As disclosed in Chapter 3 of the Draft EIS and summarized in Table S-4, impacts of the two alternatives were similar for some of the resources evaluated but were not identical with regard to several key environmental impacts. The County-approved project layout, which was developed by the Project Proponent in consultation with the County and with wildlife agencies and USACE and which has been identified as a site-specific layout encompassed within the Study Area A potential PV development areas identified in Alternative A of the Draft EIS, serves to reduce some of the more significant impacts on agriculture and sensitive biological resources that the County identified in the EIR process. The impacts of Alternative A with County-approved project layout are described in Chapter 3 and summarized in Table S-4 of the Final EIS.

In addition to evaluating Alternatives A and B, DOE evaluated other site-specific project alternatives that were eliminated from detailed consideration, as described in Section 2.1.3 of the EIS and set forth in greater detail in Response to Comment G-5 herein.

DOE discloses in Section 3.10.2 of the Draft and Final EIS the adverse impacts development in the Carrizo Plain would have on sensitive species and their habitat. DOE will take these impacts into consideration in its decision on whether to approve a loan guarantee for the Proposed Project.

Comment G-7.2: Defenders of Wildlife commented that the signing of a power purchase agreement (PPA) with a public utility company for a certain amount of power prior to NEPA environmental review should be explored since this resulted in inflexibility on the part of the Project Proponent with what constitutes a reasonable range of alternatives and could influence permitting agencies into thinking that the only alternatives are the project and no project.

Response to G-7.2: The power purchase agreement is discussed in Section 1.4.3 of the Draft and Final EIS. Power purchase agreements in California are subject to approval by the California Public Utilities Commission and are thus subject to state environmental laws and regulations. Whether an Applicant signs a PPA or not, DOE's action is limited to guaranteeing a loan for a project and electrical generating capacity specified in the application, or not, as discussed in response to Comment G-7.1, above.

In Section 2.1.3 of the Draft EIS, DOE analyzed the possibility of the Proposed Project being built with a lower generating capacity, and it concluded that "As the potential guarantor of private loans, DOE must consider the economic decisions made by the Project Proponent as essential to the viability of the Proposed Project for repayment of those loans." As such, the Draft EIS concluded that "any reduced generating capacity alternative would not be reasonable because it would not meet the Proposed Project's purpose and need of helping to meet state and regional renewable energy laws, regulations, goals, and policies described in Section 1.3.1."

Comment G-7.3: Center for Biological Diversity commented that if DOE rejects an alternative from consideration, it must explain why a particular option is not feasible and was therefore eliminated from further consideration.

Response to G-7.3: Section 2.1.2 of the Draft EIS described DOE's selection of projects under the loan guarantee program created by EAct 2005, as amended. Section 2.1.3 of the Draft EIS described the project-specific alternatives explored by the Project Proponent and by the County prior to commencement of the EIS process. The discussion of alternatives eliminated from detailed consideration is contained in Section 2.1.3 of the EIS and includes the reasons why these alternatives were not reasonable or not feasible and were eliminated from detailed analysis.

Comment G-8. Alternatives to the Proposed Action

Comment G-8.1: The majority of the commenters, including the three organizations and most of the individuals submitting comments, stated that DOE should support projects to develop solar on rooftops (distributed systems) and on already contaminated lands, not projects with endangered species habitat or that convert farmland or open space. Center for Biological Diversity suggested that DOE evaluate phased development and alternatives that avoided all occupied kit fox habitat. Defenders of Wildlife urged DOE and the USACE to analyze alternatives that include the following characteristics: brownfields, locations adjacent to urbanized areas, locations that minimize the need for new roads, locations that could be served by existing substations, areas near sources of municipal wastewater, and locations near load centers. One commenter expressed that solar power development requires careful and appropriate siting and that California contains lands rich in sunlight and lacking in sensitive resources, and these should be the first areas considered for large-scale solar generation development. Several commenters expressed a desire to see planning performed before site-specific projects are approved to ensure that impacts are first avoided, then minimized, and lastly mitigated.

Response to G-8.1: DOE recognizes the desire of the commenters to site solar facilities only on rooftops, near load centers, and on lands with the characteristics described in the comment above. Under EAct 2005, DOE has received and considered applications for a wide range of solar projects, including projects that may meet the above siting criteria objectives.

The need for renewable energy is recognized at Federal, state, and local levels, as shown by the laws, regulations, and goals described in Section 1.3.1 of the Draft EIS. DOE acknowledges that locating commercial-scale solar energy facilities on previously disturbed sites may be desirable. However, DOE is still mandated to consider loan guarantee applications only on lands included in loan guarantee applications. Therefore, under this action, DOE must decide whether to approve or not approve a loan guarantee for the Proposed Project at the proposed location and using the proposed technology.

It should be noted that as described in Section 2.1.3 of the Draft EIS, the Project Proponent considered the suitability of the lands in its site selection process, searching for previously disturbed lands with low environmental sensitivity. The lands proposed under Alternative A, including the County-approved project layout, are previously disturbed agricultural lands, 75 percent of which are actively disturbed by dry-farming activities. As described in Section 3.10.2, Alternative A with County-approved project layout would avoid the San Joaquin kit fox natal dens on the Project Site and most of the 2010 active den territory for each den. In addition, the array layout would be narrower from east to west, thus providing a more open corridor for kit fox movement into and out of the northern Carrizo Plain.

Comment G-8.2: One commenter stated that the Westlands CREZ analysis presented in the Draft EIS is incorrect, and that it is a high solar area that is shovel ready with existing transmission capacity. Several commenters supported development of the Proposed Project in the Westlands CREZ instead of at the proposed Carrizo Plain location because the Westlands CREZ would have fewer impacts, especially to special status species.

Response to G-8.2: Information on the Westlands CREZ has been revised in Section 2.3.1, Project-Specific Alternatives, per information provided by the commenter. As discussed above, approval to site the Proposed Project in the Westlands CREZ is beyond the authority of DOE, as DOE's action is limited to evaluating the project proposed in the loan application. DOE examined this alternative in Section 2.1.3 of the Draft EIS, but did not carry it forward for detailed analysis for the reasons set forth therein. DOE acknowledges that some locations may be better suited than others for siting a utility-scale solar facility, but that a number of factors must be taken into account and that advantages and disadvantages exist at any proposed location. The EIS details the potential environmental impacts associated with siting the Proposed Project at the location described in the EIS, providing DOE decision makers with information to help inform their decision on issuing a loan guarantee for the Proposed Project in eastern San Luis Obispo County.

Comment G-8.3: Center for Biological Diversity commented that within DOE's stated purpose and need, DOE should have considered alternatives that would provide funding to other types of projects such as conservation and efficiency measures that avoid and reduce energy use within high energy use load-centers such as Los Angeles.

Response to G-8.3: As described in response to Comment G-8.1, DOE is mandated to consider funding the project that is included in the loan guarantee application. Therefore, under this action, DOE must decide whether to approve or not approve a loan guarantee for the Proposed Project at the proposed location and using the proposed technology, not alternative means of meeting EPAAct 2005 mandates. Nonetheless, DOE did consider this potential alternative in Section 2.1.3 of the Draft EIS and eliminated it from detailed consideration.

Comment G-8.4: Center for Biological Diversity commented that within the USACE's stated purpose and need, it should have considered alternatives that eliminate impacts on Waters of the US.

Response to G-8.4: The commenter's comment is noted. Please see the response to Comment G-6 for further discussion of the USACE Purpose and Need. As discussed in Section 3.7.2, construction would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages. Construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional ephemeral drainages. The Project Proponent has proposed to compensate for permanent impacts to jurisdictional ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 2:1. In addition, the Project Proponent will compensate for temporary impacts to ephemeral drainage habitat through re-establishment of the temporarily impacted drainages at a minimum ratio of 1:1.

Comment G-9. Climate Change

Comment G-9.1: Defenders of Wildlife commented that the Draft EIS does not analyze the impacts climate change will have on species and the effects of climate change on habitats that would be required to sustain viable populations of at-risk species. The commenter requested that DOE and the USACE evaluate the impacts of the Proposed Project on wildlife species and wildlife habitat in the Carrizo Plain in light of the projected effects of global climate change, including movement of certain species to higher elevations and/or latitudes as temperatures increase, shifts in natural communities' species composition occur, and changes take place in precipitation patterns. The commenter stated that planning for species adaptation must be essential components of the analysis and decision for the project contained in the NEPA documents. North County Watch also commented that the purpose of careful siting and environmental mitigation is to allow for the adaptation of already endangered species to the impacts that climate change will bring to their habitats.

Response to G-9.1: Discussion of the potential impact of climate change on sensitive species and their habitat has been added to Section 3.18.4 of the Final EIS under biological resources. It should be noted, however, that the local effects of global climate change are poorly understood from a scientific viewpoint and it is uncertain how the Carrizo Plain would be affected. In addition, as discussed in Section 3.4.2, *Greenhouse Gases and Climate Change* the Proposed Project would contribute to greenhouse gas emissions reductions over the life of the project and would thus not contribute adversely to global climate change. In addition, County has included Conditions of Approval that would require the Project Proponent to reduce construction vehicle and equipment emissions (see MM AQ-1.1 of Table 2-10) and to provide funding for off-site mitigation of existing reactive organic gases and nitrogen oxide emission sources in the Carrizo Plain and surrounding communities (see MM AQ-1.4 of Table 2-10). These conditions would reduce greenhouse gas emissions associated with construction.

The comment that the purpose of careful siting and environmental mitigation is to allow for the adaptation of already endangered species to the impacts that climate change will bring to their habitats is noted. Mitigation measures that were contained in the Final EIR and incorporated as Conditions of Approval in the conditional use permit for the Proposed Project have been added as Table 2-10 of the Final EIS. These measures would avoid, reduce, or minimize Proposed Project effects on special status species (see MM BR-1.1 through MM BR-35.1 in Table 2-10 of the Final EIS).

Comment G-9.2: Defenders of Wildlife commented that the EIS should incorporate an analysis of the Proposed Project's impacts on landscape-scale connectivity for wildlife and wildlife habitat in light of the anticipated impact of climate change for the Carrizo Plain, and it included a listing of potential climate-change-related impacts that should be considered.

Response to G-9.2: As discussed in response to Comment G-9.1 above, the local effects of global climate change are poorly understood and it is uncertain how the Carrizo Plain would be affected. However, information on the potential outcomes of climate change has been added to the Section 3.18.4 of the Final EIS under biological resources.

Comment G-9.3: North County Watch commented that the Draft EIS assumes the Proposed Project will result in the closure of fossil fuel or other nonrenewable generation sources but none are identified.

Response to G-9.3: The Draft EIS assumes that the generation of 550 MW of renewable energy would offset the need for generation of this energy by a nonrenewable source, rather than that the Proposed Project will result in the closure of specific existing fossil fuel or other nonrenewable generation sources. This is discussed in Section 3.4.2 of the EIS under *Greenhouse Gases and Climate Change*.

Comment G-9.4: Center for Biological Diversity commented that the Draft EIS failed to address risks associate with global climate change in the context of including both the need for climate mitigation strategies and the need for climate change adaptation strategies and that adaption strategies underline the importance of protecting intact wildlands and wildlife corridors. Further, it commented that impacts on species, wildland connectivity, and the introduction of predators and invasive weed species may run contrary to an effective climate change adaptation strategy.

Response to G-9.4: DOE appreciates the comments on climate mitigation strategies to reduce greenhouse gas emissions and climate adaptation strategies. As stated in the Purpose and Need statement in the Draft EIS, DOE has been directed to select eligible projects that meet to goals of EAct 2005, as amended by ARRA. While climate change issues have driven both Federal and state energy policies to encourage solar energy development (see Section 1.3.1 of the EIS), it is not the purpose of this EIS to evaluate or apply these policies to DOE's action.

Comment G-10. Impact Analysis

Comment G-10.1: One commenter stated that the Draft EIS relies too heavily on analysis from the EIR and that DOE needs to perform its own analysis.

Response to G-10.1: DOE has conducted its own independent analysis of the environmental impacts of the Proposed Project in conformance with the requirements of NEPA. The EIS uses available baseline data to characterize the existing conditions of the Project Site. These data include information in the public domain and studies done for both previously proposed and currently proposed projects at the Project Site, which, in many cases, are the same data available to the County in preparation of the EIR for the Proposed Project. While existing baseline data are the same, DOE performed an independent review of the data. Therefore, the characterization of impacts differs between the EIS and EIR due to procedural and other differences between NEPA and CEQA. Section 3.1.2 of the Final EIS discusses these differences.

Comment G-10.2: Center for Biological Diversity commented that the Draft EIS did not provide adequate baseline information and description of the environmental setting for special status species, particularly with regard to the PG&E Reconductoring Project.

Response to Comment G-10.2: As discussed in response to Comment G-10.1, above, baseline information on special status species was gathered through consultation with wildlife agencies and from numerous studies and surveys done for both previously proposed and currently proposed projects at the Project Site. Section 3.10.1 details an extensive list of special status plant surveys and special status wildlife surveys that have been performed at the Project Site. Detailed analysis of the PG&E Reconductoring Project was included in Appendix B of the Draft EIS. While DOE has no authority over this action, reconductoring is a connected action, and a summary of potential impacts has also been included in the Chapter 3 resource analyses to inform readers and decision makers about the potential effects of the proposed PG&E Reconductoring Project.

Comment G-11. Impacts on Residents

Comment G-11: One commenter stated that impacts on residents within the Project Site should be acknowledged and should receive as much consideration as the environment. Another stated that DOE should consider public interests first before considering benefits to private interests.

Response to G-11: DOE acknowledges the commenter's concerns. Impacts on residents and other public interests have been evaluated in the EIS in the context of NEPA, including visual impacts (Section 3.3), air quality impacts (Section 3.4), noise impacts (Section 3.5), health and safety impacts (Section 3.15), and transportation impacts (Section 3.16). This information will help inform DOE decision makers on the potential effects that developing the Proposed Project will have on residents near the Project Site.

Comment G-12. Recirculation of the Draft EIS

Comment G-12: Several commenters stated that the Draft EIS should be recirculated for various reasons, including that the Draft EIS did not include a specific Alternative 3B.1 (the County-approved project layout) analysis, that there would be impacts that are more substantial than those disclosed in the Draft EIS, and that the Draft EIS was legally insufficient.

Response to G-12: As described in response to Comment G-3.1, the County-approved project layout is the array configuration approved by the County of San Luis Obispo. This array configuration has undergone review by the US Fish and Wildlife Service (USFWS) under Section 7 consultation of the Endangered Species Act and by USACE in relation to required Section 404 permitting under the Clean Water Act. Because the project layout is wholly contained within the PV development area that was analyzed under Alternative A of the Draft EIS, and because Alternative A of the Draft EIS adequately analyzed the impacts to resources in this development area, the EIS does not require recirculation. As discussed in response to Comment G-3.1, the County-approved project layout would not result in any significant new impacts or any greater or substantially more severe impacts than those disclosed in the Alternative A analysis of the Draft EIS, nor have any new or substantial impacts been identified through the public review process that would necessitate recirculation. While no new or significantly greater impacts have been identified for the County-approved project layout, analysis has been added to the Alternative A environmental impact sections in Chapter 3 of the Final EIS to identify where impacts specific to the County-approved project layout are identical to the impacts that were described for Alternative A in the Draft EIS and where impacts are different.

Comment G-13. Cumulative Impacts

Comment G-13.1: EPA commented that the Draft EIS did not fully assess and quantify cumulative impacts associated with the Proposed Project and does not sufficiently link the Proposed Project's effects to the health of the affected resources. EPA further stated that the Draft EIS relies on mitigation measures to demonstrate no significant contribution of cumulative impacts to the region and that a full and thorough analysis of reconductoring was not included. Lastly, EPA commented that the analysis did not include a discussion of the potential effects of climate change on the Proposed Project and the Carrizo Plain area. EPA recommended that DOE conduct a thorough cumulative effects analysis based on California Department of Transportation Indirect and Cumulative Impacts Analysis; that the Final EIS should provide a substantive discussion of, and quantify where possible, the cumulative effects of the Proposed Project when considered with other past, present, or reasonably foreseeable projects; and that mitigation should be proposed for all cumulative impacts, including DOE's mitigation responsibilities and the mitigation responsibilities of other entities. Center for Biological Diversity had a similar comment about the Draft EIS not considering all reasonably foreseeable impacts.

Response to G-13.1: DOE has expanded the cumulative effects analysis in Section 3.18.4 of the Final EIS to more fully discuss the cumulative effects of the Proposed Project when considered with other past, present, or reasonably foreseeable projects, including the proposed PG&E Reconductoring Project. The expanded analysis focuses on climate change and on sensitive biological resources in the project area, especially in light of other proposed solar facility proposals. DOE appreciates the recommendation that the analysis use the California Department of Transportation Indirect and Cumulative Impacts Analysis methodology it developed in coordination with Caltrans, and the cumulative impacts analysis has been expanded taking this methodology into account.

Comment G-13.2: Defenders of Wildlife stated that the Draft EIS identified potential cumulative impacts related to wildlife but did not provide any analysis or projected impact on the continued survival and productivity of wildlife populations. Specifically, the commenter notes that the Draft EIS states that the two projects will bisect the Carrizo Plain into a north region and south region but makes no attempt to analyze how such an impact will affect the long-term persistence of the Carrizo Plain's San Joaquin kit fox, tule elk, or pronghorn antelope populations. Defenders also stated that the cumulative impacts of the proposed Carrizo Plain solar project on San Joaquin kit fox require analysis in light of the proposed Panoche Valley solar project and that the EIS should analyze what cumulative impacts mean for the long-term survival and recovery of San Joaquin kit fox, tule elk, and pronghorn antelope populations. The commenter expressed the opinion that because both the Panoche Valley and the Carrizo Plain are core recovery areas for the San Joaquin kit fox, the adverse cumulative impacts of utility-scale solar development in these regions is likely significant. The commenter felt that the EIS should include an in-depth cumulative effects analysis of the impact of the Proposed Project and the neighboring California Valley Solar Ranch project for all sensitive biological resources on the Carrizo Plain.

Response to G-13.2: As discussed in response to Comment 13.1, above, a more thorough analysis of the cumulative effects on sensitive biological resources has been provided in Section 3.18.4 of the Final EIS, including the combined effect of the Proposed Topaz and California Valley Solar Ranch projects on kit fox movement corridors in the project area. The discussion of wildlife corridors has also been expanded in Section 3.10.2 of the Final EIS, including a discussion of how the County-approved project layout developed in coordination with USFWS and CDFG would be narrower from east to west, thus providing a more open corridor for antelope, elk, and kit fox movement into and out of the northern Carrizo Plain.

Comment G-13.3: Center for Biological Diversity commented that the Draft EIS did not meaningfully analyze the cumulative impacts on resources in the Carrizo Plain and other areas of rare species habitat from the Proposed Projects and that therefore the cumulative impacts analysis is not complete. The commenter also stated that cumulative impacts on resources have not been fully analyzed, including impacts on San Joaquin kit fox, impacts on connectivity for kit fox and pronghorn, impacts on blunt-nosed leopard lizard, impacts on golden eagles, and impacts on water resources. Center for Biological Diversity also stated that the Draft EIS did not examine the impact of the Proposed

Project options with other similarly proposed projects in the California Valley and that this piecemeal process may detrimentally affect conservation investments in the Carrizo Plain National Monument and compromise the goals of the Recovery Plan for Upland Species of the San Joaquin Valley. An individual commenter stated that the projects cumulatively would transform the Carrizo Plain from native grassland to an industrial energy zone.

Response to G-13.3: Please see responses to Comments G-13.1 and G-13.2.

Comment G-14. Miscellaneous Edits

Comment G-14: EPA submitted editing comments to be corrected in the Final EIS.

Response to G-14: These revisions have been made as suggested in the Final EIS.

Comment G-15. EIR Comments

Comment G-15: One commenter submitted attachments to his comment letter that consisted of that commenter's comment letter on the Draft EIR and three subsequent letters to the County pertaining to the Final EIR. Many of these comments pertained specifically to the Draft EIR, to state law (including CEQA), or to the County land use permitting process. These attachments are included as Appendix RTC-B to this Response to Comments document. The commenter requested that the issues in the attachments implicating Federal law be considered.

Response to G-15: In response to the attachments, DOE has included the County's responses to the Draft EIR comments in Appendix RTC-B of this Response to Comments document. Issues within these attachments that are out of scope for the EIS, such as those pertaining to the County permitting process or state CEQA guidelines, have not been addressed. Comments leading in changes to the Final EIR have been taken into account in the Final EIS where these comments provided new information or corrections to existing information also used in the EIS.

2.4.2 Resource-Related Comments

Comment LU. Land Use

Comment LU-1: The County of San Luis Obispo Department of Agriculture commented that the Draft EIS conclusion that converting the proposed Project Site from an agricultural use to a non-agricultural use would not result in a significant impact on the County's agricultural economy may not be relevant to the Farmland Protection Policy Act (FPPA), which seeks to minimize the conversion of farmland and to ensure that Federal decisions are compatible, to the extent practicable, with state and local programs to protect farmland. The commenter could not find where the FPPA suggests the basis of analysis should be on the relevant impact to an area's agricultural economy.

Response to LU-1: DOE agrees with the commenter that the sole basis of analysis under the FPPA is not the relevant effect of a project on an area's agricultural economy. As noted, the FPPA uses the Farmland Conversion Impact Rating system in determining a project's potential impacts and steps a Federal agency must take in considering the impacts of its actions on farmland. The Draft EIS considered a number of factors when considering potential effects of the Proposed Project on agriculture in the context of NEPA, of which the relative impact on the area's economy was but one factor.

Comment LU-2: The County of San Luis Obispo Department of Agriculture commented that regardless of the overall impact on the agricultural economy of the county, a conversion of 2.5 percent of the County's available farmland would be a significant impact and that feasible measures should be implemented to reduce the amount of farmland converted.

Response to LU-2: DOE agrees with the commenter that the impacts should not be classified as not significant. Section 3.2.2 of the Final EIS has been revised, and the level of impact has been changed to say that the Proposed Project would have a moderate adverse impact on agriculture. In addition, compensatory mitigation identified in the County's Conditions of Approval to the CUP has been added in Table 2-10 of the Final EIS (see MM AG-2.1) and summarized in Table 2-11 of the Final EIS.

Comment LU-3: The County of San Luis Obispo Department of Agriculture commented on the Farmland Conversion Impact Rating analysis found in the Draft EIS and felt that the ratings presented in the Draft EIS were too low. The Department commented on the twelve individual criteria that form the basis of the rating and suggested changes to the numbers assigned to some of these criteria, resulting in an impact rating above 160 for Alternative A, which is the level at which DOE is required to give further consideration for protection of those lands (the Alternative B analysis in the Draft EIS was greater than 160).

Response to LU-3: The Farmland Conversion Impact Rating analysis has been revised to reflect comments presented by the County of San Luis Obispo Department of Agriculture and further consultation with the Natural Resources Conservation Service. The new analysis resulted in a rating greater than 160 for Alternative A, including Alternative A with County-approved project layout. Therefore, the Final EIS describes how DOE has given further consideration for protection of lands under Alternative A. A summary of the revised rating has been included in Section 3.2.2 of the Final EIS, and the revised detailed analysis has been included in Appendix C of the Final EIS.

Comment LU-4: One commenter stated that it is not possible to mitigate for the loss of farmland associated with the Proposed Project.

Response to LU-4: The commenter's views are noted. Measures to mitigate for loss of farmland are included as Conditions of Approval in the conditional use permit, as detailed in MM AG-2.1 in Table 2-10 of the Final EIS and summarized in Table 2-11 of the Final EIS.

Comment LU-5: One commenter stated that the Draft EIS is incorrect in stating that Project Site land is not prime farmland.

Response to LU-5: As described in Section 3.2 of the Draft EIS, DOE consulted with the Natural Resources Conservation Service pursuant to the FPPA. According to correspondence with the Natural Resources Conservation Service, the Project Site lands do not qualify as prime farmland or farmland of statewide importance under the FPPA (see Appendix C of the Draft and Final EIS). However, as discussed in Section 3.2.1, the Natural Resources Conservation Service did identify the majority of project lands as Farmlands of Local Importance, as defined by the San Luis Obispo County Board of Supervisors.

Comment LU-6: North County Watch commented that the Proposed Project fails to consider and mitigate for substantial conversion of agricultural lands impacted by biological mitigation measures for the Proposed Project and for cumulative agricultural impacts resulting from the Proposed Topaz and California Valley Solar Ranch Projects.

Response to LU-6: As discussed in response to Comment G-4.1, Table 2-11 has been added to the Final EIS to provide information on compensatory mitigation lands and conservation lands. As shown in this table, 12,147 acres of off-site lands are being considered for compensatory mitigation and conservation, many of which would allow for managed grazing. Additional information has been added to Section 3.18.4 of the Final EIS to discuss the cumulative effects on agriculture from compensatory mitigation requirements for both projects referenced in the comments. In addition, compensatory mitigation identified in the County's Conditions of Approval to the CUP has been added in Table 2-10 of the Final EIS (see MM AG-2.1).

Comment VR. Visual Resources

Comment VR-1: One commenter objected to the placement of the medium voltage wires aboveground, saying that it was against County code and stating that the wires were proposed to be installed underground in the permit application submitted to the USACE.

Response to VR-1: The commenter's request to have the medium voltage wires undergrounded is noted. Through the County's conditional use permit process, the County has determined that the Proposed Project is in compliance with County code because the electric lines leading up to the low voltage side of the step-up transformer within each PV array will be placed underground (see Section 3.3.2 of the Final EIS). In order to mitigate visual impacts, the County has required, as a Condition of Approval, that all electric lines be placed underground within 3,000 feet of Highway 58 (see MM AE-2.2 in Table 2-10 of the Final EIS). Outside of this setback, the County has approved the medium voltage collection system wires for aboveground placement.

The commenter is correct that the Section 404 USACE permit application includes proposed trenches for undergrounding the electrical collection system across jurisdictional drainages at three locations. Two of those trench locations (in Section 33

of the Project Site) are within 3,000 feet of Highway 58, and the electrical collection system will be installed underground in those locations. The third electrical collection system trench shown in the USACE permit application is in Section 19, outside of the 3,000 foot setback from Highway 58, and that trench crossing is no longer expected to be required because the County has approved the medium voltage collection system wires for aboveground placement in that location.

Comment VR-2: One commenter stated that the Proposed Project would alter the aesthetic and natural character of the area.

Response to VR-2: Section 3.3 of the Draft EIS described the visual character of the project area as well as the effects the Proposed Project would have on the visual environment. The Final EIS has been updated with visual simulations of the County-approved project layout to further characterize the aesthetic effects associated with development of the Proposed Project. These simulations are included in Appendix D of the Final EIS.

Comment VR-3: One commenter stated that the Proposed Project would alter the dark quality of the night sky, affecting the value of the area to numerous species and the character of the area to people.

Response to VR-3: Impacts to the night sky were discussed in Section 3.3 of the Draft EIS. The Draft EIS determined that implementation of the environmental protection measures described in Table 2-9 (AES-2) would prevent substantial light impacts on the night sky. Additional measures have been included as Conditions of Approval to further minimize impacts on the night sky (see MM AE-2.4 in Table 2-10 of the Final EIS).

Comment AQ. Air Quality and Greenhouse Gas Emissions

Comment AQ-1: The Center for Biological Diversity commented that agencies should look at all aspects of the Proposed Project that may create greenhouse gas emissions, including operations, construction, and life-cycle emissions from materials, and, where a project will have significant greenhouse gas emissions, the agency should identify alternatives or mitigation measures that lessen such effects. The commenter requested a full accounting of greenhouse gas emissions and stated that DOE failed to consider alternatives that minimized emissions or required near-term emissions to be offset.

Response to AQ-1: DOE acknowledges the comments on greenhouse gas emissions and recognizes the importance of reducing such emissions wherever feasible. As stated in Section 1.3.1 of the Draft EIS, the Project Purpose and Need is based in part on meeting state laws to reduce greenhouse gas emission levels. As described in Section 1.4.1, EPCA 2005, as amended, authorizes the Secretary of Energy to make loan guarantees for projects that avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases.

DOE feels that the Draft EIS sufficiently assessed project-related greenhouse gas emissions. Table 3-6 of the Draft EIS identified greenhouse gas emissions that would be

associated with construction, including indirect effects of vegetation removal, and operation of the Proposed Project. While life-cycle emissions associated with equipment manufacture are often not provided in a NEPA analysis of greenhouse gas emissions, the Project Proponent contracted for a greenhouse gas technical report that included a full life-cycle emission analysis, including emissions associated with manufacture (Environ 2010). Information has been added to Table 3-6 in Section 3.4.2 of the Final EIS showing construction and operational emissions and annualized emissions adjusted for full life-cycle greenhouse gas emissions.

The Proposed Project includes measures to reduce construction and operational emissions associated with equipment and vehicle exhaust, which would also reduce greenhouse gas emissions. Examples of these measures include implementing a worker shuttle program to minimize vehicle miles traveled, revegetating disturbed areas, using motion sensor lighting, and designing buildings to meet energy efficiency standards. These measures are detailed in Table 2-9 and Table 2-10 of the Final EIS, and a statement to this effect has been added to Section 3.4.2, *Greenhouse Gases and Climate Change* in the Final EIS. Please see MM AQ-1.1 and MM AQ-1.4 in Table 2-10 of the Final EIS.

It is unnecessary for DOE to consider alternatives to the project to minimize greenhouse gas emissions or to require offsets of near-term greenhouse gas emissions. The alternative of issuing a loan for the Proposed Project itself would generate 550 megawatts of renewable power, potentially displacing natural gas and other fossil fuels used to produce electricity. DOE estimates that the Proposed Project would offset over 280,000 metric tonnes of greenhouse gas emissions annually. This discussion is found in Section 3.4.2 of the EIS.

Comment AQ-2: EPA commented that the majority of the Proposed Project is within a National Ambient Air Quality Standards attainment area. EPA further commented that the Proposed Project would exceed de minimis levels for particulates and ozone precursors, including nitrogen oxides, and that DOE should incorporate all applicable dust control measures and emissions reduction measures into the Proposed Project to lower anticipated emissions.

Response to AQ-2: The Final EIS has been updated with the County's Conditions of Approval related to minimizing or offsetting emissions associated with construction and operation of the Proposed Project. These conditions are described in MM AQ-1.1 (reduce construction vehicle emissions), MM AQ-1.2 (develop Construction Activity Management Plan), MM AQ-1.3 (reduce fugitive dust), MM AQ-1.4 (provide funding for off-site mitigation of construction equipment), MM AQ-2.1 (prepare Operational Dust Control Plan), and MM AQ-2.2 (provide funding for off-site mitigation of dust control) in Table 2-10 of the Final EIS.

The Draft EIS presented potential unmitigated emissions from construction of the Proposed Project in Tables 3-3 (Alternative A) and 3-5 (Alternative B). These emissions would occur in an attainment area; therefore an additional Clean Air Act conformity

determination is not required. Table 3-7 presents potential emissions associated with the proposed PG&E Reconductoring Project. A portion of the reconductoring route is in Kern County, which is an extreme nonattainment area for the Federal ozone standard and a nonattainment area for the Federal PM_{2.5} standard. As shown on Table 3-7 of the Final EIS, emissions associated with actions in Kern County would be below applicable Clean Air Act conformity de minimis levels for these pollutants.

Comment NZ. Noise

Comment NZ-1: One commenter commented that the Proposed Project would create significant noise disturbances for wildlife, residents, and students.

Response to NZ-1: Section 3.5 of the Draft EIS evaluated the potential impacts of the Proposed Action, identifying minor to moderate impacts associated with construction and operation.

Comment WR. Water Resources

Comment WR-1: EPA commented that Alternative 3B.1 (the County-approved project layout) would place arrays in jurisdictional waters and along 100-year floodplains, requiring an estimated 750 cubic yards of fill in jurisdictional waters (as described in the Final EIR prepared by the County). EPA expressed concern that this would have potential increased impacts on jurisdictional waters if this alternative is selected, particularly since this alternative was not evaluated in the Draft EIS and the extent of the impacts are unclear. One individual commenter also stated that Alternative 3B.1 would impact jurisdictional waters more than if EIR Option A or Option B had been selected.

Response to WR-1: The County-approved project layout would concentrate PV arrays closer to and within some jurisdictional drainages and along FEMA-designated floodplains as compared with the Option A and Option B array configurations analyzed as alternatives in the County's Draft and Final EIR. As described in response to Comment G-3.1, because a specific array configuration had not been approved at the time the Draft EIS was prepared, DOE analyzed PV development areas within Study Area A (Alternative A of the Draft EIS) and Study Area B (Alternative B of the Draft EIS) to capture the full range of impacts on resources that could be expected from constructing arrays within these potential development areas, including within Study Area A, where the County-approved project layout is sited. The Draft EIS disclosed that the Proposed Project would permanently affect less than 0.1 acre of jurisdictional ephemeral drainages; this is also true of Alternative A with County-approved project layout. The effects of the Proposed Project on jurisdictional Waters of the US, including under the County-approved project layout, were thus analyzed in Section 3.7.2 of the Draft EIS.

Figure 3-14 of the Final EIS has been updated to show the proposed location of Alternative A with the County-approved project layout infrastructure in relation to jurisdictional waters. Section 3.7.2 of the Final EIS has been updated to describe that under Alternative A with County-approved project layout, construction of three at-

grade road crossings and associated scour arrestors would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages. Construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional ephemeral drainages. The Project Proponent will compensate for permanent impacts to jurisdictional ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 2:1. In addition, the Project Proponent will compensate for temporary impacts to ephemeral drainage habitat through re-establishment of the temporarily impacted drainages at a minimum ratio of 1:1. The Project Proponent coordinated with the USACE during the development of the County-approved layout to minimize impacts on jurisdictional Waters of the US.

Figure 3-16 of the Final EIS has been updated to show the proposed location of Alternative A with the County-approved project layout infrastructure in relation to the 100-year floodplain. In addition, Section 3.7.2 of the Final EIS has been updated to further describe that road crossings and overhead and underground electrical collection lines under Alternative A with County-approved project layout would be installed in FEMA-designated Zone A floodplains as described for the Alternative A analysis in the Draft EIS. The Final EIS also describes that low-water crossings of some existing and some new dirt and gravel roads would be designed to match the existing channel cross-sections and would have infiltration capability to avoid affecting channel hydraulics; that subsurface scour arrestors (rock-filled tranches) would be placed in appropriate locations to guard against scour; and that the installation of trenches for underground electrical runs or poles supporting overhead electrical collection systems within the FEMA-designated floodplains is not expected to raise flood elevation or alter the direction of flood flows.

Under the County-approved project layout, PV arrays would not be placed within the FEMA-designated Zone A floodplains. However, PV arrays would be placed in areas susceptible to flooding during a 100-year storm event. As described previously, the bottom of the panels would be installed 6 to 12 inches above the 100-year flood level, which would avoid the potential for damage to the PV arrays.

Comment WR-2: EPA stated that if a Clean Water Act Section 404 permit is required, EPA will review the Proposed Project for compliance with the Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials, promulgated pursuant to Section 404(b)(1) of the Clean Water Act. EPA requested that the Project Proponent consult with the USACE regarding impacts on jurisdictional waters resulting from Alternative 3B.1 (the County-approved project layout), coordinate with the USACE to reduce impacts, and include the results in the Final EIS. EPA recommended that the Final EIS demonstrate the Proposed Project's compliance with the Clean Water Act 404(b)(1) guidelines and include a final determination of the extent of jurisdictional waters at the Project Site.

Response to WR-2: As discussed in Section 2.2.1, construction of the Proposed Project requires a Department of the Army permit pursuant to Section 404 of the Clean Water

Act. On January 28, 2011, the USACE approved a jurisdictional determination that reflects the precise extent of jurisdictional wetlands and other Waters of the US on the Project Site, and this determination has been added to Appendix H of the Final EIS. The Project Proponent submitted a Clean Water Act Section 404 Individual Permit application to the USACE, and the USACE published a public notice of the permit application on March 1, 2011, and a revised notice on March 25, 2011, both of which are included in Appendix H. The Project Proponent coordinated with the USACE during the development of the County-approved project layout, and the permit it issues will be for this alternative. Final measures to compensate for permanent and temporary impacts on jurisdictional waters from implementation of the County-approved project layout have been added to Table 2-11 and Section 3.7.2 of the Final EIS. The USACE will issue the Section 404 permit after publication of DOE's Record of Decision.

Comment WR-3: EPA commented that the jurisdictional delineation was not provided in the Draft EIS for review and that a complete assessment of the potential effects to jurisdictional waters and wetlands cannot be completed without this information.

Response to WR-3: The jurisdictional delineation described in the Draft EIS and referenced in the EPA comment was incorporated by reference in the Draft EIS (Althouse and Meade and Huffman-Broadway Group. 2010. *Investigation of the Presence of Wetlands and Other Waters of the United States, Topaz Solar Farm Project, California Valley, San Luis Obispo County, California*. September 2010). The January 28, 2011, USACE verification of this delineation is contained in Appendix H. The results of the delineation were used in preparing the Section 404 Individual Permit application and were included in Section 3.7 of the Draft EIS. In addition, Figures 3-14 and 3-15 of the Draft EIS depicted jurisdictional wetlands and jurisdictional ephemeral drainage locations, as well as potential PV array development areas.

Comment WR-4: EPA recommended that the Final EIS should commit to the use of natural washes, in their present location and form, and with adequate natural buffers for flood control to the maximum extent practicable; should include jurisdictional wetlands setbacks for Alternative 3B.1 (the County-approved project layout); should demonstrate that the project layout will avoid redundancy of arterial and perimeter roads and will minimize jurisdictional crossings; and should demonstrate that downstream flows will not be disrupted and large amounts of sediments will not be disrupted or excavated. The Center for Biological Diversity also commented that the Draft EIS did not include the impact of the Proposed Project on the ephemeral and intermittent streams and the ecosystem processes that they provide both on and off of the proposed Project Site.

Response to Comment WR-4: Section 3.7.2 of the Final EIS has been revised to state that as Conditions of Approval for the conditional use permit, the Project Proponent has committed to 1) design the Proposed Project to use vegetative surfaces and natural contouring to restore natural runoff and infiltration hydrologic response, and 2) design the Proposed Project such that drainage from impervious surfaces (e.g., roads, driveways, buildings) shall be directed to drainage swales or vegetated surface sheet flow areas (see also MM WR-1.4 in Table 2-10 of the Final EIS). The 25- to 250-foot setbacks

from jurisdictional wetlands under the County-approved project layout would be the same as described for Alternatives A and B in the Draft EIS. In regards to Alternative A with County-approved project layout, the Proposed Project has both arterial and perimeter roads in some locations, but avoids redundancy by placing these roads at least one-half mile apart in most locations. The County-approved project layout proposes three road crossings at jurisdictional drainages; this layout was developed in consultation with USACE through their 404(b)(1) alternatives analysis process. As required by the County Stormwater Ordinance and the Regional Water Quality Control Board, downstream flows will not be disrupted, and large amounts of sediments within drainages will not be disrupted or excavated. Section 3.7.2, *Effects on Waters of the United States* subsection of the Draft EIS, addressed ephemeral and intermittent streams, the ecosystem processes they provide, and the potential effects of the Proposed Projects on these resources.

Comment WR-5: EPA commented that Executive Order 11988 requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid support of floodplain development where there are practicable alternatives. EPA requested that the Final EIS include an evaluation of Alternative 3B.1 (the County-approved project layout) to demonstrate compliance with this executive order and to include up-to-date information regarding consultation with the appropriate agencies regarding floodplain impact and avoidance.

Response to WR-5: In compliance with Executive Order 11988, DOE published a *Notice of Proposed Floodplain Action* in the Federal Register on October 22, 2010. Floodplains were identified in Section 3.7.1 of the Draft EIS, and impacts were discussed in Section 3.7.2 of the EIS, including information on potential array development adjacent to the FEMA Zone A floodplains. As stated in the Draft EIS, some road crossings and underground electrical collection lines would unavoidably be sited in Zone A floodplains, and some PV array support posts may be placed in areas adjacent to the FEMA Zone A floodplains that also carry floodwaters. Section 3.7.2 of the Final EIS has been updated to provide more detail on the County-approved project layout as it pertains to floodplains. Information to support the *Floodplain Statement of Findings* has also been added to Section 3.7.2 of the Final EIS.

Comment WR-6: One commenter stated that jurisdictional waters on adjacent private properties were not acknowledged and that Figure 3-14 of the Draft EIS shows jurisdictional waters reaching private property lines but not continuing through them. The commenter stated that private land owners with jurisdictional waters on their property have not been consulted by the Project Proponent or any agencies.

Response to WR-6: Figure 3-14 of the Draft EIS showed the jurisdictional ephemeral drainages that were within the study area boundaries only. Because the private lands referenced are not within the study area boundaries, potential jurisdictional ephemeral drainages on these lands were not included in the figure.

Comment WR-7: One commenter stated that the Draft EIS assumes the Carrizo Plain Groundwater Basin is not in overdraft state, but the San Luis Obispo County master water plan update reports that the basin is in overdraft, and that perennial yields are unknown. The commenter states that three separate groundwater analyses have all shown different results and that there needs to be a complete basin study to know the true perennial yield of the basin.

Response to WR-7: Section 3.7.2 of the Final EIS has been revised to include information from the San Luis Obispo County master water plan update and to further acknowledge the different sources of available information relating to this issue.

Comment VEG. Vegetation

Comment VEG-1: One commenter expressed concern over the effect that large-scale sheep grazing would have on the environment. The comments assumed that the Proposed Project would require 18 million sheep grazing 8 to 9 months per year. The commenter requested more information on if sheepdogs would be required and the number, where sheepherders would stay, and who would be responsible for monitoring the legality and health conditions of sheepherder trailers. The commenter also requested information on where water to water the sheep would come from and if sheep would be inoculated against anthrax. The commenter stated that sheep would drive out wildlife species, including threatened and endangered species; destroy native grasslands; produce urine and feces and create dust containing urine and feces, causing odors and human health problems; and drag electrical and barbed wire and lean on support posts. The commenter also stated that winter rains would wash sheep feces into the Carrizo Plain watershed and eventually into Soda Lake and the Carrizo Plains National Monument. The commenter stated that sheep carcasses would not be removed right away and that sheepherders smoke and can cause grass fires.

Response to VEG-1: The Draft Vegetation Management Plan (Althouse and Meade, January 2011) contained in Appendix B of the Draft EIS included information on managing vegetation under the PV modules through sheep grazing. This Draft Vegetation Management Plan has been updated, and the updated version has been included in Appendix E of the Final EIS. As described in the plan, sheep grazing would occur at a much lesser scale than described by the commenter. It is expected that approximately 4,000 sheep would be brought to the Project Site for one month in the spring, and approximately 1,000 sheep would be brought to the Project Site for a few weeks in the summer. Additional information on sheep herders and the scale and timing of sheep grazing has been added to the revised Vegetation Management Plan that is contained within Appendix E of the Final EIS.

As described in the Vegetation Management Plan, sheep would be grazed within temporary fences within the larger fenced areas to consolidate the sheep. The sheep would be rotated through the Proposed Project such that the flock would graze a new patch of ground every 24 to 48 hours until the whole Proposed Project has been grazed. Water for livestock would be provided via a portable water tank, with water

obtained from wells on the Proposed Project Site. The test grazing study performed by the Project Proponent at the Project Site found that the sheep effectively grazed under the modules without damaging the modules or the electrical wiring.

The Conditions of Approval require prompt removal of carcasses, as detailed in MM HZ-7.3 in Table 2-10 of the Final EIS.

Comment SS. Special Status Species

Comment SS-1: Defenders of Wildlife commented that the absence of information or analysis of how San Joaquin kit fox would use the solar arrays is a data gap that renders the Draft EIS inadequate, and a scientifically based analysis of whether or not San Joaquin kit fox will use the solar arrays once installed should be included in the EIS.

Response to SS-1: DOE initiated formal consultation under the Endangered Species Act (ESA) with the USFWS regarding the potential impacts on the San Joaquin kit fox. Section 7 consultation exists under the ESA to ensure that a proposed action does not jeopardize the continued existence of Federally listed species, such as the kit fox. A Biological Assessment was submitted to the USFWS with a determination of “May Affect, Likely to Adversely Affect” for the kit fox. The Biological Assessment, and USFWS’s resultant Biological Opinion, have been included in Appendix E of the Final EIS.

As stated in Section 3.8.2 of the Draft EIS, for the purposes of the EIS analysis, it is assumed that all fenced areas, roads outside of fences, and the Solar Energy Learning Center would cause permanent impacts on vegetation. As such, it is assumed that the San Joaquin kit fox may not use the solar arrays, and these permanent impacts would be fully mitigated through various measures. The use of the entire solar array footprint as the permanent impact area is related to the expected loss of functional value for both plants and wildlife within the affected vegetation community. Additionally, Section 3.10.2 of the Draft EIS states that the change in habitat structure could result in an increase, decrease, or maintenance of San Joaquin kit fox populations. Because the preservation and management of off-site habitats would functionally replace the lost habitat values and expected mortality associated with increased vehicle collisions coupled with the unknown post-construction use of the proposed Project Site, the proposed mitigation, in conjunction with Proposed Project avoidance and mitigation measures, is expected to fully mitigate impacts on San Joaquin kit fox.

Comment SS-2: Defenders of Wildlife commented that the location of PV arrays within the 10,000-acre Project Site has the potential to significantly impede landscape connectivity for wildlife on the Carrizo Plain. Defenders of Wildlife and North County Watch commented that cumulative impacts on special status species and wildlife connectivity and corridors would be significant and unmitigable. Defenders of Wildlife stated that a reduction in the size or scale of the Proposed Project would be the only way to reduce adverse impacts, while North County Watch stated that the proposed mitigation levels are inadequate to ensure the recovery of special status species and that

because of the cumulative effects of the two projects, not enough suitable habitat and mitigation lands can be identified to mitigate impacts to a level of insignificance.

Response to SS-2: The Final EIS has been revised to include all Conditions of Approval in the CUP for the Proposed Project (see Table 2-10 of the Final EIS). These conditions include funding the California Valley Land Acquisition Program and establishing a fencing plan to create fence removal or modification incentives. In addition, the Project Proponent, County, and DOE have coordinated with the wildlife agencies (CDFG and USFWS) to determine appropriate and adequate mitigation for the Proposed Project. As such, DOE believes that cumulative impacts on special status species and wildlife connectivity and corridors have been adequately addressed.

Comment SS-3: Defenders of Wildlife requested that the updated San Joaquin kit fox fence passage design be a required feature of the Proposed Project.

Response to SS-3: The revised fence design has been incorporated into Section 2.3.2 of the Final EIS.

Comment SS-4: Defenders of Wildlife commented that the impacts on the mountain plover from the Proposed Project may be greater than presented in the Draft EIS, which says 50 percent of mountain plover individuals winter-over in California with the Carrizo Plain a regular wintering location for this species. The commenter requested that the impacts on mountain plover from the Proposed Project be analyzed in greater detail in the Final EIS. In addition, the Center for Biological Diversity stated that the Draft EIS does not identify the number of acres of wintering habitat for mountain plover that would be impacted by the Proposed Project. The Center for Biological Diversity also stated that the Draft EIS does not provide any evaluation of the habitat quality of proposed mitigation lands.

Response to SS-4: Information has been added to Section 3.10.2 of the Final EIS stating that in its recent *Federal Register* notice, USFWS formally decided not to list the mountain plover as an endangered species. Section 3.10.1 of the Draft EIS identified that mountain plovers, which are known to winter on the Carrizo Plain, have been observed foraging on the site during winter. In addition, this section disclosed that the Proposed Project would result in the loss of up to approximately 1,721 acres (Alternative A) or approximately 1,133 acres (Alternative B) of California annual grassland, the preferred wintering habitat for mountain plover. DOE feels that this level of analysis is sufficient for the NEPA analysis. To reduce impacts, Conditions of Approval have been incorporated into the Final EIS, including compensation for permanent impacts on vegetative communities and preparation of a Habitat Mitigation and Monitoring Plan (MM BR-1.4 and MM BR-16.3 in Table 2-10, respectively).

Regarding the quality of mitigation lands, a Habitat Mitigation and Monitoring Plan would guide the restoration and management of mitigation lands for the benefit of all grassland species, including mountain plover. Please see Appendix E for a draft Habitat Mitigation and Monitoring Plan.

Comment SS-5: Defenders of Wildlife expressed concern that the Proposed Project would adversely impact burrowing owls and recommended that any known nesting sites for this species be avoided since individuals demonstrate high nest-site fidelity. Additionally, it recommended that the procedures for trapped San Joaquin kit fox set forth in the Draft EIS be adopted for burrowing owls. The Center for Biological Diversity noted that the density of burrowing owls on the site suggests that the proposed Project Site harbors robust populations of successfully reproducing burrowing owls in an area that generally does not support many burrowing owls. In addition, the Center for Biological Diversity stated that inadequate data are available on impacts related to passive relocation of burrowing owls. The organization indicated that guidelines for foraging territories for burrowing owls provided in CDFG's 2003 mitigation guidance are now out of date. The commenter suggested that mitigation lands for burrowing owls must be native, undisturbed habitat and not cultivated land. Further, the Center for Biological Diversity stated that since the Draft EIS does not include a Habitat Mitigation and Monitoring Plan, it is impossible to tell if any of the problems associated with phased passive relocation will be addressed.

Response to SS-5: DOE appreciates these comments. Measures protective of burrowing owls have been incorporated into Section 3.10.2 of the Final EIS to reflect the approved Conditions of Approval committed to through consultation with wildlife agencies (see MM BR-22.1 and MM BR-22.2 in Table 2-10 of the Final EIS). These Conditions of Approval include pre-construction surveys, avoidance during the nesting season, and passive relocation if there is any danger that owls would be injured or killed as a result of construction during the non-breeding season. Condition of Approval MM BR-22.2 requires compensation for impacts on burrowing owl. The overall mitigation strategy identified for the loss of habitat for San Joaquin kit fox will provide for the restoration, enhancement, and creation of several thousand acres of habitat that would also support burrowing owl.

In addition, Section 3.10.2 of the Final EIS has been revised to consider the potential consequences to burrowing owls from passive relocation.

Comment SS-6: Defenders of Wildlife supported the project mitigation measure for "regular trash clean-up and removal of small metal objects," which condors are known to ingest and recommended that such clean-up occur at the end of construction activities daily or, at a minimum, weekly to prevent adverse effects to condors.

Response to SS-6: Condition of Approval MM BR-11.1 has been incorporated into the Final EIS in Table 2-10 and in Section 3.10.2.

Comment SS-7: Defenders of Wildlife expressed concern that calving grounds for tule elk and pronghorn may be located near the reconductoring route and recommended that the final project include seasonal timing restrictions for reconductoring in these areas to minimize impacts on tule elk and pronghorn calving. The Center for Biological Diversity stated that the effects of the Proposed Project on pronghorn lambing and summer forage are not adequately analyzed in the Draft EIS. The Proposed Project

eliminates access to the only known pronghorn crossing along Highway 58, which is not mentioned in the Draft EIS. In addition, the Draft EIS fails to sufficiently analyze impacts on the connectivity of habitat for this species.

Response to SS-7: Surveys did not identify any pronghorn lambing areas within or near the proposed Project Site. As such, impacts on these areas were not addressed in the Draft EIS. Section 3.9.2 of the Draft EIS described the effects on pronghorn foraging habitat. Section 3.10 of the Final EIS has been revised to include discussions of pronghorn crossings along Highway 58. Impacts on habitat connectivity and big game movement are addressed in Section 3.9.2 of the Final EIS, including for the County-approved project layout. Conditions of Approval MM BR-31.1 and MM BR-35.1 have been added to the Final EIS describing the implementation of a pronghorn-friendly fencing plan on the Project Site and fence removal plan to facilitate the removal or modification of at least 10 miles of fences within the Carrizo Plain region. The plan will consider all areas adjacent to and between the Proposed Topaz and CVSR Project Sites that may pose barriers to movement for pronghorn antelope and tule elk, and may also include other areas in the Carrizo Plain where such barriers exist.

As identified on page Ap.4A-78 of Appendix B of the EIS, PG&E would consult with CDFG to determine if calving areas occur near the reconductoring line and if such areas are identified, work would be rescheduled to occur outside of the calving season.

Comment SS-8: One individual stated that it is not possible to fully mitigate for the loss of endangered species, while North County Watch stated that biological impacts are significant and unmitigable. The Center for Biological Diversity stated that the Proposed Project's mitigation strategy is inadequate to fully mitigate impacts on all species that would be potentially impacted by the Proposed Project because (1) the EIS fails to require the acquisition of habitat for all impacted species by assuming that mitigation lands for San Joaquin kit fox will meet the needs of other species, and (2) acquisition of occupied habitat elsewhere ensures a net decrease in total habitat. The Center for Biological Diversity recommends requiring mitigation at a 5:1 ratio and including mitigation requirements for each impacted species. The EPA commented that no rationale for how the ratios in the Draft EIS were derived is provided and suggested including a table with compensatory mitigation proposals as well as provisions that will ensure habitat selected for compensatory mitigation will be protected in perpetuity. EPA also suggested adopting a formal adaptive management plan to evaluate and monitor impacted resources. Furthermore, the Center for Biological Diversity requested that the mitigation plans be included as part of the public input process and contends that measures requiring pre-construction surveys do not mitigate project impacts. The EPA requested that the Habitat Mitigation and Monitoring Plan, including a Managed Grazing Plan, be included in the Final EIS and that other surveys and plans be completed before the Final EIS is released. An individual commenter stated that the Proposed Project would destroy habitat of the endangered kit fox, badgers, burrowing owls, and many other species.

Response to SS-8: Potential impacts on sensitive species are discussed in Section 3.10.2 of the Draft EIS. A biological opinion has been prepared by the USFWS outlining steps and mitigation lands required by USFWS to prevent, minimize, or offset impacts on San Joaquin kit fox. The biological opinion has been included in Appendix E of the Final EIS. Alternative A with the County-approved project layout was developed in consultation with USFWS and CDFG and has been added to the Final EIS (see response to Comment G-3.1). Section 3.10.2 of the Final EIS has been revised to include information on how the County-approved project layout would consolidate arrays and move arrays out of the most sensitive grassland corridor areas found within Study Area A (Alternative A of the Draft EIS), avoiding the on-site kit fox natal dens and moving Proposed Project features away from wildlife movement corridors. Conditions of Approval to avoid impacts (MM BR-17.1 of Table 2-10) or to compensate for permanent impacts (MM BR-17.2) on kit fox have been added to the Final EIS. Pre-construction survey requirements, avoidance measures, and compensatory mitigation requirements for a number of sensitive species are also described in Table 2-10 should any these species be found to be present on the Project Site as a result of surveys. Compensatory mitigation requirements and conservation requirements have been added as Table 2-11 of the Final EIS, presenting a summary of compensatory mitigation required by the County and by USACE and conservation requirements required by USFWS and CDFG. Measures to improve habitat on surrounding lands to benefit kit fox would also benefit other sensitive species with potential to occur in the project area.

There is no statutory or regulatory requirement for affected habitat to be compensated at any particular ratio of preserved habitat to affected habitat. Guidance on appropriate ratios for habitat compensation for the species affected by the Proposed Project were derived from: 1) the magnitude of project impacts, 2) past precedent established in mitigation measures for other large projects, 3) Habitat Conservation Plans covering the target species, 4) recommendations from trustee agencies and expert biologists, 5) the quality of available mitigation land to be acquired, and 6) professional judgment. The rationale for the mitigation ratios is provided in the San Joaquin Kit Fox Conservation and Monitoring Plan in Appendix E of the EIS and has been approved by USFWS.

Lands to be acquired or preserved as compensatory mitigation or conservation land will be managed in accordance with the Habitat Mitigation and Monitoring Plan. While the acquisition of lands may be driven by impacts on San Joaquin kit fox, preparation of a Habitat Mitigation and Monitoring Plan will ensure the lands will be managed to promote long-term use of the site by a variety of wildlife species. Some of the lands to be acquired or preserved will include lands to be restored. Restored lands would require the conversion from existing degraded conditions (i.e., active agriculture, unrestricted grazing, or other disturbed lands) to conditions that match or exceed habitat conditions on lands occupied by San Joaquin kit fox occurring on the proposed Project Site. The restoration of these lands will benefit all grassland species. In addition, as required by Condition of Approval MM BR-1.3 detailed in Table 2-10 of the Final EIR, the Habitat Restoration and Revegetation Plan includes measures to mitigate for impacts on pronghorn habitat by consulting with an experienced pronghorn range manager and by

including a shrub component that will provide a food source for pronghorn for late season foraging on some mitigation lands.

As described in response to Comment G-4.1, the Vegetation Management Plan, which includes a Grazing Plan, and Biological Assessment have been updated, and the USFWS's Biological Opinion, a draft Habitat Mitigation and Monitoring Plan, a Habitat Restoration and Revegetation Plan, and an Avian and Bat Protection Plan and Bird Monitoring and Avoidance Plan have been added to Appendix E of the Final EIS.

Comment SS-9: North County Watch commented that the Proposed Project would result in unavoidable and unmitigable impacts on biological resources and that the analysis of impacts on special status species was inadequate. The Center for Biological Diversity states that the Draft EIS fails to identify and quantify true impacts. One individual requested that all Federally protected species be fully analyzed, including California condor, golden eagle, bald eagle, kit fox, Swainson's hawk, burrowing owl, loggerhead shrike, giant kangaroo rat, Tipton kangaroo rat, Nelson's antelope squirrel, blunt-nosed leopard lizard, longhorn fairy shrimp, vernal pool fairy shrimp, and Kern primrose sphinx moth.

Response to SS-9: Section 3.10.2 of the Draft EIS provides a description of the direct and indirect effects caused by construction, operation, and decommissioning of the Proposed Project on special status species. All special status species with the potential to occur on the Project Site were analyzed. These include California condor, golden eagle, bald eagle, kit fox, burrowing owl, loggerhead shrike, vernal pool fairy shrimp, and longhorn fairy shrimp. Swainson's hawk is considered a winter transient on the Project Site, and so was not analyzed in detail. In its Biological Opinion, the USFWS concurred that the project is not likely to adversely affect giant kangaroo rat. Tipton kangaroo rat could occur along the PG&E reconductoring route, but is unlikely to occur on the Project Site. Protocol surveys were conducted for Nelson's antelope squirrel and blunt-nosed leopard lizard. These species were not detected and are thus considered unlikely to occur on the Project Site. There is very limited habitat for Kern primrose sphinx moth on the Project Site, and the USFWS did not wish to consult on this species. As such, effects on this species are considered unlikely to occur. The DOE considers the analysis presented in the Draft EIS to adequately assess potential direct and indirect impacts on biological resources. The Final EIS has been updated to include final Conditions of Approval, which include pre-construction surveys, avoidance measures, and compensatory mitigation requirements, if found to be present on the Project Site. The full text of these conditions are provided in Table 2-10, and Section 3.10.2 has been updated summarize these Conditions of Approval by species.

Comment SS-10: North County Watch, the Center for Biological Diversity, and an individual commenter stated that protocol level surveys should have been performed for the Kern primrose sphinx moth. The Center for Biological Diversity also stated that surveys for special status species are inadequately identified, not comprehensive, and impacts are insufficiently mitigated. North County Watch stated that many pre-construction surveys are insufficient mitigation measures. In addition, the Center for

Biological Diversity stated that protocol surveys for blunt-nosed leopard lizard were inadequate because the entire Project Site was not surveyed.

Response to SS-10: As discussed in Section 3.10.1 of the EIS, extensive surveys were conducted for the Proposed Project for all special status species with the potential to occur on the Project Site, and these surveys met survey protocols whenever protocols were available. When protocols were not available, survey methods were developed in consultation with USFWS and CDFG, as appropriate. These surveys were not intended to be clearance surveys for construction. In some cases, the Draft EIS recommended as a mitigation measure that additional studies be undertaken at the pre-construction stage, where studies conducted at that time will allow for avoidance of the species. Preparation of these supplemental studies is not needed or appropriate at the EIS stage in order to determine impacts.

The Draft EIS identified that protocol surveys for blunt-nosed leopard lizard for the entire project area were not conducted; however, protocol-level surveys were conducted from 2007 through 2010 in all potentially suitable habitat within the Proposed Project Site, including within annual grassland, non-cropland, and cropland buffers around annual grassland and non-cropland (surveys of most cropland areas were not conducted as it is not suitable habitat for this species) areas of the Project Site. These protocol-level surveys did not find blunt-nosed leopard lizards on the Project Site. Conditions of Approval are included as Table 2-10 of the Final EIS, including conducting focused pre-construction surveys for blunt-nosed leopard lizard and implementing avoidance measures. These would reduce potential impacts on blunt-nosed leopard lizard, if found on the Project Site.

Additional Conditions of Approval are included in Table 2-10 in the Final EIS, including completing focused surveys for Kern primrose sphinx moth in all areas containing known individuals or populations of *Camissonia* spp. and implementing avoidance measures, which require completion of these surveys before any ground disturbance begins in such areas.

Comment SS-11: Center for Biological Diversity commented that kit fox numbers in the Draft EIS are inconsistent with the Final EIR.

Response to SS-11: The kit fox numbers in the Final EIS have been revised.

Comment SS-12: Center for Biological Diversity commented that the Draft EIS contained inadequate San Joaquin kit fox analysis and that there is inadequate data in the Draft EIS to analyze direct and indirect impacts on San Joaquin kit fox. The commenter suggested that the EIS estimate total population and home range locations, include further discussion of the importance of the Project Site to the continued existence San Joaquin kit fox, impacts on population and connectivity, analysis of project impacts on core areas, cumulative effects from other projects within the core habitat area, and impacts on the existing connectivity corridor. An individual commenter stated that the analysis does not include an explanation of how an adequate San Joaquin kit fox prey

base will be maintained. The Center for Biological Diversity has submitted a petition to the US Fish and Wildlife Service identifying critical habitat for San Joaquin kit fox in the Carrizo Plain, including the California Valley.

Response to SS-12: Section 3.10.1 of the Draft EIS disclosed the presence of San Joaquin kit fox on the Project Site. Figure 3-19, San Joaquin Kit Fox identifies the distribution of this species on and adjacent to the Project Site, and identifies and characterizes the importance of the Project Site to San Joaquin kit fox and other special status grassland species. The Draft EIS also states in Section 3.10.1 that surveys from 2008 through 2010 identified very few San Joaquin kit fox within Study Areas A and B. Three natal dens were documented in Study Area A and one natal den territory was identified in Study Area B. The Biological Opinion authorizes take of 18 San Joaquin kit fox due to harm and harass.

Section 3.10.2 of the Draft EIS evaluated the potential impacts that would be expected from the construction and operation of the Proposed Project. The Draft EIS identified that the Project Site lies within one of the three core San Joaquin kit fox populations as identified in the USFWS Recovery Plan. Section 3.10.2 of the Final EIS has been revised to include additional analysis of the San Joaquin kit fox core area and the connectivity corridor.

The Center for Biological Diversity states that the Draft EIS fails to analyze that the Proposed Project would reduce the width of the least cost path within the San Joaquin kit fox core area. Section 3.10.2 of the Final EIS has been revised to include this information.

The Draft EIS identified two other proposed projects within the three “core” San Joaquin kit fox populations, as described in Section 3.18.4, Cumulative Impact Analysis, of the Draft EIS.

Regarding San Joaquin kit fox prey base, San Joaquin kit fox feed on nocturnal rodents, lagomorphs, and other small mammals, and feed opportunistically on carrion, birds, reptiles, insects, and fruits (NatureServe 2011, USFWS 1998).

It is unlikely that the post-construction Project Site would completely decimate all small-to medium-sized animals that would serve as prey for San Joaquin kit fox, and is thus unlikely to cause San Joaquin kit fox extirpation as indicated in the individual commenter’s letter.

The petition submitted by the Center for Biological Diversity is noted.

Comment SS-13: Center for Biological Diversity and an individual commenter stated that the Draft EIS contained inadequate mitigation and avoidance measures for San Joaquin kit fox. For example, the commenter states that mitigation includes construction of artificial and escape dens, but that these are not always a successful mitigation strategy. In addition, the Center for Biological Diversity asserts that preservation of unspecified mitigation lands is not adequate, especially because potential mitigation lands

have not been identified. Because the project area represents core habitat for San Joaquin kit fox, the commenter recommends at least a 5:1 ratio for preservation of mitigation lands and states that these lands should include highly suitable habitat and identified linkages and movement corridors. The Center for Biological Diversity also stated that any lands proposed for habitat restoration should instead be considered for a solar Project Site. An individual commenter stated that there is no indication that kit fox prey will benefit from the habitat restoration strategy.

Response to SS-13: Artificial and escape dens are used to provide temporary shelter to San Joaquin kit fox from larger predators, such as coyotes. The artificial and escape dens are designed in such a manner as to preclude access by known San Joaquin kit fox predators. As described in the San Joaquin Kit Fox Mitigation and Monitoring Plan presented in Appendix E of the Draft EIS and Section 3.10.2 of the Draft EIS, artificial and escape dens will be installed at a rate of one two-entrance pupping den and at least four escape dens in every section (or square mile) of the Proposed Project. The placement of these dens will be approved by the County in consultation with the USFWS and CDFG prior to installation. Additionally, the dens may provide habitat for other smaller species such as burrowing owl. The artificial and escape dens are a part of a larger mitigation strategy for San Joaquin kit fox and are not intended to be successful on their own. Furthermore, the Proposed Project, and environmental protection measures (Table 2-9) and Conditions of Approval (Table 2-10) are not intended to increase on-site populations, but would provide habitat options for existing on-site San Joaquin kit fox if they do stay on site. The Project Proponent aims to achieve a corridor of protected areas for San Joaquin kit fox movement through the use of mitigation lands. Table 2-11 of the Final EIS identifies conservation land requirements, and the Biological Opinion issue by USFWS and included in Appendix E of the Final EIS identifies off-site conservation lands.

Please see the response to Comment SS-8 regarding mitigation ratios.

Regarding consideration of lands proposed for habitat restoration for solar uses, this comment is acknowledged.

Many of these species that would serve as prey for San Joaquin kit fox are accustomed to disturbance and occur in urban areas (e.g., mice, squirrels). As such, it is assumed that these species would remain or recolonize the site post-construction in similar numbers as occurred pre-construction. The Habitat Restoration and Revegetation Plan requirements, as presented as MM BR-1.3 in Table 2-10 and summarized in Section 3.10.2 of the Final EIS, will delineate how revegetation will occur and how it will benefit San Joaquin kit fox, its prey, and other wildlife species. This plan has been added to Appendix E of the Final EIS.

Comment SS-14: Center for Biological Diversity commented that rodenticide use should be restricted per the Standardized Recommendations for Protection of the San Joaquin Kit Fox and that if rodent control must be conducted, zinc phosphide should be

used. The EPA stated that rodenticides should be prohibited and that the document should be consistent in how it addresses this issue.

Response to SS-14: Environmental protection measure Bio-8 in Table 2-9 has been revised in the Final EIS to prohibit the use of rodenticide on the Project Site.

Comment SS-15: The Center for Biological Diversity stated that the Draft EIS does not adequately address the recommendations of the Recovery Plan for Upland Species of the San Joaquin Valley (USFWS 1998). In addition, the Center for Biological Diversity states that the EIS should identify and analyze movement corridors for giant kangaroo rat. This comment similarly relates to the San Joaquin antelope squirrel.

Response to SS-15: In response to this comment, the referenced recovery plan is not a land use plan, a Habitat Conservation Plan, or a Natural Community Conservation Plan, and only Federal agencies (not private landowners) are mandated to take part in the recovery plan. A recovery plan delineates, justifies, and schedules the research and management actions necessary to support recovery of a species. Recovery plans are used in setting regional and national funding priorities and providing direction to local, regional, and state planning efforts. The Recovery Plan for Upland Species of the San Joaquin Valley is intended to protect, at regional scales, many of the special-status species that occur in the Carrizo Plain. However, because the Project Site is privately held, the primary implementing tool of the Recovery Plan in the project area is the Endangered Species Act. As such, recommendations of the Recovery Plan will be incorporated into the Proposed Project as required by the USFWS through the Section 7 consultation process. See Appendix E of the Final EIS for the Biological Opinion issued by USFWS for the Proposed Project under the Section 7 consultation process.

The Draft EIS considered the life history characteristics of the giant kangaroo rat in the analysis of Proposed Project impacts. Because this species has limited long distance dispersal capability, the focus of the wildlife movement discussion was on species whose life histories warranted a different scale of analysis. In addition, the giant kangaroo rat and the San Joaquin antelope squirrel have not been found in extensive surveys at the Project Site.

Comment SS-16: Center for Biological Diversity commented that it is unclear if surveys were done for giant kangaroo rat and blunt-nosed leopard lizard for the PG&E Reconductoring Project.

Response to SS-16: Section 3.10.2 of the Final EIS has been updated to include information on which surveys were conducted to support the PG&E Reconductoring Project.

Comment SS-17: Center for Biological Diversity commented that the Draft EIS provided insufficient mitigation for blunt-nosed leopard lizard and states that if it is found on the Project Site, that the Proposed Project must be redesigned to avoid this fully protected species and its occupied habitat.

Response to SS-17: Section 3.10.2 of the Draft EIS disclosed that blunt-nosed leopard lizards are not expected to occur on the Project Site and therefore compensatory mitigation for this species would not be necessary. However, as a Condition of Approval, the County has required pre-construction surveys and avoidance of blunt nosed leopard lizard if found on-site (see MM BR-10.1 and MM BR-10.2 in Table 2-10 of the Final EIS). In addition, implementation of environmental protection measures, Conditions of Approval, and conservation land requirements for San Joaquin kit fox would benefit blunt-nosed leopard lizard should it occur in off-site areas adjacent to the Proposed Project.

Comment SS-18: Center for Biological Diversity commented that the rationale for the 250-foot buffer around vernal pools is not sufficiently explained. The commenter states that based on the arid conditions of the Carrizo Plain and the potentially altered hydrology, a larger buffer may be required in order to maintain pool integrity, especially in light of global climate change.

Response to SS-18: The 250-foot buffer for vernal pools disclosed in the Draft EIS was developed based on discussions with vernal pool experts and on guidance provided by USFWS to reduce or minimize impacts on surrounding upland hydrology that may affect the vernal pools and listed fairy shrimp. Additionally the buffer will provide an adequate amount of upland habitat for species such as the western spadefoot toad that may use these vernal pools as breeding habitat.

Regarding the request for a larger buffer, USFWS has confirmed in the Biological Opinion (see Appendix E) that a 250-foot buffer is sufficient to avoid impacts on listed fairy shrimp.

Comment SS-19: Center for Biological Diversity commented that impacts on golden and bald eagles, specifically on foraging, were insufficiently addressed in the Draft EIS. In particular, the Center for Biological Diversity states that the Draft EIS fails to identify how many golden eagle territories and how many bald eagles would be impacted by the Proposed Project. The commenter also states that straight-line view of disturbance may impact golden eagles, regardless of distance.

Response to SS-19: It may not be possible without extensive radio tracking and long-term monitoring to accurately assess the number of active eagle territories that may overlap the project area. However, information from the golden eagle report indicates that 22 golden eagle nests were identified in the surveyed area, nine of which were active and had nestlings present; none of the nests were located on the Project Site. Analysis in Kochert et al. (2002) of breeding season home ranges for golden eagles from several western United States studies showed an average home range of 20 to 33 square kilometers (7.7 to 12.7 square miles) that ranged from 1.9 to 83.3 square kilometers (0.7 to 32.2 square miles). In San Diego, a study of 27 nesting pairs found breeding ranges to be an average of 36 square miles, with a range from 19 to 59 square miles (Dixon 1937). Other studies from within and outside the United States include ranges from 9 to 74.2 square miles (McGahan 1968; Watson et al. 1992). Based on

these values, it is likely that several golden eagles may forage across the region. However, USFWS recommendations include a 0.5-mile nest protection buffer and evaluating an area of 4 miles from nests as foraging habitat (Electronic Communication between Strassburger, Marie, Regional Migratory Bird Chief, US Fish and Wildlife Service and Sara Keeler, California Energy Commission, February 2, 2010, regarding the Eagle Act).

Regarding the potential disturbance of nest sites, no part of the Project Site is located closer than 5.1 miles to a golden eagle nest site (inactive), and most of the identified nests are located out of direct line of site for the Proposed Project due to existing topography. Based on the distance from active nest sites, the Draft EIS concluded that mitigation would not be necessary to reduce these impacts. However, a draft Avian and Bat Protection Plan and Bird Monitoring and Avoidance Plan for the Proposed Project has been prepared and is included in Appendix E of the Final EIS; this plan is under review by USFWS.

Regarding bald eagles, the Draft EIS disclosed that bald eagles are occasional foragers on and transients on the Project Site. Bald eagles are not known to nest within the vicinity, and therefore population estimates for this species were not made. The Draft EIS has identified potential impacts on these species, and Condition of Approval MM BR-6.1 in Table 2-10 of the Final EIS describes pre-construction surveys and avoidance measures for nesting and breeding birds, including eagles.

Comment SS-20: Center for Biological Diversity stated that the Draft EIS does not provide an analysis of how the Proposed Project would affect the foraging ability of white-tailed kite, a fully protected species, and if the decrease in foraging could result in “take”. In addition, the Center for Biological Diversity stated that the number of white-tailed kites that occur in the area as well as on the Project Site should be clearly identified.

Response to SS-20: Information on potential foraging impacts has been added to Section 3.10.2 of the Final EIS. As described in Section 3.10.1 of the Draft EIS, white-tailed kite, while known to occur in the Carrizo Plain National Monument, were not observed on the Project Site. As such, quantification of white-tailed kite numbers was deemed unnecessary to the analysis.

Comment SS-21: Center for Biological Diversity commented that the Draft EIS does not adequately disclose potential impacts on rare raptors, including American peregrine falcon and Swainson’s hawk. The commenter also states that the Draft EIS fails to address specific mitigation for these species, other than power line avoidance.

Response to SS-21: Section 3.10.2 of the Draft EIS discloses Proposed Project-related impacts on raptors, including Swainson’s hawk; the Peregrine falcon is not found in the Proposed Project area and is not discussed in the EIS. Additionally, Conditions of Approval have been added as Table 2-10 of the Final EIS to avoid the potential for impact on this species and summarized in Section 3.10.2 of the Final EIS. The primary

mechanism for avoiding impacts on these species during construction is worker training, the collection of trash and debris that may attract the species, and the restoration of temporarily disturbed areas. As described in Response to Comment SS-19, an Avian and Bat Protection Plan and Bird Monitoring and Avoidance Plan for the Project has been included in Appendix E of the Final EIS.

Although not expected to nest on or near the site, pre-construction surveys of nesting and breeding birds would provide for the detection of these species should they elect to nest within any of the few trees or structures that occur on the Proposed Project Site (see MM BR-6.1 in Table 2-10). American peregrine falcon, bald eagle, white-tailed kite, and Swainson's hawk are all species that likely forage on the Proposed Project Site to some degree. Because of the lack of large nest trees, impacts on nesting are not expected to occur. The large-scale loss of foraging habitat, described in Section 3.9.2 of the Draft EIS, would be mitigated through the acquisition of conservation lands associated with San Joaquin kit fox (see Table 2-11 of the Final EIS for an overview of compensatory mitigation lands/conservation lands).

Comment SS-22: One commenter stated that while the Draft EIS states that the Proposed Project area is unlikely foraging habitat for the condor, there are active and inactive nests surrounding the plain and dead animals on the plain for foraging. Another commenter commented that the Project would destroy foraging habitat for raptors, including condors. Center for Biological Diversity commented that the Draft EIS fails to analyze potential local and cumulative impacts on the California condor.

Response to SS-22: Section 3.10.2 of the Final EIS has been revised to include more analysis regarding the California condor. Conditions of Approval have been added to Table 2-10 of the Final EIS describing measure to reduce potential impacts on condors from the Proposed Project (see MM BR-1.1, MM BR-6.1, and MM BR-11.1 in Table 2-10 of the Final EIS).

Comment SS-23: Center for Biological Diversity commented that additional studies should be conducted in on- and off-site badger territories if badgers would be passively relocated.

Response to SS-24: The Draft EIS identified potential impacts and mitigation to reduce impacts on American badger, including avoiding maternity dens and passively relocating the species if necessary. This species is considered a California Species of Special Concern, and take of this species does not require full compensation. The Project Site and surrounding areas support habitat for this species, and the exclusion of one or more badgers from the Project Site would not jeopardize existing population dynamics or result in a trend toward Federal or state listing. In addition, it is likely that after construction of the Proposed Project is complete, badgers would colonize the area to some degree (similar to their use of edge habitat on adjacent farmland). Therefore, DOE considers additional surveys on off-site parcels for American badgers to be unnecessary. Condition of Approval MM-25.1 in Table 2-10 of the Final EIS describes pre-construction survey and avoidance measure requirements related to American badger.

Comment SS-24: Center for Biological Diversity commented that the Draft EIS does not estimate potential impacts on habitat for San Joaquin coachwhip or identify appropriate mitigation strategies.

Response to SS-24: Section 3.10.2 of the Draft EIS assesses impacts on this species based on its potential to occur on the Project Site. The Draft EIS did not quantify the micro habitat use of this species, but rather considered this species to be broadly distributed across the Project Site. Condition of Approval MM BR-20.1 in Table 2-10 of the Final EIS requires focused pre-construction surveys and implementing avoidance measures for the species.

Comment SS-25: Center for Biological Diversity commented that the mitigation measures for western spadefoot toad should provide for avoidance of all potential breeding habitats, not just “known” breeding pools, and should provide an adequate buffer to minimize take of the breeding populations that use all the breeding habitats.

Response to SS-25: As described in Section 3.8.2, all jurisdictional wetlands and vernal pools that occur within the Project Site will be avoided. Additionally, a 25-foot buffer will be placed around all seasonal/ephemeral depressions, and a 50-foot buffer will be placed around vernal pools that have the potential to but do not presently support listed fairy shrimp. All vernal pools, seasonal depressions, and known waterbodies containing documented populations of listed fairy shrimp shall require a 250-foot buffer. Should western spadefoot toads be found within other areas of the Project Site, focused pre-construction western spadefoot toad surveys would be completed and avoidance measures would be implemented (see MM BR-21.1 in Table 2-10 of the Final EIS). Further, a Habitat Restoration and Management Plan would address impacts on the toad and requires that no site preparation or construction activities shall be permitted in the vicinity of any occupied ponds until the design and construction of the relocation habitat in preserved areas of the site has been completed and all western spadefoot toad adults, tadpoles, and egg masses detected are moved to the created pool habitat. This plan has been included in Appendix E of the Final EIS.

Comment SS-26: Center for Biological Diversity commented that the Draft EIS does not note that the Carrizo Plain is a globally recognized Important Bird Area. The Center for Biological Diversity also stated that the Draft EIS does not provide adequate baseline survey data to analyze impacts on migratory birds and that this may violate both the requirements of NEPA and the Migratory Bird Treaty Act. In addition, the Center for Biological Diversity stated that the Draft EIS downplays documented fatalities from birds colliding with solar panels. The commenter suggested that the Proposed Project include an Avian (and Bat) Protection Plan to provide information and adaptive management requirements related to collisions of birds and bats with solar facilities. The Center for Biological Diversity noted that Executive Order 13186 requires a Memorandum of Understanding with the USFWS to promote conservation of migratory birds.

Response to SS-26: Regarding identification of the Carrizo Plain as an Important Bird Area (IBA), please refer to the Audubon California letter submitted in response to the

Draft EIR, which states that the project area is outside the boundary of the IBA. In addition, the Draft EIS clearly identifies the importance of the Carrizo Plain to both resident and migratory birds. The Draft EIS discloses impacts on resident and migratory birds and provides mitigation to reduce these impacts. The fact that the Draft EIS did not specifically reference the information provided in the comment does not alter the conclusions presented in the analysis. However, DOE appreciates the supplemental information provided in the comment.

The Final EIS has been revised to recognize the potential threats associated with solar panel collisions. Bird fatality studies conducted at the Calico Solar facility near Daggett, California indicated that much of the bird mortality consisted predominantly of collisions with mirrors. The Draft EIS does not downplay these potential impacts, but rather recognizes that long-term studies of large-scale solar projects have not been conducted. Nonetheless, the Final EIS proposes mitigation to reduce potential impacts, including preparation and implementation of a Bird and Monitoring and Avoidance Plan (a draft plan, currently under review by USFWS, has been included in Appendix E of the Final EIS). This plan would document the level of bird mortality and if the County and regulatory agencies deemed the mortality excessive, would require the Project Proponent to take corrective actions, including the placement of additional bird flight diverters, alterations to Proposed Project components that have been identified as key mortality features, or other appropriate actions approved by the County and regulatory agencies. Conditions of Approval to avoid impacts on sensitive bats include requiring pre-construction maternity colony or hibernaculum surveys for sensitive bats, providing substitute roosting habitat for bats, and excluding bats prior to eviction from roosts (see MM BR-27.1, MM BR-27.2, and MM BR-27.3 in Table 2-10 of the Final EIS).

In response to the comment, Executive Order 13186 requires only other Federal agencies to sign a Memorandum of Understanding with USFWS to promote conservation of migratory birds.

Comment SS-27: Center for Biological Diversity commented that plants listed on the California Native Plant Society's (CNPS) List IB are eligible for listing under the California Endangered Species Act. The commenter noted that that CNPS List IB plants were found on the Project Site, including round-leaved filaree, Spiny-sepaed button celery, Diamond-petaled California poppy, Santa Lucia dwarf rush, Munz's tidytips, and shining navarretia. The Center for Biological Diversity asserted that the Draft EIS does not include adequate avoidance, minimization, and mitigation measures to address impacts on these species, and, therefore, the Draft EIS does not meet NEPA standards. The commenter stated that the Draft EIS fails to acknowledge that northern claypan vernal pools (2.2 acres), ephemeral wetland depression (0.7 acres), and natural non-wetland pool (0.7 acres) found on the Project Site represent rare plant communities according to the California Department of Fish and Game. In addition, the Center for Biological Diversity asserted that impacts on rare plant communities must be addressed in the EIS.

Response to SS-27: The Draft EIS acknowledges the importance of these species and their status under NEPA. As such, Section 3.10.2 of the Draft EIS discloses impacts on these species. Condition of Approval have been incorporated into the Final EIS (see Table 2-10), including the acquisition, preservation, and enhancement of habitat occupied by these species as mitigation for impacts. While these impacts are potentially severe, DOE considers the mitigation adequate to reduce these impacts to less than significant levels. The Draft EIS acknowledges potential impacts on vernal pools, ephemeral wetland depressions, and natural non-wetland pools in Section 3.8.2. The impacts on rare plant communities were considered in the assessment of impacts on biological resources. Specifically, these acreages were identified in Section 3.8.2 of the Draft EIS in Tables 3-15 and 3-16; acreages in Table 3-15 of the Final EIS have been updated to reflect the County-approved project layout. These impacts have thus been disclosed and measures to reduce these impacts have been incorporated in the Proposed Project.

Comment SS-28: Center for Biological Diversity commented that with the exception of Kern sphinx moth, the Draft EIS fails to provide any information on rare insects on the Project Site, and no surveys or evaluation of rare or common insects are included in the Draft EIS.

Response to SS-28: The Draft EIS considers those species with a potential to occur on the Project Site. While it is possible that other unknown or poorly studied insects occur on the site, the Draft EIS utilized the best scientific information available at the time as the basis for analysis. As such, the Draft EIS adequately assesses impacts on rare insects.

Comment SS-29: Center for Biological Diversity commented that the Draft EIS fails to analyze the effect of polarized light on predatory relationships between species, including impacts on insects, thereby affecting community structure, diversity, and dynamics.

Response to SS-29: Section 3.10.2 of the Final EIS has been revised to include more detail on the potential effects caused by polarized light.

Comment SS-30: EPA suggested considering prohibiting construction activities within 250 feet for nesting burrowing owls and 500 feet for raptor nests.

Response to SS-30: Section 3.10.2 of the Final EIS has been revised as suggested; Conditions of Approval MM BR-22.1 and MM BR-6.1 include these avoidance distances for burrowing owl and raptors, respectively.

Comment SS-31: Center for Biological Diversity commented that the Draft EIS failed to consider the impact of polarized light from solar arrays on species that are sensitive to polarized light.

Response to SS-31: Section 3.9.2 of the Draft EIS disclosed that operation of the Proposed Project could result in an increase in polarized light pollution. Additional

information on polarized light has been added to Section 3.9.2 of the Final EIS to discuss the potential for polarized light pollution or glare to affect birds and insects.

Comment CUL. Cultural Resources

Comment CUL-1: The Tribal Administer for the Northern Chumash Tribal Council stated that the Project Proponent has been very respectful, done complete surveys of the areas, and moved their Proposed Project to protect Native American Chumash Cultural Resources, and that they hoped more companies would follow what the Project Proponent has done in meaningful consultations.

Response to CUL-1: The Tribal Administrator's comments have been noted.

Comment CUL-2: EPA recommended that the Final EIS describe the outcome of government-to-government consultation, additional issues that were raised, if any, and how those issues were addressed.

Response to CUL-2: Information about the process and outcome of government-to-government consultation has been updated in Section 3.11.3, Tribal Consultation and Outreach, of the Final EIS. As described in Comment CUL-1, above, one tribe responded in support of the Proposed Project and consultation, and had no additional input or comment on the Proposed Project.

Comment SOC. Socioeconomic Resources

Comment SOC-1: North County Watch commented that the cost of reconductoring and constructing two substations will be borne by the taxpayer and is an unnecessary expense because equivalent megawatt renewable could be sited in areas requiring less upgrade to the grid.

Response to SOC-1: The comment had been noted.

Comment PHS. Public Health and Safety/Hazardous Materials and Waste

Comment PHS-1: The EPA expressed concerns related to cadmium (Cd) emissions associated with unanticipated incidents such as grass fires, uncontrolled disposal, and leaching to groundwater based on a statement made by the Fraunhofer Institute on their Web site. This statement suggested a need for further research related to releases due to fire, as well as for toxicity or ecotoxicity studies. The EPA recommended that the Final EIS disclose the amount of cadmium telluride (CdTe) and Cd that would be on-site in the modules and include a Broken PV Module Detection and Handling Plan to ensure broken modules are adequately detected and handled as California-only hazardous waste.

Response to PHS-1: As recommended by the EPA, information has been added to the Final EIS regarding the amount of cadmium compounds that would be present on the site. Specifically, Section 3.15.2 of the Final EIS has been revised to state that the total

on-site quantity of CdTe in the approximately 9,000,000 modules would be approximately 123.0 tons and cadmium sulfide (CdS) would be 2.45 tons. The total amount of cadmium and tellurium that is fully encapsulated within the modules at the site would be approximately 59.5 tons and 65.4 tons, respectively.

The concerns that EPA attributes to the 2010 comments of the Fraunhofer Institute were addressed in the Draft EIS at pages 3-228 to 3-229. To summarize, many third-party scientists and government agencies have concluded that the design of First Solar's PV modules makes the release of CdTe from the modules under unexpected and worst-case scenarios extremely unlikely. The likelihood that CdTe would be released to the air as a result of a module becoming cracked or broken is remote. Similarly, the potential for CdTe to leach from a broken module is negligible, and even if leaching was assumed to occur, the likelihood of it leaching from the soil to groundwater is extremely low. In addition, it is unlikely that a wildfire would reach a high enough temperature and last long enough to mobilize CdTe from the modules, and even if it did, the amount of CdTe that would be mobilized is negligible. As discussed below, uncontrolled disposal of PV modules is unlikely to occur because the County has mandated that all broken PV modules be recycled, collection and recycling costs are pre-paid by First Solar, and, under current California law, broken PV modules must be handled as California-only hazardous waste and therefore may not be disposed of in a landfill.

As updated in the Final EIS, the Project Proponent has committed to prepare and implement a plan to identify, remove, and properly handle broken PV modules to address remaining concerns that broken or damaged PV modules could result in the inadvertent release of cadmium compounds into the environment (see revisions to Haz-I in Table 2-9 of the Final EIS). The Project Proponent has submitted a draft of this plan to the County and after review and approval by the County, the Project Proponent will prepare the final version prior to construction and implement it upon approval. The draft plan provides that during construction, all new modules that arrive on-site will be inspected, and any that show physical signs of broken or cracked glass will be stored in appropriate containers that will be sealed and shipped to a recycling facility in the US. PV modules will be subject to further inspection during the commissioning phase, when the installed arrays are tested to ensure they function properly and meet performance expectations. During commissioning of each PV array, all connected PV modules are tested for proper electrical connections and performance. This testing process will identify PV modules that are not functioning properly. PV modules that are identified as broken or otherwise not functioning properly would be removed and replaced with new PV modules.

During the operations phase of the Proposed Project, the draft plan calls for the Project Proponent or the current owner of the Proposed Project to identify PV modules that become damaged or defective through several processes. First, all PV modules will be inspected annually during a regularly scheduled inspection and maintenance procedure. Second, continuous evaluation of array performance through the Proposed Project's power monitoring system (SCADA) will highlight poor performing arrays and enable

defective or broken modules to be identified. Third, annual evaluation of current flows from each combiner box will also identify low performing rows of modules, which could be associated with non-functioning modules. Fourth, periodic inspection of modules occurs as part of equipment repairs and routine inspections of the PV array.

Under the draft plan, broken modules will be handled by personnel in accordance with standardized procedures. Once removed from the array, the broken modules will be stored in appropriate containers, which will be sealed and shipped from the Project Site for recycling in the US. Storage, transportation, and recycling of the modules will be in full compliance with local, state, and Federal regulations.

The requirement for and details of this plan has been added to Section 3.15.2 of the Final EIS. As described in the County's Final EIR, additional issues that the County will evaluate during its review of the plan include module inspection requirements, such as inspections after specific events like fire or earthquakes; time restrictions for damaged or malfunctioning module replacement; fence line signs with a call-in number for the public to report potentially broken modules; a more specific and scheduled continuous improvement process; and a differentiation between the removal and handling requirements for physically broken modules, particularly severely broken modules, versus non-functional or underperforming modules. An additional issue the County would evaluate is procedures that ensure that the modules and packing materials do not contain cadmium dust from the module manufacturing facility when received at the Project Site.

The County would also have oversight to ensure that all modules are recycled and that the funding instrument for module recycling remains viable throughout the Proposed Project's life. First Solar will pre-fund the module recycling program, which will be controlled by a third-party financial institution and would be subject to third-party audits to ensure its ongoing viability. California Department of Toxic Substances Control is considering regulating end-of-life modules as universal or special waste, which would still require recycling to obtain that waste status. Proper disposal through recycling or as a California hazardous waste would prevent risks associated with uncontrolled disposal and leaching to groundwater.

Comment PHS-2: The EPA requested that the Final EIS include additional information regarding the potential for CdTe to be released from PV modules during grassland wildfires, including discussion of grassland wildfires as a safety risk for the general project area and measures to reduce such risk.

Response to PHS-2: The Draft EIS recognized that grass fires could occur at the site and summarized studies evaluating potential risks during fire that showed negligible CdTe emissions. Section 3.15.2 of the Final EIS includes more information on the potential for CdTe release during grass fires, and describes the Conditions of Approval to the County conditional use permit to minimize risk by reducing fuel load (including placing spark arrestors on all internal combustion engines during construction, and limiting vegetation to a height of 4 to 12 inches and less than 1,050 pounds per acre). These

measures would reduce the potential fuel for a grass fire to the point where there would be no potential for significant module damage that could lead to the release of CdTe. With these measures, even if a grassland wildfire occurred, conditions that could cause CdTe to be released from the modules during the fire are unlikely to occur at the Project Site because of the lack of fuel on the site to support a sustained wildfire. As a result, these fires are unlikely to expose PV modules to prolonged fire conditions or cause temperatures high enough to volatilize CdTe, which has a melting point of 1041 degrees Celsius. These measures would reduce the potential fuel for a grass fire to the point where there would be no potential for significant module damage that could lead to the release of CdTe.

Comment PHS-3: The EPA requested that the 30+ year lifespan of the Proposed Project be taken into consideration regarding decommissioning and reclamation, and recommended that the Final EIS identify bonding or financial assurance strategies for decommissioning, module recycling, and reclamation.

Response to PHS-3: In its permitting process, the County placed a mandatory condition on the Project Proponent to establish a financial assurance mechanism for decommissioning, module recycling, and reclamation (see MM HZ-1.6 in Table 2-10 of the Final EIS). In particular, the Project Proponent is required to enter into an agreement with the County to establish and maintain a non-wasting Decommissioning Fund that provides sufficient financial assurances to fully restore the Project Site to pre-Project conditions. This condition further provides that the County can utilize the Decommissioning Fund in the event that the Project Proponent or a future Proposed Project owner does not properly decommission the Proposed Project or restore the Project Site to pre-project conditions, or abandons the Proposed Project.

In addition, as discussed in response to Comment PHS-1 above, during the construction and operational phase of the Proposed Project, the County has required that all broken PV modules be recycled. The cost of collecting and recycling broken PV modules will be covered by First Solar's pre-funded PV module collection and recycling program.

Comment PHS-4: One commenter stated that the release of cadmium is likely to happen and submitted a report performed by an independent source that shows the release of cadmium is a good possibility (see Appendix RTC-C). As described in response to Comment PHS-1 and PHS-2, above, DOE considers the potential for substantial release to be low for the reasons described above. In addition, the commenter stated that First Solar does not recycle cadmium from its panels because there is no use for recycled cadmium.

Response to PHS-4: See the responses to comments PHS-1 and PHS-2, above. The commenter's comment on cadmium recycling is noted.

Comment PHS-5: One individual commented that the Draft EIR and Draft EIS insufficiently described Valley Fever and inadequately addressed the risks of and mitigation for the spread of Valley Fever. Specific impact concerns were dust-generating

activities that could spread Valley Fever to other areas and to sensitive receptors at Carrisa Plains Elementary School.

Response to PHS-5: Not all of the proposed Project Site would require the grading of land for the modules to be installed, and dust mitigation would reduce the risk of spreading Valley Fever.

In response to this comment, additional text has been added to Section 3.15.1 of the Final EIS to reflect the at-risk factors for contracting Valley Fever, the incidence rate in California, and some of the information on outbreaks in California in recent years. Section 3.15.1 already states the risk of infection of being three percent per year for people in the endemic area. In response to the comment, Condition of Approval MM AQ-1.3 has been included in Table 2-10 of the Final EIS. This condition relates to reducing fugitive dust, including requiring development of a Dust Management Plan that addresses management of dust to reduce the potential for exposure to Valley Fever. This plan would be reviewed and approved by the San Luis Obispo County Health Department prior to the issuance of permits.

Comment TT. Traffic and Transportation

Comment TT-1: One commenter stated that nothing can mitigate for impacts on local residents from the increased travel time between the Proposed Project area and local towns during the three-year construction period.

Response to TT-1: The commenter's concern is noted. The Proposed Project includes measures to reduce impacts on traffic and transportation, including providing shuttle buses to transport most workers to and from the Project Site and implementation of the Topaz Truck Management Plan as described in the Draft EIS. Section 3.16.2 of the Draft EIS recognizes the adverse impacts on individual drivers that would occur during construction of the Proposed Project, particularly in the area subject to the Topaz Truck Management Plan along Highway 58.

Comment TT-2: One commenter stated that the scale of the Proposed Project can result in traffic accidents during flooding, rainy times, and weekends with construction traffic and tourists. The commenter stated that the community has voiced these concerns but they were not in the Draft EIS and that they should be in the Final EIS.

Response to TT-2: Information on the potential increase for traffic-related accidents during construction has been added to Section 3.15.2, Public Health and Safety and Hazardous Materials and Waste, of the Final EIS.

Comment OT. Other Considerations

Comment OT-1: One commenter commented that long-term impacts need to be analyzed. The commenter described how a past project owner closed the facility and left numerous pallets behind and that a new company couldn't be trusted to not do the same thing.

Response to OT-1: Long-term impacts were discussed in Section 4.2 of the Draft EIS. Measures put in place by the County to avoid a situation similar to the one described by the commenter were described in Section 2.3 of the Draft EIS. These measures have been included as Conditions of Approval in Table 2-10 of the Final EIS. Please see response to comment PHS-3, above, for a description of the conditions required by the County.

Comment OT-2: Center for Biological Diversity commented that NEPA regulations also require that indirect effects including changes to land use patterns and induced growth be analyzed.

Response to OT-2: Section 4.4 of the Draft EIS included an analysis of growth-inducing impacts. Discussion of potential changes to land use patterns that could result from the permitting of the Proposed Project in the project area has been added to this section.

2.4.3 Project Proponent Comments

Comments submitted by the Project Proponent are reproduced below, along with the responses detailing whether the suggested changes were made to the Final EIS verbatim, were modified, or were not implemented, and why.

Comment PP-1: Throughout the Draft EIS text and various tables, it is sometimes stated that construction of the Proposed Project will be completed in approximately three years and sometimes stated that it will occur within three years. While it is Topaz's goal to complete construction of the Proposed Project in the shortest timeframe while still fully complying with various county, state, and Federal approvals, permits, and authorizations, circumstances may arise that result in a longer construction period than three years. Accordingly, please revise the reference to the construction period to "approximately three years."

Response to PP-1: References to the duration of the construction period have been changed to "approximately three years" throughout the Final EIS.

Comment PP-2: In the Project Purpose and Need (Summary and Section 1.3.1), the Final EIS should include, either in the third or fourth bullet, or in a new bullet, a statement that on April 12, 2011, California Governor Jerry Brown signed Senate Bill SBXI-2 into law, which mandates that the state adopt a 33 percent Renewable Portfolio Standard by the year 2020.

Response to PP-2: Information on Senate Bill SBXI-2 has been added to the Project Purpose and Need Section in the Summary and in Section 1.3.1 of the Final EIS.

Comment PP-3: The Draft EIS states that the Project Proponent will establish (create) new waters within the impacted watershed. This is not quite correct. Rather, Topaz will re-establish previously existing waters that have been lost to prior land use activities within the impacted watershed and are currently uplands. Please revise the last sentence

of the last paragraph in the section as follows: "... in the form of ~~establishment (creation) of new~~ re-establishment of former waters within the impacted watershed."

Response to PP-3: The passages discussing USACE Purpose and Need in the Summary and Section 1.3.3 have been revised as suggested in the Final EIS.

Comment PP-4: The first sentence of the first paragraph (Draft EIS page S-5, Proposed Action) is confusing and makes it appear as though there are two switching stations, when in fact there is only one switching station. We suggest that this sentence be revised as follows: "... for delivery via a new on-site Pacific Gas and Electric Company (PG&E) switching station, ~~and the PG&E switching station~~ that interconnects the Proposed Project to PG&E's existing Morro Bay to Midway 230-kV transmission line"

Response to PP-4: The Summary and Section 1.2 have been changed as suggested to clarify that one switching station would be developed on the Project Site.

Comment PP-5: The last paragraph (Draft EIS page S-5, Proposed Action) should also refer to Senate Bill SBX1-2 as a mandate for achieving the 33 percent renewable electricity source goal. See also Comment S#1 (PP-10).

Response to PP-5: Text in the Final EIS has been revised as suggested.

Comment PP-6: In the last paragraph (Draft EIS page S-6, Project-Specific Alternatives), which describes Alternative A, please revise the last sentence to incorporate the information provided above regarding Alternative 3B.1 (the County-approved project layout), which is referred to in the Final EIR as Alternative 3B.1. We suggest that the last clause be revised as follows: "although Project Layout 3B.1 is only approximately 3,500 acres."

Response to PP-6: The Project-Specific Alternatives section (Summary and Section 1.3.1) has been revised to incorporate information on the County-approved project layout. Please see response to Comment G-3.1.

Comment PP-7: In the first line of the first sentence of the first paragraph (Draft EIS page S-11, USACE Proposed Action and Alternatives, Proposed Action), please insert "a" in between "requires" and "US Army Corps of Engineers."

In addition, the second sentence of the first paragraph should be revised because the USACE will incorporate the NEPA analysis provided in the EIS into its Clean Water Act ("CWA") alternatives analysis pursuant to the Section 404(b)(1) Guidelines. We propose the following revision to clarify this sentence:

The USACE will incorporate the EIS into their ~~As part of a separate CWA alternatives analysis in accordance with the Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), USACE will incorporate into their NEPA analysis an evaluation of~~ to evaluate the potential impacts on the

aquatic environment resulting from the construction and operation of the Proposed Project.

Response to PP-7: The changes have been made as suggested. Please see response to Comment WR-2 for more information pertaining to the Section 404 Permit.

Comment PP-8: Under the “Water Resources” section of Table S-3, third sentence (page S-19, Summary of Environmental Impacts, Table S-3), the description of impacts on jurisdictional ephemeral drainages is incorrect, in that trenching will not result in permanent impacts on jurisdictional ephemeral drainages, only temporary impacts. This description should be replaced with the following:

Construction of at-grade road crossings and associated scour arrestors would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages, and construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional ephemeral drainages.

Response to PP-8: The information in the Final EIS has been revised to distinguish between permanent and temporary impacts on jurisdictional ephemeral drainages.

Comment PP-9: In Chapter 1, please correct the header so that it states: “1. Purpose and Need,” throughout the chapter.

Response to PP-9: The above change has been made as suggested.

Comment PP-10: The Draft EIS should include, either in the third or fourth bullet (Section 1.3.1, pages 1-4 to 1-5), or in a new bullet, a statement that on April 12, 2011, California Governor Jerry Brown signed Senate Bill SBX1-2 into law, which mandates that the state adopt a 33 percent Renewable Portfolio Standard by the year 2020.

Response to PP-10: Section 1.3.1 has been revised to include Senate Bill SBX1-2.

Comment PP-11: The Draft EIS states that the Project Proponent will establish (create) new waters within the impacted watershed. This is not quite correct. Rather, Topaz will re-establish previously existing waters that have been lost to prior land use activities within the impacted watershed and are currently uplands. Please revise the last sentence of the last paragraph in the section as follows: “... in the form of ~~establishment~~ (creation) of new restoration of former waters within the impacted watershed.”

Response to PP-11: The Final EIS has been revised to clarify that the Project Proponent is proposing to restore former waters within the impacted watershed.

Comment PP-12: The first paragraph should be amended to include the latest developments in the County’s environmental review of the Project Proponent’s application for a conditional use permit. Please revise the second to the last sentence of the first paragraph as follows: “A draft environmental impact report (EIR) was released

by the County in October 2010, and after a public comment period, a final EIR was released by the County in March 2011.”

Response to PP-12: The Final EIS has been revised as suggested.

Comment PP-13: In the second to last sentence of the second paragraph in Section 1.4.2, County Permitting Overview subsection, please insert, “including Project Layout 3B.1,” after “The Proposed Project” to acknowledge that Project Layout 3B.1, which is the same as Alternative 3B.1 as described in the Final EIR, is the Project Proponent’s layout recommended for adoption by County Planning staff to the Planning Commission.

Response to PP-13: Section 1.4.2, County Permitting Overview subsection, has been updated.

Comment PP-14: In the first line of the first paragraph of Draft EIS Section 1.4.3, please insert “Bay” between “Morro” and “to Midway.”

Response to PP-14: The above change has been made as suggested.

Comment PP-15: The discussion of the relationship between the Proposed Project, the proposed PG&E switching station, and the PG&E Reconductoring Project in the context of this NEPA document should be clarified. Please revise the last sentence in the third paragraph as follows:

Because these upgrades are required to interconnect the PG&E switching station for the Proposed Project is evaluated in this EIS as part of the Proposed Project. Because the reconductoring of 35 miles of 230-kV transmission lines is required to interconnect the final 150 MW of the Proposed Project’s generation capacity and other projects in the region, they are being evaluated in the EIS as a connected action (see Section 2.4).

Response to PP-15: The above change has been made as suggested.

Comment PP-16: The Final EIR has determined in the CEQA process that Project Layout 3B.1, known in the Final EIR as Alternative 3B.1, is the environmentally superior 550-megawatt alternative. Project Layout 3B.1 will have a fenced area of approximately 3,500 acres that is completely within the footprint of Study Area A. Therefore, the environmental impacts of Project Layout 3B.1 were fully analyzed in connection with the Alternative A impacts because Project Layout 3B.1 is a specific alternative located entirely within Study Area A and encompassed by the Alternative A environmental analyses.

Response to PP-16: The comment has been noted. The Final EIS has been revised to reflect the County-approved project layout. The response to Comment G-3.1 describes the treatment of the County-approved project layout in the Final EIS.

Comment PP-17: The fourth sentence of this paragraph (Section 2.1.3, page 2-5, Alternative B) states that Figure 2-1 shows the amount of land in Study Area B that does not overlap with Study Area A are under Williamson Act contracts. This appears to be incorrect, as Figure 2-1 does not have a reference to Williamson Act lands. Please clarify the Draft EIS or develop a new figure that conveys the information described in this sentence.

Response to PP-17: The Final EIS has been revised to include this information.

Comment PP-18: The first paragraph (Section 2.3.2, page 2-20, Solar Generating Equipment) states that the wooden poles for the overhead 34.5-kV high capacity collection system lines would be approximately 43 feet high. While the majority of the electrical collection system poles for the Proposed Project are designed to be a maximum of 43 feet in height, there are 25 poles that will need to be taller, up to 52 feet tall. To minimize the total length of electrical collection system cables and limit the number of collection system corridors, we have consolidated the electrical collection system. This is accomplished by designing each corridor to collect the maximum number of circuits feasible. This becomes more challenging as the collection system approaches the Project substation because more circuits must be collected into a single corridor. In order to carry the necessary number of circuits within about 0.5 mile of the Project substation, the collection system poles will need to be slightly higher to provide the necessary spacing between cables.

The limited number of 52 foot poles will be located in consolidated collection system corridors within 0.5 miles of the Project substation. As they will be located close to the Project substation and existing high-voltage transmission lines, these poles will blend in with the existing viewshed and will not cause additional visual impact. The updated visual simulations prepared by Truescape, Ltd. included in Exhibit B to this letter, which were specifically prepared to reflect Project Layout 3B.1 and which were provided to the County as part of the CUP approval process, reflect the collection system pole heights described in this letter.

Accordingly, please revise the EIS accordingly to state, “Wooden poles approximately 43 to 52 feet high would support these overhead lines.”

Response to PP-18: Text in the Final EIS has been revised as suggested.

Comment PP-19: Please incorporate the attached map of Project Layout 3B.1 (Section 2.3.2, page 2-20, Solar Generating Equipment) into Figure 2-7 to update the “Reduced Acreage PV Array Layout.”

Response to PP-19: The County-approved project layout has been incorporated into Figure 2-7 as requested.

Comment PP-20: Please revise the first line of the first sentence (Section 2.3.2, page 2-25, Solar Energy Learning Center) to say that “the Project Proponent ~~would~~ may construct and operate a Solar Energy Learning Center....” This change reflects the

County's draft Condition of Approval that provides Topaz the options of donating money to the local community center or building an on-site or off-site Solar Energy Learning Center.

Response to PP-20: Text in the Final EIS has been revised as suggested.

Comment PP-21: In response to requests from the state and Federal wildlife agencies and environmental organizations, Topaz revised the fencing design to facilitate passage of the San Joaquin kit fox ("kit fox"). Instead of providing small openings at the base of the fence approximately every 100 yards, as is currently stated in the Draft EIS, the bottom of the fencing is to be continuously elevated five to six inches above the ground to allow for kit fox passage. Please revise the Draft EIS accordingly (Section 2.3.2, page 2-25, Fencing).

Response to PP-21: Text in the Final EIS has been revised as suggested.

Comment PP-22: First, the first sentence of the first paragraph of this section on page 2-25 (Section 2.3.2, pages 2-25 to 2-26, Drainage Improvements) could be misread to mean that all ephemeral drainages within Study Areas A and B are subject to USACE jurisdiction under CWA Section 404. This is not the case, as documented by Althouse & Meade and Huffman-Broadway Group (2010) and discussed further in Chapter 3, Section 3.7.2. Accordingly, please revise the first sentence of the first paragraph by inserting "some of" in between the comma and "which."

Second, the first line of the first paragraph on page 2-26 implies that placement of PV module support posts is "fill" that requires a permit from the USACE. As reflected in the application to the USACE for an individual Section 404 permit, placement of the PV module posts does not constitute "fill" and therefore the USACE's authorization is not required for this activity. It was found that where PV modules extend across ephemeral drainages, direct fill impacts on waters could be avoided because the PV modules are placed on piles and can accommodate an ungraded surface. Piles are exempt from USACE regulation as "fill" in accordance with 33 C.F.R. § 323.3(c)(2).

Third, the first sentence of third paragraph on page 2-26 should distinguish between permanent and temporary impacts on jurisdictional ephemeral drainages that would result from the Proposed Project and the proposed mitigation ratios for each of those two kinds of impacts. In addition, at the end of the first sentence in the third paragraph, please replace "ration" with "ratio." To summarize, we request that you replace the first sentence of the third paragraph with the following text:

The Project Proponent would compensate for ~~the permanent impacts to loss of~~ jurisdictional ephemeral drainage habitat through ~~re-establishment in-kind habitat restoration~~ of a portion of former waters within of the main drainage at a minimum ration of 2:1. In addition, the Project Proponent would compensate for temporary impacts ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 1:1.

Fourth, in the last sentence of third paragraph states that the 100-foot buffer for the mitigation area “will” be protected by a recorded confirmation easement. Although a 100-foot buffer for the main ephemeral drainage is provided for in Project Layout 3B.1, no decision has been made at this time as to whether the buffer will be included in the easement. Therefore, please revise the beginning of this sentence as follows: “The mitigation area and, potentially, the buffer will be protected”

Response to PP-22: The Final EIS has been revised accordingly to accommodate these corrections.

Comment PP-23: To clarify the scope of the environmental analysis in the Draft EIS, please revise the second sentence in the first paragraph (Section 2.3.3, page 2-29, PG&E Switching Station) of this subsection as follows: “Although the PG&E switching station is included ~~within the scope~~ as part of the Proposed Project for purposes of this EIS,”

Response to PP-23: Text in the Final EIS has been revised as suggested.

Comment PP-24: Please delete the hanging left parenthesis (Section 2.3.4, page 2-35, Site Preparation) in the second sentence of the third paragraph on this page.

Response to PP-24: Text in the Final EIS has been revised as suggested.

Comment PP-25: Table 2-6 (Section 2.3.4, page 2-40, Table 2-6) should be amended to account for the fact that Topaz will use mineral oil in the main step-up transformers, as described in Chapter 3, Section 3.14, page 3-224. Mineral oil is a hazardous material. Please insert a row in Table 2-6 as follows:

Mineral Oil	Main Step-up Transformers	72,000 gallons
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Response to PP-25: The Final EIS has been revised to include this information.

Comment PP-26: Consistent with Comment PA#10 (PP-25) above, please insert a row in Table 2-7 (Section 2.3.5, page 2-43, Table 2-7) as follows:

Mineral Oil	Main Step-up Transformers	72,000 gallons
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Response to PP-26: The Final EIS has been revised to include this information.

Comment PP-27: To ensure the accuracy of the Draft EIS’s description of the funding mechanism for the First Solar Recycling Program, please revise the first bullet (Section 2.3.6, page 2-44, Solar Project Decommissioning) as follows: “... in a restricted investment account controlled by a third-party insurance company under a trust structure and controlled by a major financial institution.”

Response to PP-27: Text in the Final EIS has been revised as suggested.

Comment PP-28: First, the “Status” column in Table 2-8 (Section 2.3.7, pages 2-45 to 2-46, Table 2-8) for the Section 7 Consultation should be updated to reflect that consultation was formally initiated by DOE in February 2011.

Second, the Proposed Project will not require: (1) a Flood Control/Drainage Channel/Encroachment/Crossing Permit, or (2) an Authority to Construct and Permit to Operate – New Stationary Source. Please delete these permits from Table 2-8.

Third, the text in “Status” column in Table 2-8 for CEQA Authorization should be replaced with “Final EIR released in March 2011,” to reflect the current status of that process.

Response to PP-28: The Final EIS has been revised to include this information.

Comment PP-29: First, to the extent that Measure Number Bio-2 on page 2-48 (Section 2.3.8, pages 2-48 to 2-55, Table 2-9) is not amended when the County’s Conditions of Approval are incorporated into Table 2-9, please revise Bio-2 to reflect that the fencing design to facilitate passage of the San Joaquin kit fox (“kit fox”) has been modified at the request of the state and Federal wildlife agencies. As described in Comment PA#6 (PP-21) above, instead of providing small openings at the base of the fence approximately every 100 yards, as is currently stated in the Draft EIS, the bottom of the fencing is to be continuously elevated five to six inches above the ground to allow for kit fox passage.

Second, Measure Number WQ-1 should distinguish between the Proposed Project’s permanent and temporary impacts on jurisdictional ephemeral drainages and the mitigation ratios that would be utilized in each. Consistent with Comment PA#7 (PP-22) above, and to the extent Measure Number WQ-1 is not revised at the County level, please revise the first sentence of Measure Number WQ-1 as follows:

The Project Proponent would compensate for ~~the permanent impacts to loss of~~ jurisdictional ephemeral drainage habitat through re-establishment in-kind habitat restoration of former waters within a portion of the main drainage at a minimum ratio of 2:1. ~~In addition, the Project Proponent would compensate for temporary impacts ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 1:1.~~

Response to PP-29: The Final EIS has been revised accordingly to accommodate these corrections.

Comment PP-30: The second sentence of the fourth paragraph (Section 2.4, page 2-57, Connected Action) is unclear. Please insert “could” in between “potential effects” and “result from truck movement.”

Response to PP-30: Text in the Final EIS has been revised as suggested.

Comment PP-31: Please note that PG&E has information regarding the potential presence of Federally listed California tiger salamander in one area in Kern County

where PG&E will be working as part of the Reconductoring Project. However, as set forth on page 47 of the Topaz Biological Report (Althouse and Meade 2010) in Appendix E of the Draft EIS, the California tiger salamander is not present in or near Study Areas A or B. Topaz believes that PG&E has already, or will soon, communicate this information to DOE. DOE should incorporate this information, if appropriate, into Appendix B (Section 2.4, page 2-58, Connected Action) of the Draft EIS.

Response to PP-31: Information provided by PG&E has been incorporated into Appendix B of the Final EIS.

Comment PP-32: The second paragraph (Section 3.1.2, page 3-3, Characterization of Potential Impacts) should be amended to state that, following a public comment period on the Draft EIR, the County released a Final EIR in March 2011.

Response to PP-32: The Final EIS has been revised to include this information.

Comment PP-33: The second sentence in the third full paragraph on page 3-94 (Section 3.7.2, page 3-94, Proposed Action, Alternative A) is incorrect, in that trenching will not result in permanent impacts to jurisdictional ephemeral drainages, only temporary impacts. This sentence should be replaced with the following:

Construction of at-grade road crossings and associated scour arrestors would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010). Construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010).

Response to PP-33: Text in the Final EIS has been revised as suggested.

Comment PP-34: Consistent with Comments PA#7 (PP-22) and PA#14 (PP-29) above, the first sentence in the fourth paragraph (Section 3.7.2, page 3-94, Proposed Action, Alternative A) should distinguish between permanent and temporary impacts to jurisdictional ephemeral drainages that would result from the Proposed Project and the proposed mitigation ratios for each of those two kinds of impacts. Please replace the first sentence of the third paragraph with the following text:

The Project Proponent would compensate for the permanent impacts to loss of jurisdictional ephemeral drainage habitat through re-establishment in-kind habitat restoration of former waters within a portion of the main drainage at a minimum ratio of 2:1. In addition, the Project Proponent would compensate for temporary impacts ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 1:1.

Response to PP-34: Text in the Final EIS has been revised as suggested.

Comment PP-35: The third sentence in the first full paragraph (Section 3.7.2, page 3-95, Proposed Action, Alternative A) should be revised to acknowledge that Project Layout 3B.I is the reduced-acreage alternative that has been recommended for adoption by County planning staff to the Planning Commission. In addition, the third sentence should also be clarified to state that PV arrays under Project Layout 3B.I would not be placed in the FEMA-designated Zone A floodplains, although PV arrays would be installed in areas adjacent to the FEMA-designated Zone A (i.e., 100-year) floodplains that may be susceptible to flooding during a 100-year storm event. Accordingly, please revise this sentence as follows:

If a smaller PV development area is permitted by the County, such as Project Layout 3B.I, PV arrays may be placed in areas adjacent to the FEMA-designated Zone A floodplains that may be susceptible to flooding during a 100-year storm event so as to avoid impacts associated with development in grasslands.

Response to PP-35: Text in the Final EIS has been revised as suggested.

Comment PP-36: The sentence that crosses over from page 3-98 to page 3-99 (Section 3.7.2, page 3-98 to 3-99, Proposed Action, Alternative B) is incorrect, in that trenching will not result in permanent impacts on jurisdictional ephemeral drainages, rather it will cause only temporary impacts. Consistent with Comment WR#1 (PP-33) above, this sentence should be replaced with the following:

Construction of at-grade road crossings and associated scour arrestors would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010). Construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010).

Response to PP-36: Text in the Final EIS has been revised as suggested.

Comment PP-37: Consistent with Comment WR#2 (PP-34) above, the second sentence in the second full paragraph (Section 3.7.2, page 3-93, Proposed Action, Alternative B) should distinguish between permanent and temporary impacts on jurisdictional ephemeral drainages that would result from the Proposed Project and the proposed mitigation ratios for each of those two kinds of impacts. Please replace the first sentence of the third paragraph with the following text:

The Project Proponent proposes to compensate for ~~the permanent impacts to less of jurisdictional ephemeral drainage habitat through re-establishment in-kind habitat restoration of former waters within~~ a portion of the main drainage at a minimum ratio of 2:1 (See WQ-1 in Table 2-9). In addition, the Project Proponent would compensate for temporary impacts to ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 1:1.

Response to PP-37: Text in the Final EIS has been revised as suggested.

Comment PP-38: We would modify the description of the Clean Water Act regulatory framework to conform to existing law (Section 3.8.1, page 3-100, Regulatory Framework). First, the CWA did not set water quality standards for all contaminants in surface waters. Rather, it provided a process for the Federal and state governments to do so and has resulted in many such standards. Second, the description of the nature and effect of a Section 401 water quality certification should be modified. A Section 401 water quality certification is not itself a permit -- rather, it is a certification that is required as part of a Section 404 permit process and the conditions in the Section 401 water quality certification are incorporated into the Section 404 permit. Third, if the state agency responsible for issuing a Section 401 water quality certification does not act quickly enough, a permit can be issued without the Section 401 water quality certification, so it is not accurate to state that this cannot happen. Please revise this paragraph (Section 3.8.1, page 3-100, Regulatory Framework) accordingly.

Response to PP-38: The Final EIS has been revised to include this information.

Comment PP-39: In the first paragraph of the methods section (Section 3.8.1, page 3-101, Methods), we request that you add a sentence, consistent with the biological reports incorporated into the Draft EIS, explaining that 2009-2010 was an above-average rainy season, thereby providing a high level of confidence that all plant species present in Study Areas A and B were detected.

Response to PP-39: The Final EIS has been revised to include this information.

Comment PP-40: The three paragraphs (Section 3.8.1, page 3-106, General Project Area) entitled, respectively, “Ephemeral Wetland Depressions”, “Natural Non-Wetland Pool”, and “Anthropogenic Non-Wetland Pool”, all refer to “criteria” for determining whether these water features are wetlands. Please reference exactly what “criteria” are being referred to. For example, does this mean CWA jurisdictional wetland criteria?

Response to PP-40: The Final EIS has been revised to define criteria.

Comment PP-41: The first and seventh paragraphs on page 3-109 (Section 3.8.1, page 3-109, Study Areas A and B) describe “anthropogenic habitat” in Study Areas A and B, respectively. Please amend each paragraph to state the acreage of anthropogenic habitat, which is 23 acres for Study Area A and 25 acres for Study Area B, to conform to the parallel acreage references in the other vegetation community sections.

Response to PP-41: The Final EIS has been revised to amend these paragraphs accordingly.

Comment PP-42: In the paragraph entitled, “Invertebrates,” the third sentence (Section 3.9.1, page 3-117, Affected Environment) is not quite accurate. All three fairy shrimp species are not expected to inhabit all types of pools. For example, ephemeral wetland depressions are surface water features that persist for a minimum of seven days. However, the shortest period in which fairy shrimp can reproduce in an ephemeral wetland depression is three weeks. Thus, there may be ephemeral wetland depressions

at the Project Site that are too short-lived to support fairy shrimp. Accordingly, please revise the third sentence as follows: “All three fairy shrimp species could potentially inhabit certain types of vernal pools, ephemeral wetland depressions, and natural non-wetland pools within the Project Site, as appropriate.”

Response to PP-42: Text in the Final EIS has been revised as suggested.

Comment PP-43: In the first bullet (Section 3.9.2, page 3-125, Proposed Action), the text should be amended by inserting “or modified” in between “within the Project Site” and “to promote”, to account for the flexibility provided by the County’s draft Conditions of Approval for the Proposed Project.

Response to PP-43: Text in the Final EIS has been revised as suggested.

Comment PP-44: The California Department of Fish and Game (“CDFG”) requested that the Project Proponent plant shrub species, such as Atriplex, that are good late-summer forage for antelope and elk on portions of the mitigation land. Please add a sentence at the end of the second bullet (Section 3.9.2, page 3-125, Proposed Action) stating that the Project Proponent intends to do so.

Response to PP-44: The Final EIS has been revised to include this information.

Comment PP-45: The citations on this page for the California Endangered Species Act and Fully Protected Species (Section 3.10.1, page 3-128, Regulatory Framework) should be to the “California Fish and Game Code,” not to “CDFG Code.”

Response to PP-45: Text in the Final EIS has been revised as suggested.

Comment PP-46: In the last bullet (Section 3.10.2, page 3-169 and 3-170, Proposed Action) on page 3-169 and the fourth full paragraph on page 3-170, the document refers to “[c]onservation easements on adjacent parcels” and “conversion of existing cropland habitat surrounding the proposed facility.” By these references, are you referring to lands within the proposed mitigation land package that is currently being evaluated by the wildlife agencies? If so, we suggest that you qualify these statements accordingly.

Response to PP-46: The commenter is correct that the referenced text refers to off-site lands being proposed to mitigate on-site impacts. The text of the Final EIS has been updated accordingly, and the Final EIS has been revised to reflect the results of agency consultation efforts (see response to Comment G-4.1).

Comment PP-47: In the fourth full paragraph on this page (Section 3.10.2, page 3-172, Proposed Action), potential impacts on American badgers will be avoided through use of preconstruction surveys and other avoidance measures. In assessing potential impacts on badgers, it was recognized that proposed mitigation lands for kit fox would more than compensate for any impacts on badgers, therefore no specific mitigation measures were proposed.

Response to PP-47: The comment is noted. The Final EIS has been revised to reflect this information.

Comment PP-48: In the fifth full paragraph on this page (Section 3.10.2, page 3-172, Proposed Action), we suggest that the phrase “take Federally listed species” be followed by “other than potentially the San Joaquin kit fox.” Due to the potential for take of kit fox, DOE has initiated consultation regarding this species with the U.S. Fish and Wildlife Service.

Response to PP-48: Text in the Final EIS has been revised as suggested.

Comment PP-49: In the first bullet under measures to protect the San Joaquin kit fox (Section 3.10.2, page 3-178, Environmental Protection Measures), there is a reference to the three-stage survey protocol and protection program during project construction. Please be more specific within this bullet as to what each of the three stages consists of.

Response to PP-49: The Final EIS has been revised to explain each of the three stages of the survey protocol.

Comment PP-50: In the second bullet under measures to protect kit fox (Section 3.10.2, page 3-179, Environmental Protection Measures), please note that, as discussed in Comments PA#6 (PP-21) and PA#14 (PP-29), the fencing design to facilitate passage of the San Joaquin kit fox (“kit fox”) has been revised. Instead of providing small openings at the base of the fence approximately every 100 yards, as is currently stated in the Draft EIS, the bottom of the fencing is to be continuously elevated five to six inches above the ground to allow for kit fox passage. Please revise the Draft EIS accordingly.

Response to PP-50: Text in the Final EIS has been revised as suggested.

Comment PP-51: We suggest that you refer to the San Joaquin Kit Fox Mitigation and Monitoring Plan in Exhibit E (Section 3.10.2, page 3-180, Environmental Protection Measures) as the “Draft” Plan.

Response to PP-51: The Final EIS has been revised to accommodate this correction.

Comment PP-52: The mitigation ratios and acreage numbers contained in the bulleted paragraph that crosses over these two pages (Section 3.10.2, pages 3-180 to 3-181, Environmental Protection Measures) should be updated with the latest ratios and figures reflected in the draft County Conditions of Approval.

Response to PP-52: The Final EIS has been revised to include this updated information.

Comment PP-53: The first full bullet on this page (Section 3.10.2, page 3-181, Environmental Protection Measures) is generally accurate, but could be made more specific. The mitigation lands would be “placed” rather than “enrolled” in a conservation easement, and it is most accurate to state that “if feasible and appropriate,” the properties used for the Proposed Project may later be placed in a permanent

conservation easement. Moreover, we recommend adding “Certain” before “[o]ff-site lands adjacent to the fenced PV array ...” in the first sentence of this bullet.

Response to PP-53: Text in the Final EIS has been revised as suggested.

Comment PP-54: Not all resources in Table 3-21 (Section 3.11.1, pages 3-191 to 3-192, Table 3-21) are documented or evaluated in Lichtenstein et al. 2010, as stated in Footnote 4 of the table. Specifically Site Numbers AE-1939-ISO-8 and ISO-9 are evaluated in Haydu (2010). Please add this reference to Footnote 4. In addition, please add to Footnote 4, or in a new footnote, a reference for the evaluation and/or recording of State Highway 58 and the Carrizo Plain substation.

Response to PP-54: References have been revised as suggested in the Final EIS.

Comment PP-55: In the last paragraph (Section 3.11.1, page 3-193, Reconductoring), please add a citation for the survey performed by the ICF archaeologists.

Response to PP-55: No citation was available.

Comment PP-56: Please add a citation for the “additional cultural resources inventory” referred to in the first paragraph (Section 3.11.1, page 3-194, Reconductoring). Please add a citation for the survey performed by Ecology and Environment referred to in the second paragraph (Section 3.11.1, page 3-194, Reconductoring) that led to the discovery of an “additional prehistoric site.”

Response to PP-56: No citation was available.

Comment PP-57: In the last paragraph on page 3-195 (Section 3.11.2, page 3-195, Proposed Action), the Draft EIS uses the terms “sites” for all of the identified historic and prehistoric cultural properties within the boundary of Study Area A. Some of these “sites” are more appropriately referred to as “isolates,” so we recommend revising the references as appropriate to avoid confusion to the reader.

Because the Draft EIS states in this paragraph that these sites are considered ineligible for listing on state or Federal registers, subject to concurrence by the State Historic Preservation Officer (“SHPO”), the Draft EIS should conclude that removal or destruction of these sites would not be an adverse impact. Accordingly, please revise the last clause of the last sentence to state “this would not be an ~~minor~~ adverse impact.”

Response to PP-57: Text in Section 3.11 of the Final EIS has been revised as suggested.

Comment PP-58: In the vernacular of cultural resource evaluations under NEPA, an impact is either adverse or not, without qualification. Accordingly, in the last sentence of the last paragraph on page 3-196 (Section 3.11.2, page 3-196, Proposed Action), please change “substantial” to “adverse.”

Response to PP-58: Text in Section 3.11 of the Final EIS has been revised as suggested.

Comment PP-59: In the fourth paragraph (Section 3.11.2, page 3-197, Proposed Action), relating to construction of Alternative B, the Draft EIS states that these sites are considered ineligible for listing on state or Federal registers, subject to concurrence by the SHPO. Accordingly, the Draft EIS should conclude that removal or destruction of these sites would not be an adverse impact. Please revise the last clause of the last sentence to state “this would not be an ~~minor~~-adverse impact.”

Response to PP-59: Text in Section 3.11 of the Final EIS has been revised to indicate SHPO concurrence and to state that there would be no adverse effect.

Comment PP-60: The second paragraph (Section 3.13.2, page 3-211, Proposed Action) discusses findings that, due to occasional exceedances of housing supply created by the overlapping construction requirements of the Proposed Project and the California Valley Solar Ranch, the Proposed Project would have minor to moderate impacts on housing supply in the area. Please consider incorporating into the Draft EIS a brief analysis of housing impacts similar to that in the County’s Final EIR (page C.12-5 in PH-2), which concludes that there is a Class II (significant, but mitigable) impact because the labor force for the Proposed Project would require housing that exceeds the supply of local housing or temporary housing facilities.

Response to PP-60: The housing analysis has been revisited in Section 3.13.2 of the Final EIS, and the level of impact has been changed to moderate to substantial. Conditions of Approval of the CUP have been added in Table 2-10 and in Section 3.13.2.

Comment PP-61: In the carry-over paragraph at the top of page 3-222 (Section 3.15.1, page 3-222, Clean Water Act), the Draft EIS incorrectly states that a facility is subject to SPCC requirements if it contains a single oil storage tank with a capacity greater than 660 gallons. This requirement was deleted from the SPCC rule during recent revisions. Please delete this reference from the Draft EIS.

Response to PP-61: Text in Section 3.15.1 of the Final EIS has been revised as suggested.

Comment PP-62: In the second sentence of the second full paragraph on page 3-230 (Section 3.15.2, page 3-230, Proposed Action), the statement is made that: “Grass fires occurring within energized arrays can be fought using normal firefighting techniques, while being careful not to damage the arrays and cause an electrical or chemical hazard.” The Draft EIS should clarify that the “chemical hazard” referred to does not include the release of significant amounts of cadmium telluride (“CdTe”). As the Draft EIS notes on page 3-229 (first full paragraph): “Even if a grass vegetation fire at the site could reach [1041 degrees Celsius], the actual loss of CdTe from a module would be insignificant (approximately 0.04%) (Fthenakis 2005).” Moreover, as the Draft EIS states on pages 3-228 and 3-229, grass “fires tend to be short-lived due to the limitations on available fuel. As a result, these fires are unlikely to expose PV modules to prolonged fire conditions or to temperatures high enough to volatilize CdTe.” Thus, according to the Draft EIS, CdTe would not be a chemical that could cause a “chemical hazard” as a result of the use of normal firefighting techniques against grass fires within energized arrays. Please

specify which other chemicals the Draft EIS is referring to or delete the reference to “chemical hazards.”

Response to PP-62: Section 3.15.2 of the Final EIS has been revised to delete the reference to chemical hazards. Please see response to comment PHS-I for additional information on changes made to the cadmium telluride discussion in this section of the Final EIS.

Comment PP-63: In the first paragraph under the heading, “Highway 58,” (Section 3.16.1, page 3-234, Project Area Roadways) please correct the end of the second sentence as follows: “at ~~two to three~~ five or six locations on Highway 58.”

Response to PP-63: Text in Section 3.16.1 of the Final EIS has been revised as suggested.

Comment PP-64: First, the first paragraph (Section 3.18.4, page 3-258, Water Resources), entitled “Surface Waters,” should include a statement that the cumulative impacts on floodplains that could result if a reduced acreage alternative is implemented has been analyzed. The Draft EIS evaluates the potential impacts of the Proposed Project, including a reduced acreage alternative, on floodplains in Section 3.7.2, page 3-95, finding that even if PV arrays were placed in floodplains, due the wide spacing and small size of the PV support posts, the “level of disturbance would not be expected to raise base flood elevations or affect up- or downstream flow levels.” As clarified in Comment WR#3 (PP-35) above, PV arrays under Project Layout 3B.1 would not be placed in FEMA-designated Zone A floodplains, but may be placed in areas adjacent to the FEMA floodplains that are susceptible to flooding during a 100-year storm event. The analysis in Draft EIS Section 3.7.2, as clarified by the additional information provided by Topaz, provides sufficient evidence for DOE to determine that there will be no cumulative impacts on the 100-year floodplain due to the construction of the various PV Array Layouts that could be developed within the Study Areas for Alternatives A or B. Please revise this paragraph accordingly.

Second, consistent with Topaz’s Comments S#2 (PP-11), WR#2 (PP-34) and WR#5 (PP-37), the second to the last sentence in the first paragraph should distinguish between permanent and temporary impacts on jurisdictional ephemeral drainages and the associated mitigation ratios that Topaz proposes to compensate for each kind of impact. In addition, Topaz will re-establish former waters within a portion of the main ephemeral drainage, not create new waters. Accordingly, please revise the second to the last sentence in the first paragraph as follows:

Permanent Project impacts to these other Waters of the US would be mitigated by ~~creating-re-establishment of former waters~~ within a portion of the main ephemeral drainage at a 2:1 mitigation-to-impact ratio, and temporary impacts to these other Waters of the US would be mitigated by re-establishment of former waters within a portion of the main ephemeral drainage at a 1:1 mitigation-to-impact ration. This would and ensure that no loss of acreage, function, or associated services would occur.

Third, at the end of the first paragraph on page 3-258, delete “quality.” “Surface water quality” is addressed in the next paragraph.

Response to PP-64: Text in the water resources subsection of Section 3.18.4 of the Final EIS has been revised as suggested.

Comment PP-65: The last full paragraph on page 3-259 (Section 3.18.4, page 3-259, Biological Resources) introduces unnecessary confusion regarding the “installation of barbed wire over time” on the Carrizo Plain as contributing to cumulative impacts of the Proposed Project. The installation of barbed wire over time, as well as roads that have already been constructed, are properly considered as part of the environmental baseline for the environmental analysis of the cumulative impacts of the Proposed Project and other reasonably foreseeable projects in the Carrizo Plain. Please clarify this paragraph to make this distinction clearer.

Response to PP-65: Text has been revised in Section 3.18.4 of the Final EIS in order to clarify information contained within this paragraph.

Comment PP-66: The cross-over paragraph on pages 3-259 to 3-260 (Section 3.18.4, pages 3-259 to 3-260, Biological Resources) and the first full paragraph on page 3 260 should acknowledge that fact that Project Layout 3B.I will have less individual and cumulative impact on wildlife movement corridors because of its compressed layout. By refining the Reduced Acreage PV Array Layout within Study Area A, Project Layout 3B.I enhances wildlife movement corridors on both sides of the Project. Thus, the cumulative impact on biological resources of Project Layout 3B.I and the CVSR will be less than if the Maximum Acreage Layout under Alternative A were constructed. Please revise the EIS to incorporate this information.

Response to PP-66: Section 3.18.4 of the Final EIS has been revised to incorporate this information.

Comment PP-67: As a clarification of the cumulative impacts analysis, please revise the second full paragraph on page 3-260 (Section 3.18.4, page 3-260, Biological Resources) as follows:

Mitigation measures to reduce cumulative impacts on vegetation, wildlife, and special status species are the same as those described in their respective sections in Chapter 3, and will minimize any potential cumulatively considerable impacts on these resources.

Response to PP-67: Text in Section 3.18.4 of the Final EIS has been revised as suggested.

Comment PP-68: As a clarification of the cumulative impacts analysis, please revise the second full paragraph on page 3-261 (Section 3.18.4, page 3-261, Paleontological Resources) by adding the following sentence at the end: “Mitigation measures discussed in Section 3.12 will minimize potential cumulative impacts.”

Response to PP-68: Text in Section 3.18.4 of the Final EIS has been revised as suggested.

Comment PP-69: First, in the last sentence of the second full paragraph under the heading, “Transportation,” (Section 3.18.4, page 3-263, Transportation) please replace “increase” with “improve” to clarify the impact that widening Highway 46 would have on the existing Level of Service (“LOS”).

Second, as a clarification of the cumulative impacts analysis, please revise the third full paragraph in the Transportation subsection (Section 3.18.4, page 3-263, Transportation) by adding the following sentence at the end: “Mitigation measures discussed in Section 3.16 will minimize potential cumulative impacts.”

Response to PP-69: Text in Section 3.18.4 of the Final EIS has been revised as suggested.

Comment PP-70: In the first paragraph under the Infrastructure subsection (Section 3.18.4, page 3-264, Infrastructure), please note that it is not entirely correct to state that increased demand for emergency services is being covered by “County development impact fees.” Rather, the County is receiving additional sales and use tax revenues, and some property tax revenues, that will be tracked and for which the Project Proponent has agreed to provide a minimum guarantee. Please revise the Draft EIS accordingly.

Response to PP-70: Section 3.18.4 of the Final EIS has been revised to clarify this information.

Comment PP-71: In the first full paragraph on page 4-3 (Section 4.1, page 4-3, Operation), please add the following text to the end of the last sentence: “, although these impacts are potentially reduced through the revised fencing design which has been adopted.” See also Comments PA#6, PA#14 and SS#6 (referred to in this document as PP-21, PP-29, and PP-50).

Response to PP-71: Section 4.1 of the Final EIS has been revised to reflect the new fencing design.

Comment PP-72: Because the PG&E Reconductoring Project is a connected action for purposes of this NEPA document, we suggest that this subsection (Section 4.2, page 4-3) briefly compare the temporary effects of the PG&E Reconductoring Project on the environment with its potential effects on its long-term productivity. The Draft EIS makes a parallel analysis of the PG&E Reconductoring Project for each of the other two topics covered by this chapter.

Response to PP-72: DOE agrees with this comment. Section 4.2 of the Final EIS has been revised to include this information.

Comment PP-73: Although the Proposed Project will be decommissioned at the end of its life, it is not assured at this time that the reclaimed and restored land would be available for future development. It is possible that a preservation easement could be

established on all or part of the Project Site following decommissioning, although there are regulatory and operational considerations that must be taken into account in evaluating this possibility. Thus, there exists the potential that certain land uses could be restricted after the Proposed Project is decommissioned, which may preclude certain uses. We recommend that the discussion of post-decommissioning uses and the potential for an irretrievable commitment of resources in Sections 4.2 and 4.3 (Sections 4.2 and 4.3, pages 4-3 to 4-4) be revised to reflect this information.

Response to PP-73: Section 4.3 of the Final EIS has been revised to reflect the possibility of restrictions on future uses after decommissioning.

CHAPTER 3

PUBLIC COMMENT DOCUMENTS

This chapter contains all of the comment letters received on the Draft EIS during the public review period. The documents are presented in the order shown on **Table RTC-2**, Draft EIS Comment Letters. The public hearing transcript follows the written letters received on the Draft EIS. **Table RTC-3**, Draft EIS Public Hearing Commenters, shows the names of the individuals who provided oral comments during the public review process.

On each comment letter and on the public hearing transcript, the discrete comments are identified by a sidebar (a vertical line running the length of the comment) and a comment code placed beside the sidebar. The comment code contains a letter code, followed by a number (e.g., G-1). This comment code can be used to locate the summary and response found in Chapter 2 relating to this comment. Introductory text and information that restates the Proposed Action have not been coded as comments and therefore are not identified with a sidebar and comment code.

**TABLE RTC-2
DRAFT EIS COMMENT LETTERS**

COMMENTER	AFFILIATION
TRIBES	
Fred Collins, Tribal Administrator	Northern Chumash Tribal Council
FEDERAL AGENCIES	
Patricia Sanderson Port, Regional Environmental Officer	US Department of the Interior, Office of the Secretary, Office of Environmental Policy and Compliance, Pacific Southwest Region
Kathleen Martyn Goforth	US Environmental Protection Agency, Region IX
LOCAL AGENCIES	
Michael Isensee, Agricultural Resource Specialist	County of San Luis Obispo, Department of Agriculture/Weights and Measures
ORGANIZATIONS	
Ileene Anderson, Biologist/Desert Program Director	Center for Biological Diversity
Pamela Flick, California Program Coordinator	Defenders of Wildlife
Susan Harvey, President	North County Watch
INDIVIDUALS	
Brendan Hughes Law Office of Samuel B. Johnston, on behalf of Mike Strobridge Jean Public Adele Stern	
PROJECT PROPONENT	
Lisa N. Bodensteiner	Topaz Solar Farms, LLC

**TABLE RTC-3
DRAFT EIS PUBLIC HEARING COMMENTERS**

COMMENTER	AFFILIATION
Jenny Strobridge	Individual
David Webb	Individual
Yafet Tekle	Individual
Mike Strobridge	Individual

Northern Chumash Tribal Council

From: [Fred Collins](#)
To: [Colamaria, Angela](#)
Subject: Topaz Solar
Date: Thursday, April 07, 2011 1:29:49 PM

Hello Angela,

First Solar has been working with the Northern Chumash Tribal Council for several years now, and we support the full project. They have been very respectful, done complete surveys of the areas, move there project to protect Native American Chumash Cultural Resources, we would hope that more companies would follow what First Solar has done in meaningful consultations.

| G-I.I

| CUL-I

Be well,

Fred Collins

Tribal Administrator

NCTC Northern Chumash Tribal Council

67 South Street, San Luis Obispo, CA 93401

(805) 528-0806 www.NorthernChumash.org

Educational Services & Environmental Consulting



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
1111 Jackson Street, Suite 520
Oakland, California 94607

IN REPLY REFER TO:
ER# 11/269

Electronically Filed

9 May 2011

Ms. Angela Colamaria
US Department of Energy
Loan Programs Office (LP-10)
1000 Independence Avenue, SW
Washington, DC 20585
Phone: 202-287-5387
Email: Angela.Colamaria@hq.doe.gov
Re: DOE/EIS-0458D

Subject: DOE, Draft Environmental Impact Statement (Draft EIS) for Topaz Solar Farm Project, Issuing a Loan Guarantee to Royal Bank of Scotland for Construction and Startup, San Luis Obispo County, CA

Dear Ms. Colamaria:

The Department of the Interior has received and reviewed the subject document and has no comments to offer.

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port
Regional Environmental Officer

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX**

75 Hawthorne Street
San Francisco, CA 94105



MAY 17 2011

Ms. Angela Colamaria
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
Loan Guarantee Program (LP-10)

Subject: Draft Environmental Impact Statement for a Proposed Federal Loan Guarantee to Support Construction of the Topaz Solar Farm, San Luis Obispo County, California

Dear Ms. Colamaria:

The U.S. Environmental Protection Agency (EPA) has reviewed the March 2011 Draft Environmental Statement (DEIS) for a proposed Federal Loan Guarantee to Support Construction of the Topaz Solar Farm, San Luis Obispo County, California. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports increasing the development of renewable energy resources, as recommended in the National Energy Policy Act of 2005. Using renewable energy resources such as solar power can help the nation meet its energy requirements without generating greenhouse gas emissions. We have consistently encouraged the siting of renewable energy projects on disturbed, degraded, and contaminated sites, rather than large tracts of undisturbed public lands, and we commend the proposed siting of the Topaz Solar Farm on lands previously disturbed by agriculture. We were also pleased to see that operation of the proposed project would require very little water, since, according to the DEIS, there will be no need to wash the solar modules. We thank you for arranging a site visit and greatly appreciate the time spent by Topaz Solar Farms to provide a tour of the project area. Our lead reviewer of the DEIS was able to gain a greater understanding of the project and its potential impacts as well as some of the proposed avoidance measures and mitigations that were being developed.

While acknowledging the substantial benefits of the proposed project, EPA has some concerns regarding the proposed Project's impact on aquatic and biological resources and the need for additional information to reflect updated proposed alternatives, mitigations, and measures to avoid potential and cumulative impacts. We have rated the Draft EIS as EC-2 – Environmental Concerns-Insufficient Information (see enclosed "Summary of Rating Definitions and Follow-Up Action"). We understand that a revised Alternative 3B.1 was submitted to the County of San Luis Obispo on March 31, 2011, which could reduce the environmental impacts of this project. We encourage the Department of Energy (DOE) to

work with the project proponent to fully incorporate and evaluate the proposed revised Alternative 3B.1 into the Final Environmental Impact Statement (FEIS). In addition, EPA recommends that the FEIS identify any additional measures to avoid significant impacts and provide additional analyses (including any necessary documentation), as appropriate, regarding the issues identified in the attached detailed comments. Analyses of key resource areas, such as jurisdictional waters of the United States, impacts to threatened and endangered species, and identification of compensatory mitigation lands, should be completed as early as possible to determine the project's viability and avoid unnecessary project delays.

We appreciate the opportunity to review this Draft EIS and are available to discuss our comments. Please send one hard copy of the Final EIS and two CD ROM copies to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3521, or contact Anne Ardillo, the lead reviewer for this project. Anne can be reached at (415) 947-4257 or ardillo.anne@epamail.epa.gov

Sincerely,



Kathleen Martyn Goforth
Environmental Review Office

Enclosures: EPA Summary of Rating Definitions and Follow-Up Action
EPA Detailed Comments

cc: Steven McMasters, Project Manager, County of San Luis Obispo

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR A PROPOSED FEDERAL LOAN GUARENTEE TO SUPPORT CONSTRUCTION OF THE TOPAZ SOLAR FARM, SAN LUIS OBISPO COUNTY, CALIFORNIA, MAY 17, 2011

Alternative 3B.1

As part of the alternatives analyses, the DEIS presents and analyzes two overlapping study areas - Study Area A and Study Area B. We understand that, on March 31, 2011, the project proponent Topaz Solar Farms LLC/First Solar submitted Alternative 3B.1, which delineates a new project boundary and engineering layout. We understand that this alternative would, if developed and approved, reduce the project footprint from approximately 4000 acres to 3,500 acres, thereby lessening the impacts to San Joaquin kit fox, tule elk, and pronghorn antelope, while avoiding the loss of 1,500 acres of Williamson Act lands; however, while the new alternative layout is documented in the Final Environmental Impact Report (FEIR) Executive Summary, it is not evaluated in the Draft EIS. We have not been able to review this new layout relative to the proposed Topaz Solar Project, the other build alternatives, or the no action alternatives, which are evaluated in the Draft EIS.

G-3.1

Recommendation:

Include Alternative 3B.1 in the FEIS and present it in a format comparable to that of the other alternatives, so that its impacts can be fully disclosed to the public and decision-makers.

Water Resources

In our scoping comments (November 22, 2010), the U.S. Environmental Protection Agency (EPA) noted that the project applicant should coordinate with the U.S. Army Corps of Engineers (Corps) to determine if the proposed project requires a Section 404 permit under the Clean Water Act (CWA). The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of waters of the United States (waters of the U.S., WUS, or jurisdictional waters). These goals are achieved, in part, by prohibiting discharges of dredged or fill material that would result in avoidable or significant adverse impacts on the aquatic environment. Pursuant to Section 404 of the CWA, discharge of dredged or fill material to WUS requires a permit issued by the Corps. If a permit is required, EPA will review the project for compliance with the *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230) (Guidelines), promulgated pursuant to Section 404(b)(1) of the CWA. The burden to demonstrate compliance with the Guidelines rests with the permit applicant.

WR-2

The DEIS states that the Corps has determined that Waters of the US potentially *will* be filled by the proposed Project and the Project Proponent has been directed to apply for a CWA Section 404 Standard Individual Permit. (p. 1-5). The DEIS also states that consultants conducted a jurisdictional delineation at the project site between 2008 and 2010. (p. 3-84). Based on the delineation, the project could impact ephemeral drainages, which are subject to Corps jurisdiction. According to the DEIS, Study Area A contains 31 ephemeral drainages (15 acres) and Study Area B contains 12 ephemeral drainages (10 acres). A copy of the jurisdictional delineation, however, was not provided in the EIS for review. A complete assessment of the potential effects to jurisdictional waters and wetlands cannot be completed without this information.

WR-3

It is our understanding that Alternative 3B.1 would generate the same amount of electricity (550 MWs) as the Study Area A and Study Area B alternatives while occupying a more compact footprint. The solar

WR-1

panel arrays and collection poles, however, would be placed in jurisdictional waters and along the edges of the 100-year floodplain – with the estimated fill into jurisdictional waters being 750 cubic yards (FEIR, p. ES-27). EPA is concerned with the potential increased impacts to jurisdictional waters if Alternative 3B.1 is selected, particularly since this alternative was not evaluated in the DEIS and the extent of the potential impacts remains unclear.

WR-1
cont'd

The DEIS notes that the proposed Project area contains jurisdictional wetland features such as vernal pools and ephemeral wetland depressions totaling 3.11 acres in Study Area A and 0.71 acres in Study Area B. Jurisdictional wetlands would be avoided by buffers or setbacks ranging from 250 feet for vernal pools and ephemeral wetland depressions containing listed fairy shrimp, to 50 feet for vernal pools and 25 feet for wetlands, depressions, and natural non-wetland pools (p. 2-50, table 2-9). The DEIS also states that construction of road crossings and underground electrical collection system trenches would result in the permanent loss of less than 0.1 acre of jurisdictional drainages, and that the project will have 22 miles of on-site access roads (p. S-5), some of which may impact jurisdictional crossings. According to the DEIS, most of the soils in the Study Area A are classified as moderately susceptible to wind erosion and sheet and rill water erosion, and all of the soils in Study Area B are classified as moderately susceptible to wind erosion and sheet and rill water erosion. (pp. 3-75, 77)

Recommendations:

The FEIS should demonstrate the project's compliance with the CWA Section 404(b)(1) Guidelines and include a final determination of the extent of jurisdictional waters at the project site.

WR-2

Consult with the Corps regarding the impacts to jurisdictional waters that would result from Alternative 3B.1 and coordinate with the Corps to reduce impacts. Include the results in the FEIS.

The FEIS should commit to the use of natural washes, in their present location and natural form, and with adequate natural buffers, for flood control to the maximum extent practicable.

The FEIS should include the jurisdictional wetlands setbacks for Alternative 3B.1.

WR-4

The FEIS should demonstrate that the project layout will avoid redundancy of arterial and perimeter roads and minimize jurisdictional crossings. The DEIS states that at-grade articulated concrete blanket crossings will be used at jurisdictional crossings. EPA commends the use of such structures, which, like Arizona crossings, match the contours of the existing drainages and retain the historical range of conditions.

The FEIS should demonstrate that downstream flows will not be disrupted due to proposed changes to any natural washes, nor disrupt or excavate large amounts of sediment.

Floodplain Management

The DEIS states, per Flood Insurance Rate Maps (FIRM), that portions of the project footprint may be in a Zone A (100 year) floodplain. It also states that road crossings and overhead and underground electrical collection lines would be installed in FEMA designated Zone A floodplains; and as noted above, Alternative 3B.1 would move solar arrays closer to the floodplains. Executive Order 11988

WR-5

(Floodplain Management) requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.

Recommendations:

Include in the FEIS an evaluation of the project Alternative 3B.1 to demonstrate the project's compliance with Executive Order 11988.

Include in the FEIS the most up to date information available regarding any consultation with the appropriate agencies regarding floodplain impacts and avoidance.

Compensatory Mitigation

The DEIS describes mitigation strategies based on mitigation ratios associated with land use, special species, and aquatic resources through acquisition of compensatory lands and habitat restoration. The applicant proposes to mitigate for the San Joaquin kit fox loss of habitat by acquiring off-site lands that will be restored to annual grassland and managed to promote kit fox and other native species. Mitigation ratios such as 1:1, 2:1 and 4:1 are used to calculate the amount of mitigation land needed to compensate for impacted cropland and grassland acreage (p. 3-181). Mitigation for loss of jurisdictional ephemeral drainage habitat will be through in-kind habitat restoration of a portion of the main drainage at a minimum of 2:1, and compensation for permanent impacts on vegetative communities will be at 1:1. No rationale or detailed explanation is provided, however, on how the ratios were derived or what standard was used. In addition, EPA understands that the applicant has submitted an updated mitigation plan to the County of San Luis Obispo that utilizes a "stacking" approach in which the acquired lands will serve to mitigate biological impacts while allowing managed grazing to fulfill agricultural needs. Adjacent off-site mitigation lands have been identified totaling approximately 11,000 acres.

The DEIS states that, as a part of the Environmental Protection Measures, a Habitat Mitigation and Monitoring Plan will be developed (p. 3-177). The goals of a mitigation plan are to provide a framework that guides mitigation planning and implementation through all development phases, and to ensure that there is no net loss of acreage or functions/values from the implementation of the plan. Since the applicant proposes to mitigate impacts for a wide array of species, criteria should be developed and implemented to monitor conservation effectiveness for each species.

Recommendations:

Incorporate, into the FEIS, compensatory mitigation proposals (including quantification of acreages, estimates of species protected, costs to acquire compensatory lands, etc.) for unavoidable impacts to waters of the United States and biological resources, such as San Joaquin kit fox, tule elk, pronghorn antelope, burrowing owl, mountain plover, Kern sphinx moth, american badger, and other native species. Consider consolidating this information in a table format, which may enable a clearer understanding of the total compensatory mitigation strategy.

Incorporate, into the FEIS, the Habitat Mitigation and Monitoring Plan that results from consultation with the US Fish and Wildlife Service, California Department of Fish and Game, and other regulatory agencies. Include a Managed Grazing Plan.

Clarify the rationale for mitigation ratios for San Joaquin kit fox habitat, vegetative communities, and aquatic resources and how these relate to the mitigation ratios recommended by other agencies, as well as how they relate to mitigation ratios used for other renewable energy projects in California.

Specify, in the FEIS, provisions that will ensure habitat selected for compensatory mitigation will be protected in perpetuity.

G-4.I
cont'd

Consider adopting a formal adaptive management plan to evaluate and monitor impacted resources and ensure the successful implementation of mitigation measures. EPA recommends that DOE review the discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality (CEQ) on *Modernizing NEPA*.

Cumulative Impacts

Cumulative impacts are defined in the Council on Environmental Quality's (CEQ) NEPA regulations as "the impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonable foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR Part 1508.7)". We acknowledge that the DEIS identifies and lists (Table 3-31) 6 projects, and provides a brief description of the cumulative impacts associated with said projects; however, the DEIS does not fully assess and quantify cumulative impacts associated with the proposed Project, and does not sufficiently link the Project's effects to the health of the affected resources. The DEIS relies on the proposed Project's mitigation measures to demonstrate no significant contribution of cumulative impacts to the Carrizo Plain and surrounding area. In addition, a full and thorough analysis of the PG&E reconductoring project is not included in the cumulative impacts assessment. Lastly, the cumulative impacts analysis does not include a discussion of the potential effects of climate change on the proposed Project and the Carrizo Plain area.

G-13.I

Recommendations:

Conduct a thorough cumulative impacts assessment for the FEIS. EPA recommends using the California Department of Transportation Indirect and Cumulative Impacts Analysis, which is co-authored by EPA and is applicable to impact analyses for both road and non-road projects. This guidance can be found at [http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm] and [http://www.dot.ca.gov/ser/Growth-related_IndirectImpactAnalysis/gri_guidance.htm]. The guidance will assist in identifying cumulative impacts and preparing an analysis that is sound and well documented.

The FEIS should provide a substantive discussion of, and quantify where possible, the cumulative effects of the project when considered with other past, present, or reasonably foreseeable projects, including the PG&E reconductoring project, regardless of what agency or person undertakes those actions (see 40 CFR Section 1508.7). The document should also propose mitigation for all cumulative impacts, and clearly state the lead agency's mitigation responsibilities and the mitigation responsibilities of other entities.

Biological Resources

Avoidance of Nesting Birds

The DEIS states that, if nesting birds are located, no construction activities shall occur within 100 feet of nests until chicks are fledged (p. 2-51). PG&E Connected Action Applicant Proposed Measures BO 8, 10 (Appendix B) propose a greater distance for larger birds, such as 250 feet for burrowing owls or 500 feet for raptor nests.

Recommendation:

The applicant should consider prohibiting construction activities within the greater area proposed in PG&E Connected Action Applicant Proposed Measures BO 8, 10 when large nesting birds are located.

SS-30

Studies and Plans

The DEIS states that several surveys and plans were not completed before publication. Some of these include: Kern sphinx moth survey, Final Vegetation Management Plan, Construction Activity Management Plan, Avian Protection Plan, Hazardous Materials Storage Plan, and Spill Response Plan.

Recommendation:

The FEIS should include the results of all field surveys conducted for this project and complete management and species protections plans.

SS-8

Rodenticides

The DEIS is unclear regarding whether or not the use of rodenticides will be allowed (BIO-8 in Table 2-9; p. 2-49). The San Joaquin Kit Fox Conservation and Monitoring Plans (Appendix E) state that management practices will *avoid* the use of rodenticides; however, within the same plan, it states that use of rodenticides would be *prohibited*. In addition, according to section 6.4.4 of the U.S. Fish and Wildlife Standardized Recommendations for the Protection of the San Joaquin Kit Fox, the use of rodenticides should be prohibited (p. 41).

Recommendations:

EPA strongly recommends the DOE follow the U.S. Fish and Wildlife Standardized Recommendations and prohibit the use of rodenticides.

The FEIS should reflect a consistent policy throughout the document on the use of rodenticides.

SS-14

Air Quality

The majority of the project is located in the San Luis Obispo County Air Pollution Control District (APCD). The air basin is currently in attainment with all National Ambient Air Quality Standards (NAAQS). The DEIS demonstrated that the emissions from both the construction and the operational phases of this project would conform to the approved State Implementation Plan and would not cause or contribute to violations of the NAAQS. However, the federal action will cause emissions above the de minimis levels for particulates and ozone precursors, including nitrogen oxides. The FEIS should specifically identify measures that could be incorporated to reduce emissions resulting from the project.

AQ-2

Recommendation:

EPA recommends that DOE incorporate all of the applicable mitigation measures identified in section 3.4.2 (pp. 3-50 and 3-51) into the project to lower the anticipated emissions.

AQ-2
cont'd

Hazardous Materials/Hazardous Waste and Decommissioning—CdTe containing Solar Modules

The DEIS discusses potential hazards associated with the use of PV modules containing Cadmium Telluride (CdTe) in section 3.15 (pg 3-228). It states that there is very little Cd present in each module; however, the proposed project would use 9,000,000 modules, which would result in approximately 50 tons of Cd being deployed on site. The EPA agrees that there is little risk of CdTe emissions during normal use, if the modules are properly handled, a systematic method for detection and removal of damaged modules is employed, and the modules are recycled. One review of the available literature by the Fraunhofer Institute stated that the main concerns with CdTe technologies is addressing unexpected incidents, such as releases in the case of fire, uncontrolled disposal, and leaching to groundwater. This review suggested a need for further research related to releases due to fire, as well as for toxicity or ecotoxicity studies¹. The DEIS cites studies that simulated residential fires; however, the proposed project would be located in a grassland area, which may burn at different temperatures.

PHS-1

PHS-2

The EIR prepared for the project stated that, out of the 9,000,000 modules, it was anticipated that 36,000 modules would break during the three-year construction period, and that an average of 2,880 modules would break per year during operation. The EIR stated that a Broken PV Module Detection and Handling plan would be developed. The DEIS does not include this plan.

PHS-1

Solar plants are designed for life spans of 20 to 30 years. The DEIS states that the proposed facility has a minimum expected lifetime of 30 years, with an opportunity for a lifetime of 50 years or more with equipment replacement and repowering. The life of the proposed Project should be taken into consideration regarding decommissioning and reclamation.

PHS-3

Recommendations:

The FEIS should fully disclose the amount of CdTe and Cd that would be on site in the modules.

PHS-1

The FEIS should include a Broken PV Module Detection and Handling plan that will ensure broken modules are adequately detected and handled as California hazardous waste.

The FEIS should include grassland wildfires as a safety risk for the general project area and describe measures that would be taken to minimize such risks.

PHS-2

EPA recommends that the FEIS identify bonding or financial assurance strategies for decommissioning, module recycling, and reclamation.

PHS-3

¹ Fraunhofer Institute for Mechanics of Materials. Scientific Comment of Fraunhofer to Life Cycle Assessment of CdTe Photovoltaic's July 2010

Cultural Resources and Coordination with Tribal Governments

The proposed Project could have direct impacts on significant cultural resources. Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes. The DEIS states that tribal consultation is ongoing (p. 3-199). Concerns raised by the tribes include movement corridors for elk and antelope, possible effects of electrical and magnetic fields, avoidance of Native American sites, buried archaeological sites that may be affected, and possible disruption of dark night sky. The DEIS states that most of these concerns were addressed; however, it also states that the consultation is ongoing.

Recommendation:

The FEIS should describe the outcome of government-to-government consultation between DOE and each of the tribal governments within the project area, additional issues that were raised (if any), and if how those issues were addressed.

Miscellaneous Edits

On p. S-14, Table S-2 and 1-12, Table 1-1, the DEIS states that section 2.3.4 describes the recycling and decommissioning of the modules. Additionally, on p. 3-228, the DEIS states that section 2.3.5 describes the recycling and decommissioning of the modules.

Recommendation:

The FEIS should state that section 2.3.6 describes the recycling and decommissioning of the modules.

On p. 2-52, in Table 2-9, one of the environmental protection measures is listed as HA-6.

Recommendation:

To be consistent, the environmental protection measure should be Haz-6.

CUL
-2

G-14



COUNTY OF SAN LUIS OBISPO
Department of Agriculture/Weights and Measures

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DATE: May 2, 2011

TO: Angela Colamaria, NEPA Project Manager, Loan Programs Office (LP-10). U.S. Department of Energy, 1000 Independence Avenue SW, Washington, DC 20585.

FROM: Michael Isensee, Agricultural Resource Specialist

RE: DOE/EIS-0458D Draft EIS for the DOE Loan Program to Royal Bank of Scotland for Construction and Startup of the Topaz Solar Farm, San Luis Obispo County, California.

The San Luis Obispo County Agriculture Department (Ag. Dept.) appreciates the opportunity to submit comments on the Draft Environmental Impact Statement (DEIS) for the Department of Energy (DOE) Lending Program relating to the Topaz Solar electric generating facility project. The DEIS assessment of potential impacts to agricultural resources relies upon the Farmland Conversion Impact Rating (FCIR) Form in order to implement the Farmland Protection Policy Act (FPPA) of 1981. The FPPA requires an evaluation of a program's potential impacts to farmland and requires federal agencies to act in order to minimize the federal contribution to the ongoing conversion of farmland to nonagricultural uses.

The primary conclusion reached in the DEIS analysis regarding agricultural resources is: "converting the proposed Project Site from an agricultural use to a non-agricultural use would not result in a significant impact on the county's agricultural economy" (pg. 3-20). The Ag. Dept. is unclear if this conclusion is relevant to the FPPA which seeks to minimize the conversion of farmland and to ensure that federal decisions are compatible, to the extent practicable, with state and local programs to protect farmland. The Ag Dept was unable to find where the FPPA suggests the basis of analysis should be on the relative impact to an area's agricultural economy, although such an analysis may be one factor. It appears that under the FPPA the appropriate analysis is whether projects have a significant impact on the agricultural resources and the future beneficial use of those resources for agricultural production.

LU-1

The DEIS states that the project will result in the loss of approximately 2.5% of the county's entire available farmland resource. Regardless of the overall impact on the agricultural economy of the county, a conversion of this amount of farmland appears significant. The Ag. Dept. supports feasible measures which reduce the amount of farmland converted. The applicant's latest iteration, Alternative 3B.1, is an incremental improvement over the Study Areas analyzed in the DEIS, although it appears further refinement of the project could result in additional farmland protection.

LU-2

Site Assessment Criteria Evaluation

The following comments focus on the twelve criteria utilized for the site assessment portion of the FCIR (Part VI of the FCIR form) found as Table 3-1 in the Land Use section and in Appendix C of the Draft EIS. Each criteria is given a point rating and higher rated sites are afforded greater levels of consideration for protection. Based upon the Ag. Dept.'s analysis of the criteria and the specific guidance for application of the criteria found in Appendix C of the DEIS, it appears that the two project sites would each have project scores closer to 200 rather than the points afforded in the DEIS, 158 and 173, respectively. The following offer more detailed comments on each section of the site assessment criteria.

1. Non-urban use within 1 mile. No comment.

2. Perimeter in Non-urban use. The analysis states that Study Area A received a lower score because it is bordered on the south by Highway 58. The criteria for scoring state that "If a road is next to the perimeter, class the area according to the use on the other side of the road for that area." Thus, roads are not to be considered the use at the perimeter. Rather, the use on the far side of the road should be utilized. That seems more logical especially since Highway 58 runs through the midst of Study Area B and this did not affect the score of this project design.

3. Percentage of site farmed in last 5-10 years. No comment.

4. Protection Provided by State and Local Government. The scoring criteria for this states that "If a proposed site is subject to or has used one or more of the above farmland protection programs or policies, score the site 20 points." The list includes several items to which both alternative sites are subject. This includes *Item 2. State and local Right to Farm statutes/ordinances* and *Item 4. Land Use Controls: Agricultural Zoning*. As noted, Study Area B is subject to the *Williamson Act* as well.

5. Distance to Urban Built-up Area. No comment.

6. Distance to Urban Services. It is unclear from the discussion which local facilities and services "whose capacity or design would promote nonagricultural use." The only local facilities and services present in the region are an elementary school, a part-time fire station, and the high voltage transmission lines. Clearly, the transmission line is the facility which is driving the location of the proposed solar facility, not the elementary school. The fire station is minimally staffed and only open three days a week. The vast majority of services are located multiple miles from the project. If the various facilities listed in the guidelines for consideration are used and averaged, the process the guidelines note should be use, both options would receive the maximum number of points as shown on the following table.

LU-3

1. water (Santa Margarita)	40 miles
2. sewer (Atascadero)	45 miles
3. gas (estimate)	30 miles
schools	
4. Elementary	0.4 (A) to 0.5 (B)
5. Middle (Atascadero)	45
6. High (Atascadero)	45
7. fire (Cal Valley)	2.2 (A) to 3.4 (B)
8. police (Templeton)	48
9. circulation	0
10. power lines	0
SUM	255.6 (A) to 256.9 (B)
Average	25.6 (A) to 25.7 (B) miles

LU-3

7. Size of farm unit. No comment.

8. Creation of Non-Farmable Farmland. The current and historic use of the land in question has been dry-farmed grain production. Dry-farm grain production generally requires large contiguous blocks in order to gain the necessary efficiencies to farm low-margin crops. The proposed projects (either alternative) create substantial acreages which are outside of the proposed fenced solar arrays but can no longer logically be dry-farmed for a variety of reasons (e.g. size, configuration, location of drainages, proposed habitat easements which will restrict future agricultural uses). Further, these areas will be either precluded from all agricultural use or will be restricted to a limited grazing regime only, precluding the historic agricultural practices in the region. Grazing will occur only to the degree wildlife agencies determine a grazing use is beneficial to the threatened and endangered species found in the area. Study Area A would fence 4,100 acres of the 7,800 acre site. The 3,700 acres not fenced will have permanent restrictions on future agricultural use and current/historic agricultural uses will cease on substantial portions of this acreage. Study Area B would fence 4,000 acres of a 6,300 acre site. The 2,300 acres not fenced would also have permanent restrictions on future agricultural uses. In both instances it could be concluded that well over 25% of the remainder of the study area would become non-farmable. It could also be concluded that all of the fragmented areas between fence solar arrays or within restored waterway areas would become non-farmable.

9. Availability of Farm Support Services. Grain production and grazing has continued on these sites for over a century and is currently occurring. One could therefore conclude that adequate farm support services exist, even though they are not located anywhere near the project site. One could

also conclude that due to the distance of the project site from such services, that there are not adequate services.

10. On farm Investments. The growers who use the study areas have farm infrastructure (barns, equipment, storage facilities) located along Bitterwater Road. The sites are fenced and generally have irrigation sufficient for livestock watering through established wells and watering sites. Dry-farm grain production and livestock requires far less infrastructure than permanent irrigated crops or row crop production. It appears that the necessary infrastructure is present to maintain dry-farm and grazing production. The Department does not have firsthand knowledge to conclude whether the infrastructure has been adequately maintained, but believes that there is adequate existing on-farm investment to support the current and historic dry-farm grain and/or grazing practice that has occurred on the project site for many years.

11. Effects of Conversion on Farm Support Services. Since there are no nearby services, the loss of this land, although it represents a substantial proportion of the grain production land in the county and region, is unlikely to result in a substantial reduction in overall agricultural support services. The conclusion in the text that a 10-19% reduction may be appropriate.

12. Compatibility with Existing Ag Use. There is no analysis presented about how or why the solar facility is fully compatible with nearby agricultural operations. It appears the project will result in many adjoining dryland grain operations ceasing due to required endangered species habitat mitigation restrictions associated with project approval. Substantial changes from both current and historic agricultural practices are anticipated as both state and federal agencies are requiring substantial habitat mitigation acreage around the project site where agricultural uses will be restricted to a limited grazing regime. This suggests that the development of the project is not compatible with surrounding farmland, as this farmland will convert to a much less intensive agricultural use if the project is developed.

LU-3



May 9, 2011

Sent via e-mail to Topaz-EIS@hq.doe.gov and U.S. Mail to

Ms. Angela Colamaria, NEPA Document Manager
Loan Guarantee Program (LP-10)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Re: DOE/EIS-0458 – Comments on the draft environmental impact statement for DOE’s proposed loan guaranty for the construction and startup of the Topaz Solar Farm in San Luis Obispo County, California.

Dear Ms. Colamaria:

Thank you for the opportunity to provide comments on the Department of Energy’s (“DOE”) draft environmental impact statement (“DEIS”) for the proposed federal loan guarantee to the Royal Bank of Scotland for Construction and Startup of the Topaz Solar Farm in San Luis Obispo County, California. We submit these comments on behalf of Defenders of Wildlife in response to the Notice of Availability published March 31, 2011 in the Federal Register. *See Department of Energy, Notice of Availability of the Draft Environmental Impact Statement and Public Hearing for a Proposed Federal Loan Guarantee to Support Construction and Start-Up of the Topaz Solar Farm, San Luis Obispo County, CA 76 Fed. R. 17844 (Mar. 31, 2011).*

Defenders of Wildlife (“Defenders”) is a non-profit public interest conservation organization with more than one million members and supporters nationally, nearly 200,000 of which reside in California. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

Defenders strongly supports the emission reduction goals found in the California Global Warming Solutions Act of 2006 (AB 32), including the development of renewable energy in California. However, we believe that renewable energy projects must be located and developed in a manner that minimizes the adverse environmental consequences of such projects on native wildlife and ecosystems so that renewable energy is truly a “green” alternative to fossil fuels. A utility-scale solar project is, after all, an industrial development covering thousands of acres in many cases. We urge the Corps and other federal agencies responsible for permitting such projects to require that proponents locate and design solar development projects in the most sustainable manner possible, avoiding and, where avoidance is not possible, minimizing and compensating for the impacts to sensitive ecological resources. This is essential to ensure that project approval moves forward expeditiously yet in a manner that does not sacrifice our remaining wildlife heritage and values.

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As we transition toward a clean energy future, it is imperative for our future and the future of our natural ecosystems and native wildlife that we strike a balance between addressing the near term impact of utility-scale solar development with the long-term impacts of climate change on biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and lands with known high-resource values, such as the Carrizo Plain in eastern San Luis Obispo County, California.

We offer the following comments on the DEIS for the Topaz Solar Project. Since the United States Army Corps of Engineers (the “Corps”) is a cooperating agency for the preparation of the DEIS, we refer to both agencies throughout our comments.

The Proposed Project

According to the DEIS, DOE proposes to guarantee a loan from the Royal Bank of Scotland to Topaz Solar Farms, LLC, a limited liability company owned by First Solar, Inc., for the construction and startup of the Topaz Solar Farm. The project would be located in an unincorporated portion of eastern San Luis Obispo County, California, adjacent to Highway 58 and east of Bitterwater Road. The company has options to purchase approximately 10,000 acres of land in the project area. The project would be developed on approximately 4,000 to 4,100 acres of land within one of two overlapping study areas:

- Study Area A, the southernmost study area, includes approximately 8,000 acres. If the Project is located within Study Area A, the fenced area would be approximately 4,100 acres.
- Study Area B, the northernmost study area, includes approximately 6,300 acres. If the Project is located within Study Area B, the fenced area would be approximately 4,000 acres.

The proposed project would consist of: (i) a solar field of nine million ground-mounted photovoltaic (PV) modules in 460 arrays; (ii) an electrical collection system that converts generated power from direct current to alternating current and delivers it to the project substation; (iii) the project substation that collects and converts the generated power from 34.5 kilovolt (kV) to 230 kV for delivery via a new Pacific Gas and Electric (“PG&E”) switching station to PG&E's existing Morro Bay-Midway 230-kV transmission line; (iv) the PG&E switching station that interconnects the Project to PG&E's existing transmission line (after construction, PG&E would own and operate the switching station); (v) 22 miles of access and maintenance roads; and (vi) a solar learning center.

I. National Environmental Policy Act.

Purpose and Need.

In fulfilling their environmental analysis obligations under the National Environmental Policy Act (“NEPA”), federal agencies must “specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” 40 C.F.R. § 1502.13. Courts have “interpreted NEPA to preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant’s proposed project).” *Colo. Env’tl. Coal. v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999) (citing *Simmons v. United States Corps of Eng’rs*, 120 F.3d 664, 669 (7th Cir. 1997)).

DOE Purpose and Need. According to the DEIS, DOE’s stated purpose and need for the proposed project is to “. . . comply with its mandate to select eligible projects that meet the goals of the Energy

Policy Act of 2005 (EPA 2005), as amended by the American Recovery and Reinvestment Act (ARRA) of 2009. DOE is using the NEPA process and this EIS to assist in determining whether to issue a loan guarantee to the Project Proponent to support the Proposed Project.

DEIS at 1-5.

Comment: DOE restricts the purpose and need statement of the DEIS to the agency's obligations to issue loan guarantees under the Energy Policy Act of 2005 as amended by the American Recovery and Reinvestment Act of 2009. In doing so, DOE impermissibly narrows the range of alternatives considered in the DEIS. *See Carmel by the Sea v. U.S. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1995). We recommend that the agency use the purpose and need statement to address the need to generate greater amounts of electrical energy from renewable energy sources so that dependency on carbon-based fuels is reduced and to contribute to the requirement to generate certain minimum amounts of renewable energy to comply with State and federal standards. This broad statement of purpose will permit the agency to meaningfully consider a range of alternatives to the proposed action, including alternatives that differ in scale and technology from the proposed project.

G-5

Corps Purpose and Need. The Corps of Engineers offers the following statements of purpose and need in the DEIS:

The CWA basic purpose of the Proposed Project is to increase the availability of electricity generated from renewable energy sources, through the construction of a PV solar facility and associated transmission and support facilities that interconnect with the Morro Bay to Midway 230-kV transmission line.

The CWA overall purpose of the Proposed Project is to increase the availability of electricity generated from renewable energy sources through the development, in a high-solar resource area, of a 550-MW PV solar facility and associated transmission and support facilities for interconnection to the Morro Bay to Midway 230-kV transmission line within eastern San Luis Obispo County, California.

DEIS at 1-6.

Comment: The Corps restricts its purpose and need statements in the DEIS to, in essence, approval of the company's proposed Topaz Solar Project. In doing so, the Corps impermissibly narrows the range of alternatives considered in the DEIS. *See Carmel by the Sea*, 123 F.3d at 1155. We recommend that the agency use the purpose and need statement to address the need to generate greater amounts of electrical energy from renewable energy sources so that dependency on carbon-based fuels is reduced and to contribute to the requirement to generate certain minimum amounts of renewable energy to comply with State and federal standards. This broad statement of purpose will permit the agency to meaningfully consider a range of alternatives to the proposed action, including alternatives that differ in scale and technology from the proposed project.

G-6

Project Alternatives

In addition to properly defining the purpose and need of an agency action, agencies must consider a range of reasonable alternatives to the proposed action in the EIS. *See* 42 U.S.C. § 4332(2)(E). The range of alternatives analysis is the "heart of the environmental impacts statement." 40 C.F.R. § 1502.14. NEPA

G-7.1

requires DOE and the Corps to “rigorously explore and objectively evaluate” a range of alternatives to proposed federal actions.” See 40 C.F.R. §§ 1052.14(a) and 1508(c). The purpose of this requirement is to insure “that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.” *Envtl. Defense Fund v. Corps of Eng’rs*, 492 F.2d 1123, 1135 (5th Cir. 1974); see also *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810 (9th Cir. 1987), *rev’d on other grounds*, 490 U.S. 332 (1989).

According to the DEIS, “DOE’s overall decision will be to either provide a loan guarantee for the Proposed Project (Proposed Action) or to decline to provide a loan guarantee (no action alternative).” DEIS at 2-2. Nonetheless, the agencies do analyze two project specific alternatives in the DEIS — the environmental impact of installation of the company’s proposed solar facility in two overlapping study areas. See DEIS at 2-2 – 2-3. The agencies observe that “[e]ach alternative would contain virtually identical project features configured in different areas of the overall Project Site.” DEIS at 2-5. Aside from minor differences in environmental impact, i.e. Study Area A will impact 1,721 acres of California annual grassland and 2,388 acres of cropland while Study Area B will impact 1,133 acres of California annual grassland 2,890 acres of cropland, see DEIS at 3-3-115, the two project-specific alternatives analyzed in the DEIS are, for purposes of their environmental impacts, identical.

G-7.1
cont'd

Comment: We understand the Topaz Solar Project has undergone one or more revisions since the preparation of the DEIS and will not be installed in the alternative configurations analyzed in the DEIS. As a result, DOE and the Corps have not analyzed the project that will actually be developed, as the agencies observe in the DEIS, “the exact development footprint is not yet known.” DEIS at 2-3. Additionally, the agencies recognize that San Luis Obispo County “could permit a facility that uses some lands within both study areas.” DEIS at 2-3. We recommend that the agency supplement its analysis in the DEIS with an analysis of the expected final configuration of the project. In particular, the location of PV arrays within the 10,000 acres of options acquired by the company has the potential to significantly impede landscape connectivity for wildlife on the Carrizo Plain. Based on the DEIS, neither the agencies nor the public can meaningfully comment on the impact of the project on landscape connectivity because the actual configuration of the project is not presented in the DEIS.

G-3.1

SS-2

Comment: The agencies’ analysis of two nearly identical project-specific alternatives forecloses an important opportunity for DOE, the Corps, and the public to meaningfully compare the impacts of the project with reasonable alternatives that could minimize adverse consequences to wildlife and wildlife habitat. Rather than using a robust comparison of alternatives to sharply define the issues, see 40 C.F.R. § 1502.14, the agencies have analyzed two action alternatives that are not meaningfully different and have undermined the purpose of the DEIS to “inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment,” 40 C.F.R. § 1502.1. We recommend that the agencies analyze the environmental impacts of alternative project sites and locations, including those that may not be located within San Luis Obispo County; project extent and electrical power generation that differ from the company’s proposal; and the potential for different technology that may reduce adverse impacts to sensitive environmental resources. The agencies briefly considered and rejected alternative locations and alternative project sizes in the DEIS based on their stated purpose and need. See DEIS at 2-8 – 2-12. However, as described above, the agencies have impermissibly restricted the alternatives analyzed by offering a narrowly-drawn, self-serving purpose and need statement.

G-7.1

Comment: The issue of the applicant signing a power purchase agreement with a public utility company for a certain amount of electrical power output prior to a NEPA environmental review process should be explored. This practice appears to result in inflexibility on the part of the applicant with regard to what constitutes a reasonable range of alternatives, and may unjustly influence the permitting agencies into

G-7.2

thinking that the only alternatives are the proposed project or no project. We recommend that the agencies analyze the environmental impacts of alternative project sites and locations, including those that may not be located within San Luis Obispo County; project extent and electrical power generation that differ from the company's proposal; and the potential for different technology that may reduce adverse impacts to sensitive environmental resources.

G-7.2

Comment. Defenders has identified criteria for the preferred siting for renewable energy projects. We urge the agencies to analyze alternatives that include the following characteristics:

- Brownfields:
 - Revitalize idle or underutilized industrialized sites.
 - Existing transmission capacity and infrastructure are typically in place.
- Locations adjacent to urbanized areas:¹
 - Provide jobs for local residents often in underserved communities;
 - Minimize growth-inducing impacts;
 - Provide homes and services for the workforce that will be required at new energy facilities;
 - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning and employee and visitor sanitation facilities.
- Locations proximate to load centers.

G-8.1

Cumulative Impacts Analysis.

For NEPA purposes, cumulative impact is defined as “the impact on the environment which results from the incremental impact of the [proposed] action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.” 40 C.F.R. § 1508.7. “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” *Id.* Here, the Topaz Solar Farm project is one of two utility-scale solar projects proposed to be located on the Carrizo Plain. The agencies acknowledge that the “[g]rassland habitats within the Carrizo Plain provide some of the largest remaining contiguous habitats for many endangered, threatened, and rare species in the San Joaquin Valley” and that “[l]arge-scale solar development represents a significant potential source of additional habitat loss for special status species that inhabit the Carrizo Plain.” DEIS at 3-259. Solar development will “limit the use of land for foraging, breeding, or wintering for many resident and migratory bird species” and “impact wildlife linkages and movement corridors, particularly for San Joaquin kit fox, tule elk, and pronghorn antelope.” *Id.* The agencies acknowledge that “these two solar projects proposed to be located in the Carrizo Plain could reduce an existing corridor available to wildlife by 50 percent, nearly bisecting the Carrizo Plain into a north and south section.” DEIS at 3-260. With regard to the San Joaquin kit fox, the agencies observe that the “USFWS recovery plan for San Joaquin kit fox determined that it was important to protect and enhance corridors for the movement of kit foxes from the Salinas Valley to the Carrizo Plain and San Joaquin Valley.” DEIS at 3-260.

Comment. NEPA requires that the agencies’ cumulative impact analysis “must be more than perfunctory; it must provide a useful analysis of the cumulative impacts of past, present, and future projects.” *Ocean*

G-13.2

¹ Urbanized areas include communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

Advocates v. United States Army Corps of Eng'rs, 361 F.3d 1108, 1128 (9th Cir. 2004) (“[I]n considering cumulative impact, an agency must provide some quantified or detailed information; . . . general statements about possible effects and some risk do not constitute a hard look absent justification regarding why a more definitive information could not be provided.”) (internal quotations and citations omitted). Here, the agencies have identified potential cumulative impacts related to wildlife resulting from the development of two utility-scale solar projects on the Carrizo Plain but have failed to provide any analysis or projected impact to the continued survival and productivity of wildlife populations. More specifically, the DEIS states that the two project will, in effect, bisect the Carrizo into a north region and south region; however, the agencies make no attempt to analyze how such an impact will affect the long-term persistence of the Carrizo’s San Joaquin kit fox, tule elk, or pronghorn antelope populations. The depth of the cumulative impacts analysis is insufficient to establish a clear condition and trend with regard to various sensitive wildlife species that rely on landscape-scale habitat connectivity. For example, we do not know whether the north-south wildlife barrier resulting from the construction of both projects would cause a decline in productivity of the region’s pronghorn antelope herds or pose a threat to the survival of San Joaquin kit fox populations or other species. As a result, neither the agency nor the public can meaningfully evaluate whether the cumulative impacts of the Topaz Solar Project outweigh its benefits.

G-13.2
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Comment. The cumulative impacts of the proposed Carrizo Plain solar projects on San Joaquin kit fox require analysis in light of the proposed Panoche Valley solar project. In the DEIS, the agencies acknowledge that the Panoche Valley solar project “could substantially affect the movement patterns of another core San Joaquin kit fox population.” DEIS at 3-260. However, other than merely identifying a potential cumulative impact, the agencies do not analyze what such cumulative impacts mean for the long-term survival and recovery of this endangered species and, without such analysis, neither the agencies nor the public can meaningfully evaluate the cumulative impact of the Topaz Solar Farm project. Because both the Panoche Valley and the Carrizo Plain are core recovery areas for the San Joaquin kit fox, we believe that the adverse cumulative impacts of utility-scale solar development in these regions on these species is likely significant.

Comment. In addition to the San Joaquin kit fox, tule elk, and pronghorn antelope, we recommend that the agencies conduct an in-depth cumulative effects analysis of the impact of the Topaz Solar Farm project and the neighboring California Valley Solar Ranch project for all sensitive biological resources on the Carrizo Plain.

Biological Resources.

Comment. Throughout the DEIS, the agencies acknowledge that “[i]t is unknown to what degree San Joaquin kit fox would use the solar arrays for movement or foraging.” DEIS at 3-260; *see also* DEIS at 3-169 (“It is unknown how much the kit fox would utilize the site after the Project is built since it would no longer be an open landscape.”) In light of the significant potential barrier to San Joaquin kit fox movement posed by the Carrizo solar projects and the disturbance of suitable and occupied habitat, the absence of information or analysis of how the species would use the solar arrays is a data gap that the renders the DEIS inadequate. NEPA implementing regulations require that the agencies acknowledge missing or incomplete information and conduct an evaluation of impacts “based upon theoretical approaches or research methods generally accepted in the scientific community.” 40 C.F.R. § 1502.22. We believe that a scientifically-based analysis of whether or not San Joaquin kit fox will use the solar arrays once installed is an essential part of the project’s impacts that must be included in the environmental impact statement.

SS-1

Comment. Notwithstanding the incorporation of any mitigation measures into the proposed project, we support the conclusion made in the Draft Environmental Impact Report (“DEIR”) for the Topaz Solar

SS-2

Farm prepared by Aspen Environmental Group for the County of San Luis Obispo that cumulative impacts to special status species and wildlife connectivity and wildlife corridors as a result of the Topaz Solar Project will be **significant and unmitigable**. Habitat loss is the primary cause of San Joaquin Valley upland species endangerment (U.S. Fish & Wildlife 1998). The California Department of Fish and Game's 2008 Wildlife Action Plan states that "[w]ith only about 5 percent of the San Joaquin valley's original natural areas remaining untilled and undeveloped, these Central Coast habitats...are important for the [San Joaquin kit fox's] survival" (at 171). Further, this plan references the U.S. Fish and Wildlife Service's Recovery Plan for the San Joaquin kit fox, and "calls for the protection of a complex of fox populations, including three core populations" (within the Carrizo Plain, western Kern County, and Ciervo-Panoche Natural Area) and "recommends **protecting remaining connections between populations** to counteract interbreeding or declines in any one population" (emphasis added; at 172). We are especially concerned about these impacts because the "paths taken by dispersing kit fox are not well understood, nor is the dispersal range well documented. . . ." DEIS at 3-168. The disruption of landscape scale connectivity for the San Joaquin kit fox, tule elk, pronghorn antelope, and other wildlife species cannot be effectively mitigated given the size of the Topaz Solar Farm project, the cumulative impact on landscape-scale connectivity caused by the neighboring California Valley Solar Ranch project, and the topographic features of the Carrizo Plain. We believe that these adverse effects can only be reduced by a reduction in the size and scale of the proposed project, and we encourage the agencies to analyze alternatives that differ in size, scale, and location from the proposed project.

SS-2
cont'd

Comment. We note that the DEIS describes a perimeter fence that includes openings for San Joaquin kit fox passage approximately every 100 yards, *see* DEIS at 2-25, and, as described in our scoping comments submitted on this project which are incorporated herein by reference, we believe that these opening are insufficient to allow for regular and widespread use of the site by kit fox. However, we understand that the current configuration of the project which is not described in the DEIS includes a raised fence permitting kit fox passage at any point along the fence line. We recommend that this raised fence design be a required feature of the project.

SS-3

Comment. We are concerned that the impacts to the mountain plover from the Topaz Solar Farm project may be greater than presented in the DEIS. According to the DEIS, 50% of mountain plover individuals winter-over in California with the Carrizo Plain a regular wintering location for this species. *See* DEIS at 3-151. We recommend that the impacts to mountain plover from the Topaz Solar Farm project be analyzed in greater detail in the final EIS.

SS-4

Comment. We are concerned that the project will adversely impact burrowing owls, especially in light of the latest statewide data from the Institute for Bird Populations indicates that all California populations of this species are declining except for the Carrizo Plain population. We recommend that any known nesting sites for this species be avoided since individuals demonstrate high nest-site fidelity. Additionally, we recommend that the procedures for trapped San Joaquin kit fox set forth in the DEIS at 3-180 be adopted for burrowing owls.

SS-5

Comment. Due to the proximity of the project site to the primary southern California condor release site at Hopper Mountain National Wildlife Refuge and active use by condors of the Sierra Madre and La Panza ranges south and west of the project, we are pleased to see that the project mitigation measures include "regular trash clean-up and removal of small metal objects," DEIS at 3-167, which condors are known to ingest. We recommend that such clean-up occur at the end of construction activities daily or, at a minimum, weekly to prevent adverse effects to condors.

SS-6

Comment. We are concerned that “[c]alving grounds for tule elk and pronghorn may be located near the reconductoring route.” DEIS at 3-320. We recommend that the final project include seasonal timing restrictions for reconductoring in these areas to minimize impacts to tule elk and pronghorn calving. SS-7

Mitigation

Comment. Throughout the DEIS, the agencies rely on the measures described in Table 2-9 as sufficient to mitigate adverse the adverse environmental consequences of the project. See DEIS at 3-170 (“Impacts on San Joaquin kit fox would be minimized with implementation of measures described in Table 2-9. . . .”). However, on page 2-47, the DEIS states that the measures set forth in Table 2-9 “may be eliminated or revised, or new measures added, during the course of the CUP permitting process for the Proposed Project, expected to be finalized in mid-2011.” Therefore, the agencies have no assurance that the mitigation measures that are presented in the DEIS will indeed be incorporated into the final project as ultimately permitted, and the analysis in the DEIS is premature. The agencies failure to analyze the project in light of the *final* mitigation measures for the project renders the DEIS inadequate, and neither the agencies nor the public can meaningfully evaluate the adverse impacts of the project until the mitigation measures are finalized. We recommend that the agencies supplement its analysis in the DEIS with an analysis of the mitigation measures to be incorporated into the project once those measures are finalized. G-4.2

Comment. The DEIS states that the “County may require pre-construction surveys and/or avoidance measures to reduce potential direct adverse effects on species status reptiles and amphibians.” DEIS at 3-167. Because it is unknown whether or not the County will require measures for these species, we recommend that the agencies incorporate and analyze such measures once they are established for this project.

Comment. Although the agencies observe that the applicant will place mitigation lands into conservation easements, the DEIS contains no information about the nature of such easements nor the agency or organization that will hold such easements. We recommend that the agencies review a complete mitigation strategy that includes proposed conservation easement terms and identification of the agency or organization responsible for enforcing such easements. While conservation easements can be useful land conservation tools under the right circumstances, a failure of easement oversight may result in a complete failure of the lands as mitigation for the impacts of the project. G-4.3

Global Climate Change

The DEIS analyzes the project’s climate change impacts by analyzing the expected contribution and reduction of greenhouse gases resulting from the project. See DEIS at 3-54. The DEIS does not analyze the impacts climate change will have on species and the effects of climate change on habitats that would be required to sustain viable populations of at risk species.

Comment. NEPA’s “hard look” requires that federal agencies consider climate change in environmental impact statements. DOE and the Corps must consider the effect of the proposed action on climate change, the effect of climate change on the proposed action, *and* the effect of climate change on the affected environment, i.e. the wildlife and wildlife habitats of the Carrizo Plain. Climate change considerations are relevant throughout the NEPA process, from the scope of the environmental document and the description of the affected environment to the design of the proposed action, alternatives to the proposed action, and the environmental impacts of the proposed action and alternatives. According to the U.S. Global Climate Change Research Program, average temperatures in the Southwestern U.S. – including California – are projected to rise from four to as much as 10°F over the baseline years (1960-1979) by the year 2090. An increase of between seven and 10°F associated with the G-9.1

higher greenhouse gas emission scenario is more likely than the lower range of temperature increase associated with the lower emissions. The agencies must evaluate the impacts of the Topaz Solar Project on wildlife species and wildlife habitat in the Carrizo Plain in light of the projected effects of global climate change. Such changes include, for example, movement of certain species to higher elevations and/or latitudes as temperatures increase, shifts in natural communities' species composition, and changes in precipitation patterns. Planning for species adaptation must be essential components of the analysis and decision for the project contained in the NEPA documents.

G-9.1
cont'd

Comment. We are especially concerned that the disruption of landscape-scale connectivity caused by the project will impede the ability of plant and animal species to respond to climate change and to persist on the landscape. We recommend that the agencies' specifically incorporate an analysis of the project's impacts on landscape-scale connectivity for wildlife and wildlife habitat in light of the anticipate impact of climate change for the Carrizo Plain. Additionally, we recommend that the agencies consider the following impacts of climate change on the wildlife and wildlife habitat of the Carrizo Plain:

- Fish and wildlife: habitat, composition, shifts to higher elevation/latitudes, reduced vegetation food sources, altered migration routes, less available water sources.
- Increases in the frequency, severity, duration and extent of extreme events such as drought, flooding, storms, and heat waves.
- Soil: erosion, impacts to soil moisture, fugitive dust concentrations.
- Threatened and endangered species: effects of moisture-related stress on species, changes to migration patterns.
- Vegetation: preferential CO₂ metabolites, species migration, establishment of invasive species, pathogens, warm/cool season plants, growing season.
- Water: changes to availability, quality, quantity, precipitation patterns, flow regimes, dilution, water temperatures, elevation of snow pack, annual snow pack longevity, groundwater elevations, water rights.
- Wildfire: fire frequency, fuel load quantity and composition, fuel temperatures, relative humidity, water availability for fire suppression, drought, increased severe precipitation/soil loss.
- Invasive species.

G-9.2

Conclusion

Thank you once again for the opportunity to provide comments on the Topaz Solar Farm and for considering our comments. Defenders requests that all notices for the above-referenced project, including a hard copy of the final EIS upon its publication, be mailed to Pamela Flick, Defenders of Wildlife, 1303 J Street, Suite 270, Sacramento, CA 95814.

If you have any questions, please contact Pamela Flick at (916) 313-5800 x105 or via email at pflick@defenders.org.

Sincerely,



Pamela Flick, California Program Coordinator
Defenders of Wildlife

References

- Aspen Environmental Group. Draft Environmental Impact Report for the Topaz Solar Farm Project Conditional Use Permit (DRC 2008-00009) State Clearinghouse No. 2008091026. Prepared for the County of San Luis Obispo Department of Planning and Building, San Luis Obispo, California. October 2010.
- California's Wildlife: Conservation Challenges. California's Wildlife Action Plan. 2007. Prepared by UC Davis Wildlife Health Center for California Department of Fish and Game. Available online at <http://www.dfg.ca.gov/wildlife/wap/report.html>.
- "Notice of Intent to Prepare an Environmental Impact Statement for a Proposed Federal Loan Guarantee To Support Construction of the Topaz Solar Farm, San Luis Obispo, CA," 75 Federal Register 204 (22 October 2010), pp. 65306-65309.
- U.S. Fish and Wildlife Service. 1998. *Recovery plan for upland species of the San Joaquin Valley, California*. Region 1, Portland, OR. 319 pp.
- U.S. Global Climate Change Research Program. 2009. Global Climate Change Impacts in the United States; Southwest Region.



May 9, 2011

Ms. Angela Colamaria
 US Department of Energy Loan Programs Office (LP-10)
 1000 Independence Avenue, SW
 Washington, DC 20585
Angela.Colamaria@hq.doe.gov
Topaz-EIS@hq.doe.gov

RE: Comments on DOE/EIS-0458D - the Draft Environmental Impact Statement (DEIS) No. 20110087 for Topaz Solar Farm Project, and Issuing a Loan Guarantee to Royal Bank of Scotland for Construction and Startup in San Luis Obispo County, CA. (76FR16767)

Dear Ms. Colamaria:

North County Watch is a 501 3 c public benefit corporation in san Luis Obispo County. Our organization is committed to balanced and responsible development in and around northern San Luis Obispo County. Its purpose is to promote economic and environmental policies that maintain and enhance the uniqueness of our community. These comments are submitted on behalf of North County Watch (NCW).

Whereas we recognize the serious nature of Climate Change and support measures taken to lessen the impacts, including the development of renewable energy, the importance of careful environmental analysis and mitigation of impacts to threatened and endangered species cannot be overstated. Projects need to be and can be sited on lands that result in minimal environmental impacts. The purpose of careful siting and environmental mitigation is to allow for the adaptation of already endangered species to the impacts that climate will bring to their habitats. Additionally, long range planning for the sustainability of renewables such as wind and solar is essential. Expensive upgrades to existing transmission corridors, or development of new corridors are not useful, necessary, or desirable because of the nature of PV solar generation. Distributed systems located close to the end user that are located on existing facilities, whether industrial, commercial or residential, is the ideal solution and can be accomplished.

G-1.2

The Topaz project is to be located in the Carrizo Plain, recognized as the most biologically diverse area in California and home of over 34 threatened or endangered species. The project would cover up to 4,100 acres and impact a total of over 7,000 acres of the remaining core habitat for numerous endangered species, including the San Joaquin Kit Fox. The project will result in significant

Page 1 of 1

unavoidable and un-mitigable impacts to numerous threatened and endangered species. This project is one of two being permitted for the Carrizo Plain and the cumulative impacts will result in the extirpation of species. This project should be denied by the Department of Energy and the Army Corp of Engineers.

G-1.2
cont'd

Biological impacts are significant and un-mitigable and the analysis of these impacts is inadequate. The analyses fails to adequately identify the impacts related to the project’s substantial adverse effects on biological resources and habitat modification to special status species identified in the Recovery Plan for the Upland Species of the San Joaquin Valley and analyses of the species including but not limited to the giant kangaroo rat, San Joaquin kit fox, blunt-nosed leopard lizard, golden eagle, white-tailed kite, California condor.

SS-9

The analysis is also inadequate regarding substantial interference with the movement of any native resident or migratory wildlife corridors. Protocol level surveys were not performed for the federally threatened Kern primrose sphinx moth. The proposed avoidance measures are inadequate because protocol level surveys were never performed for the species. Many “mitigation measures” for rare species include preconstruction surveys the EIR relies on those post-hoc surveys rather than information gathered as part of the environmental analysis. Failure to conduct adequate surveys prior to the environmental analysis of the project effectively eliminates the most important function of surveys - using the information from the surveys to avoid and minimize harm caused by the project and reduce the need for mitigation.

SS-10

Impacts to movement corridors for the San Joaquin kit fox and Pronghorn antelope are not mitigated and cannot be mitigated because of the size of the project, its location and the topographic needs of the impacted species. Proposed mitigation levels are inadequate to ensure the recovery of special status species and in fact, because of the cumulative effects of the two projects, not enough suitable habitat and mitigation lands can be indentified to mitigate impacts to a level of insignificance. Surveys for Blunt Nose Leopard Lizard, Giant Kangaroo Rat, and California Tiger Salamander are inadequate. Impacts to other species including Fairy shrimp, Mountain Plover, Golden eagle, Bald Eagle, white Tailed Kite, San Joaquin Antelope Squirrel, California Condor, Swainson’s hawk, American Badger, Caochwhip, Western Spade foot toad, and Burrowing Owl are inadequately identified and un-mitigated.

SS-2

SS-9

Missing in the DEIS analysis is consideration of alternatives that would accomplish the same goals but with little or no impacts to special status species. Westlands CREZ is an important example. It could ultimately develop 50,000 acres degraded farmlands of Central San Joaquin valley lands, located on major north south transmission lines. We are attaching a spread sheet for 93 projects in the permitting process now that are sited on lands with little or no environmental impacts as an example how we can reach our renewable energy goals without sacrificing endangered species and habitats.

G-8.2

The DEIS impermissibly assumes that this project will result in the closure of fossil fuel or other non-renewable generations sources. None are indentified.

G-9.3

The project fails to consider and mitigate for substantial conversion of ag lands impacted by biological mitigation measures for this project and cumulatively for the other solar project, the California Valley Solar Ranch. Biological mitigations would result in impacts to an additional 7,300 acres of ag lands. Agricultural mitigation lands have not been identified.

LU-6

The re-conductoring phase and the construction of one of the two necessary substations were estimated in 2008 to be 40 to 50 million dollars for the re-conductoring and 25 to 35 million dollars for just one substation. This is 65-85 million dollars that will be borne ultimately by the ratepayers and it is an unnecessary expense because equivalent MW renewable could be sited in areas requiring less upgrade to the grid. See attached document "PG&E 2008 Electrical Grid Expansion Plan."

Thank you for your consideration of our comments.



Susan Harvey, President

Attachments: Power Point "PG &E 2008 Electrical Grid Expansion Plan."

Excel spreadsheet of projects with low environmental impacts



*protecting and restoring natural ecosystems and imperiled species through
science, education, policy, and environmental law*

Sent by electronic mail and USPS Mail

May 9, 2011

Ms. Angela Colamaria
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RE: Comments on DOE/EIS-0458D - the Draft Environmental Impact Statement (DEIS) No. 20110087 for Topaz Solar Farm Project, and Issuing a Loan Guarantee to Royal Bank of Scotland for Construction and Startup in San Luis Obispo County, CA. (76FR16767)

Dear Project Manager Colamaria:

These comments are submitted on behalf of the Center for Biological Diversity's 320,000 staff, members and on-line activists in California and throughout the western states, regarding the Draft Environmental Impact Statement (DEIS) No. 20110087, Topaz Solar Farm Project, Issuing a Loan Guarantee to Royal Bank of Scotland for Construction and Startup, San Luis Obispo County, CA. (76FR16767) issued by the Department of Energy (DOE).

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to comply with Section 211 of the Energy Policy Act of 2005, as well as Executive Order 13212, and to assist California in meeting emission reductions set by AB 32, the recently signed law requiring 33% of energy be renewable by 2020. The Center for Biological Diversity (the "Center") strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitats, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and lines and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

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The proposed project is proposed on the north and south sides of Highway 58, east of Bitterwater Road, approximately one to two miles northwest of the general area of California Valley. As proposed, the project would be installed over an approximate 4,000- to 4,100-acre (six-square-mile) site located within one of two study areas. Both options include the installation of

- Installation of approximately nine million PV solar modules and associated electrical equipment within up to 460 PV arrays;
- Electrical substation, switching station, and overhead collector lines;
- Monitoring and Maintenance Facility;
- Solar Energy Learning Center;
- Up to 22 miles of on-site access roads;
- Leach field and septic systems adjacent to the Monitoring and Maintenance facility and Solar Energy Learning Center; and
- Perimeter fencing around the PV arrays.

(DEIS at pg.S-5). It also includes the PG&E Reconductoring Project made up of the following components:

- Reconductoring approximately 35 miles of transmission line;
- Extending the height of every other tower by 20 feet to accommodate the new conductor;
- Potentially replacing up to ten percent of the towers to handle the additional weight;
- Installing an optical ground wire along the length of the reconducted line for static and fiber optic communications; and
- Installing a microwave tower and reflector.

Currently, the proposed project sites are home to at least thirty-three imperiled species, – many of them listed under state or federal endangered species act protection - that were documented to occur on site (DEIS at Table 3-17 and 3-18). However, this number is at odds with the thirty-five imperiled species noted in the FEIR in Tables C.6-4 and C.6-5. In addition the DEIS fails to evaluate if other rare species have a high to moderate likelihood of occurring onsite, as was done in the FEIR in Tables C.6-4 and C.6-5). The proposed project would impact one of only three core areas for the endangered species addressed in the Recovery Plan for the Upland Species of the San Joaquin Valley¹. The species included in the Recovery Plan are already critically endangered due to habitat conversion and only persist on the peripheries of their former ranges. Indeed it is hard to imagine a project proposed in a more sensitive habitat type which is home to so many endangered and imperiled. Despite the determination in the DEIS, either of the proposed project options will result in significant unmitigable impacts to biological resources both on the proposed project sites and cumulatively for the region. For those reasons alone, both proposed project options should be denied by the Department of Energy and the Army Corps of Engineers.

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The DEIS for the proposed project fails to provide adequate identification and analysis of all of the impacts of the proposed project on the San Joaquin kit fox, longhorn and vernal pool fairy shrimp, golden eagles and other rare plants and animals. The DEIS also fails to adequately address the significant cumulative impacts of the project, and lacks consideration of a reasonable range of alternatives.

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Of particular concern is the DEIS' failure to include adequate information regarding the impacts to resources and the failure to fully examine the impact of the proposed project options

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¹ [USFWS](#) 1998

along with other similar proposed projects. As a result, this current piecemeal process may lead to the approval of industrial sites sprawling across and throughout the California Valley and adjacent areas, within habitat and connectivity that will detrimentally affect the recognized conservation investments of the Carrizo Plain National Monument as well as severely compromising the goals of the Recovery Plan for the Upland Species of the San Joaquin Valley. The DEIS fails to consider potential alternatives that would protect the most sensitive lands from future development. Alternative siting such as the Westlands Solar Park², which is on abandoned agricultural fields with no habitat or connectivity value, and alternative technologies (including distributed PV on commercial rooftops and near existing substations) should have been fully considered in the DEIS, because these alternatives would eliminate the impacts to species, soils, and water resources in the California Valley, which is part of the larger Carrizo Plain. In scoping comments on the EIS, the Center and others raised concerns about the impacts that development in this portion of the Carrizo Plain would have to species and habitats and particularly to connectivity. As the conservation organizations have emphasized in comments on the various large-scale industrial solar proposals in California, planning should be done *before* site specific projects are approved in order to ensure that resources are adequately protected from sprawl development and project impacts are first avoided, then minimized and lastly mitigated.

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G-8.1

In the sections that follow, the Center provides detailed comments on the ways in which the DEIS fails to adequately identify and analyze many of the impacts that could result from the proposed project options, including but not limited to: impacts to biological resources, direct and indirect impacts from proposed project options, and cumulative impacts.

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I. The DEIS Fails to Comply with NEPA.

NEPA is the “basic charter for protection of the environment.” 40 C.F.R. § 1500.1(a). In NEPA, Congress declared a national policy of “creat[ing] and maintain[ing] conditions under which man and nature can exist in productive harmony.” *Or. Natural Desert Ass’n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting 42 U.S.C. § 4331(a)). NEPA is intended to “ensure that [federal agencies] ... will have detailed information concerning significant environmental impacts” and “guarantee[] that the relevant information will be made available to the larger [public] audience.” *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998).

Under NEPA, before a federal agency takes a “‘major [f]ederal action[] significantly affecting the quality’ of the environment,” the agency must prepare an environmental impact statement (EIS). *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)). “An EIS is a thorough analysis of the potential environmental impact that ‘provide[s] full and fair discussion of significant environmental impacts and ...

² <http://www.westlandssolarpark.com/>

inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1). An EIS is NEPA’s “chief tool” and is “designed as an ‘action-forcing device to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.” *Or. Natural Desert Ass’n*, 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

An EIS must identify and analyze the direct, indirect, and cumulative effects of the proposed action. This requires more than “general statements about possible effects and some risk” or simply conclusory statements regarding the impacts of a project. *Klamath Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 995 (9th Cir. 2004) (citation omitted); *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-23 (9th Cir. 2006). Conclusory statements alone “do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary’s reasoning.” *NRDC v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988).

A. Purpose And Need and Project Description are Too Narrowly Construed and Unlawfully Segment the Analysis

Agencies cannot narrow the purpose and need statement to fit only the proposed project and then shape their findings to approve that project without a “hard look” at the environmental consequences. To do so would allow an agency to circumvent environmental laws by simply “going-through-the-motions.” It is well established that NEPA review cannot be “used to rationalize or justify decisions already made.” 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000) (“the comprehensive ‘hard look’ mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.”) As Ninth Circuit noted an “agency cannot define its objectives in unreasonably narrow terms.” *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F. 3d 900, 812 (9th Cir. 1999). The statement of purpose and alternatives are closely linked since “the stated goal of a project necessarily dictates the range of ‘reasonable’ alternatives.” *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit recently reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that “[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives” in violation of NEPA).

The purpose behind the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part, to “guarantee[] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The agency cannot camouflage its analysis or avoid robust public input, because “the very purpose of a draft and the ensuing comment period is to

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elicit suggestions and criticisms to enhance the proposed project.” *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agency cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives.

The DOE’s purpose and need for the proposed Topaz Solar project is “to comply with its mandate to select eligible projects that meet the goals of the Energy Policy Act of 2005 (EPAct 2005), as amended by the American Recovery and Reinvestment Act (ARRA) of 2009.”

(DEIS at S-3). In fact, the purpose and need is flawed in its presumption that

“Assuming electricity generated from the Proposed Project displaced energy produced by natural gas-fired power plants, the Proposed Project would have annual greenhouse gas savings upon buildout of approximately 285,493 metric tons of carbon dioxide, or 8,564,790 metric tons over the life of the Project”

(DEIS at S-3), because the DEIS fails to identify which, if any, gas (or coal) fired power plants will be shut down based on the implementation of this project.

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The Center is well aware that deadlines for funding, particularly for the DOE Loan Guarantee funds, have driven the pace of the environmental review for this project and others and, while such funding mechanisms are important, deadlines cannot be used as an excuse for rushed and inadequate NEPA review. The DOE and the Corps must be concerned with the adequacy of the NEPA review and even if the agencies can properly have an objective of *timely* approval of projects they cannot properly have as purpose and need of the project a *rushed* inadequate environmental impact review.

The U.S. Army Corps of Engineer’s (Corps) purpose and need for the proposed Topaz Solar project is confusing. As the regulatory agency responsible for compliance with the Clean Water Act, the Corps has already “determined that Waters of the US potentially would be filled by the Proposed Project and has directed that the Project Proponent apply for a Standard Individual Permit.” (DEIS at S-4). The Corps must reject the project based on this DEIS because of all of the inaccuracies cited in the following sections.

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Moreover, in its discussion of the need for renewable energy production the DEIS fails to address risks associated with global climate change in context of including both the need for climate change mitigation strategies (e.g., reducing greenhouse gas emissions) and the need for climate change adaptation strategies (e.g., conserving intact wild lands and the corridors that connect them). All climate change adaptation strategies underline the importance of protecting intact wild lands and associated wildlife corridors as a priority adaptation strategy measure.

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The habitat fragmentation, loss of connectivity for terrestrial wildlife, and introduction of predators and invasive weed species associated with the proposed project in the proposed location may run contrary to an effective climate change adaptation strategy. Siting the proposed project in the proposed location partially impacting ecologically functioning ecosystems, occupied habitat and important habitat linkage areas, major washes and other resources could undermine a meaningful climate change adaptation strategy with a poorly executed climate

change mitigation strategy. Moreover, the project itself will emit greenhouse gases during construction and manufacturing in particular and the DEIS contains little discussion of ways to avoid, minimize or off-set these emissions although such mitigation is clearly necessary. The way to maintain healthy, vibrant ecosystems is not to fragment them and reduce their biodiversity.

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B. The DEIS Does Not Adequately Describe Environmental Baseline

The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In *Half Moon Bay Fisherman’s Marketing Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that “without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA.” Similarly, without a clear understanding of the current status of these public lands BLM cannot make a rational decision regarding proposed project. See *Center for Biological Diversity v. U.S. Bureau of Land Management, et al.*, 422 F. Supp. 2d 1115, 1166-68 (N.D. Cal. 2006) (holding that it was arbitrary and capricious for BLM to approve a project based on outdated and inaccurate information regarding biological resources found on public lands).

The DEIS fails to provide adequate baseline information and description of the environmental setting in many areas including in particular the status of rare plants, animals and communities including San Joaquin kit fox, blunt-nosed leopard lizard, giant kangaroo rat, Kern primrose sphinx moth, golden eagles, rare plants, and other species, particularly with regard to the reconductoring project.

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The baseline descriptions in the DEIS are inadequate particularly for the areas where surveys were a single season, a day, or not performed at all. As discussed below, because of the deficiencies of the baseline data for the proposed project area, the DEIS fails to adequately describe the environmental baseline. Many of the rare and common but essential species and habitats have incomplete and/or vague on-site descriptions that make determining the proposed project’s impacts difficult at best. Some of the rare species/habitats baseline conditions are vague and as a result, an inadequate impact assessment is provided. A supplemental document is required to fully identify the baseline conditions of the site, and that baseline needs to be used to evaluate the impacts of the proposed projects.

C. Failure to Identify and Analyze Direct and Indirect Impacts to Biological Resources

The EIS fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed project on the environment. The Ninth Circuit has made clear that NEPA requires agencies to take a “hard look” at the effects of proposed actions; a cursory review of environmental impacts will not stand. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150-52, 1154 (9th Cir. 1998). Where the DOE has incomplete or insufficient information, NEPA requires the agency to do the necessary work to obtain it where possible. 40 C.F.R. §1502.22; see *National Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 733 (9th Cir.

SS-10

2001) (“lack of knowledge does not excuse the preparation of an EIS; rather it requires [the agency] to do the necessary work to obtain it.”)

Moreover, DOE must look at reasonable mitigation measures to avoid impacts in the DEIS but failed to do so here. Even in those cases where the extent of impacts may be somewhat uncertain due to the complexity of the issues, DOE is not relieved of its responsibility under NEPA to discuss mitigation of reasonably likely impacts at the outset. Even if the discussion may of necessity be tentative or contingent, NEPA requires that the DOE provide some information regarding whether significant impacts could be avoided. *South Fork Band Council of Western Shoshone v. DOI*, 588 F.3d 718, 727 (9th Cir. 2009).

The lack of comprehensive surveys is particularly problematic. Failure to conduct sufficient surveys prior to environmental documentation of the project also effectively eliminates the most important function of surveys - using the information from the surveys to avoid and minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than avoiding and preventing the harm in the first place. In addition, without understanding the scope of harm before it occurs, it is difficult to quantify an appropriate amount and type of mitigation.

The DEIS fails to provide all of the information necessary for decisionmakers and the public to adequately review the proposed project. Therefore the impacts cannot be fully analyzed or mitigated appropriately or fully. For this reason alone, a supplemental or revised DEIS needs to be provided and additional alternatives are included (including a preferred alternative) that avoids and reduces the impacts to biological resources.

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The DEIS also acknowledges that some essential species specific surveys have not completed. For instance, for the federally threatened Kern sphinx moth “Protocol surveys for the Kern primrose sphinx moth have not been conducted.” (DEIS at 3-141). Typically a project of this size and in this very sensitive location with potentially so many rare, threatened and endangered species would involve many seasons of surveys to thoroughly document all of the resources that occur on the site. In this instance, the surveys have only been implemented in the last three years. Multiple years of surveys are particularly important in arid regions of California because of the unpredictable and variable precipitation patterns. Therefore, it is impossible to evaluate the potential impact of the proposed project based on the lack of pertinent survey data and an insufficient number of years of surveys.

Lastly, the whole inadequate mitigation strategy seems to be – develop the core habitat for the rare, threatened and endangered species and mitigate through acquisition of compensation lands. The generalized strategy of a mitigation ratio for San Joaquin kit fox is proposed to mitigate a multitude of other species – golden eagles, migratory/special status species birds, bats, badger, kit fox, and rare plants. Furthermore, the document actually fails to require that acquired mitigation lands must be habitat for these impacted species. Because any acquired habitat is already inhabited by the same species for which mitigation is sought, this mitigation strategy ensures a *net decrease* in habitat for impacted species. To actually provide mitigation that stanches species’ habitat losses, mitigation ratios must be actually address the impacts to each

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species and must be high enough to fully mitigate the impacts to those species³. A *minimum* 5:1 mitigation should be required for development in a core area for the San Joaquin kit fox⁴, especially when the project sites are documented to include kit fox known dens, successful natal dens and documented regular on-site use by kit fox (at pg. 3-156 to 3-157). The proposed mitigation ratios for kit fox mitigation are inadequate and unjustified for this highly imperiled species. Additionally, any mitigation strategy needs to assure that mitigations actually focus on impacted species. For example, mitigation for impacts to kit fox may not meet the mitigation needs for impacted rare plants, and therefore can not be “nested”. This realistic strategy is also essential to prevent future listings under Endangered Species Acts – both state and federal.

Many of the plans that are identified in the DEIS to adequately minimize or mitigate impacts are simply not provided in the DEIS for public review. For example, the Habitat Restoration and Revegetation Plan (DEIS at 3-114), the Vegetation Management Plan (DEIS at 3-113), the Habitat Mitigation and Monitoring Plan (DEIS at 3-177) and the Avian Protection Plan (DEIS at 3-122) are key plans for minimization and mitigation. Sheep grazing is proposed (DEIS at 4-4) despite the fact that domestic grazing in has been shown to be incompatible with endangered species conservation on the Carrizo Plain⁵. While the Center supports the development and implementation of these plans in general, in the absence of even a draft plan being presented in the DEIS, it is impossible to evaluate or determine the efficacy of proposed minimization and mitigation to actually adequately mitigate impacts. While the NEPA lead has the responsibility of assuring that mitigation meets all the LORS and conditions, the Center has not always found that to be the case. Studies of mitigation compliance have borne this out as well.⁶ Making all of the plans available as part of the public process is important to assure the public that their public resources are being protected – without public disclosure of these plans during the process there is no way to evaluate whether the NEPA lead, in this case the DOE, has put in place adequate plans to prevent degradation of our natural heritage, clean air and water. The DOE must supply these essential plans as part of the public process that enables public input on the plethora of “mitigation” plans that are being proposed as conditions of this proposed project.

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The Center failed to find a quantitative analysis of impacts other than the number of acres that will be impacted. The DEIS fails to adequately identify the on-the-ground impacts to connectivity, and species essential habitat types (breeding/foraging etc.), leaving the public and decisionmakers clueless as to true nature of the impacts. Because of the failure to identify the true impacts, it is impossible to evaluate if the proposed mitigation would be adequate

SS-9

1. San Joaquin Kit Fox

The DEIS documents extensive evidence of the state and federally listed endangered San Joaquin kit fox on the project including 18 individuals that use the site (DEIS at 3-156) and three natal dens (DEIS at 3-157). This information conflicts with the San Luis Obispo County’s FEIR

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3 Moilen et al. 2009, Norton 2009

4 USFWS 2010a

5 Kimball and Schiffman 2003

6 Moilen et al. 2009, Norton 2009, Ambrose 2000

information which documented 19 individuals that use Option A (FEIR at pg. C.6-19) and 23 dens including 3 natal dens (FEIR at pg. C.6-18). 16 kit foxes were documented to use Option B (FEIR at pg. C.6-19) and 2 natal dens and two other dens were documented to occur in Option B (FEIR at pg. C.6-20). Regardless, no definitive estimations of the population or number and location of home ranges of kit fox are provided.

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The San Joaquin kit fox has been under California Endangered Species Act protection for over 39 years and under Federal Endangered Species Act protection for over 43 years. Despite years of conservation efforts, kit fox populations and amount of habitat continue to decline. Modeling suggests that the San Joaquin kit fox is threatened with extinction in the San Joaquin Valley by 2022⁷, making the peripheries of its range - areas like California Valley where the project is proposed - even more important for the survival of this imperiled and declining species. Indeed, studies have shown that the most cost-efficient protection for the San Joaquin kit fox is protecting habitat in the Carrizo Plain (including the California Valley) rather than in other remaining areas of the species range⁸. U.S. Fish and Wildlife Service reconfirmed that only three remaining core areas for the San Joaquin kit fox (SJKF) occur in the species range⁹. The large number of kit fox and sign on the project areas are not surprising considering that the Carrizo Plain including the California Valley is only one of three core areas that remain for the declining San Joaquin kit fox on the planet. In the Recovery Plan for the Upland Species of the San Joaquin Valley, the Carrizo Plain including the California Valley is one of only three key recovery areas also¹⁰. The Carrizo Plain including the California Valley is a refugia and stronghold for the kit fox. Based on this dire situation, the Center submitted a petition to the U.S. Fish and Wildlife Service identifying critical habitat for the San Joaquin kit fox and includes the Carrizo Plain including the California Valley within that proposal. Unfortunately the petition was rejected. This California endemic species is clearly in significant decline, and the proposed project will only promote further declines by impacting occupied core and recovery habitat and fragmenting linkages and movement corridors. The DEIS completely fails to acknowledge the importance of the proposed project site to the existence much less the recovery of the San Joaquin kit fox. It also fails to adequately assess how degrading the Carrizo Plain population may affect this core and recovery area, or the connectivity between other populations or its effects on the persistence of smaller, satellite populations as well as the entire population as a whole. Clearly this missing analysis must be included in a supplemental or recirculated EIS.

SS-12

The DEIS fails to disclose that the project area lies within one of the 3 cores areas recently identified by U.S. Fish and Wildlife Service¹¹. Consequently, no analysis of the impact of this proposed project on the core areas of the San Joaquin kit fox is included. Neither are cumulative impacts from other proposed projects (including oil and gas development) within these same core areas.

7 McDonald-Madden et al. 2008

8 Haight et al. 2004

9 USFWS 2010a

10 USFWS 1998

11 USFWS. 2010a

Unlike the FEIR, the DEIS fails to analyze that within this important core area for SJKF the proposed project would reduce the width of the least cost path (highly permeable areas) for the SJKF to the east by approximately 1.7 miles at the northern project boundary and by approximately 6.2 miles at the southern project boundary. The width of the least cost corridor to the west of the Proposed Project would be reduced by 1.5 miles at the southern project boundary and by 2.4 miles at the northern boundary” and “will reduce the size of the existing movement corridor by approximately 50 percent” (FEIR at pg.C.6-70). In fact, both Option A and B lie within the best part of the existing connectivity corridor between conservation investments south of the projects site (Carrizo Plain National Monument) and the Palo Prieto-Cholame Valley¹². In addition, the proposed project almost bisects the “least cost path” for SJKF in this part of the Carrizo Plain¹³.

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The DEIS correctly recognizes that the proposed minimization and mitigation strategies on site are experimental. “It is unknown how much the kit fox would utilize the site after the Project is built since it would no longer be an open landscape.” (DEIS at 3-169). No studies that we are aware of indicate the SJKF will pass through or utilize areas where the solar arrays are proposed. The DEIS recognizes that project structures will potentially conceal kit fox predators (such as coyotes and red foxes) or provide predators roosts (such as barn owls) (DEIS at 3-169).

The proposed mitigation to reduce impacts from the proposed project includes construction of artificial and escape dens, and the placement of SJKF passages through perimeter fencing. While artificial dens have been documented to be used by SJKF¹⁴, they are not always a successful mitigation strategy¹⁵. Furthermore we question the need for impacting crucial occupied habitat when less environmentally impacting alternatives are available. We also question that type of approach as mitigation for this proposed project, because the proposed project site is currently already occupied habitat, and increasing on-site populations which would be then in harms way, seems counterintuitive. The recovery of SJKF as identified in USFWS’ Recovery Plan for the Upland Species of the San Joaquin Valley states “a central component of species recovery is to establish a network of conservation areas and reserves that represent all of the pertinent terrestrial and riparian natural communities in the San Joaquin Valley. Habitat protection does not necessarily require land acquisition or easement. The most important aspect of habitat protection is that land uses maintain or enhance species habitat values.”¹⁶ Industrial development in a core area fundamentally undermines the conservation for this highly imperiled and declining species.

SS-13

The failure of the DEIS to provide adequate data on the highly imperiled San Joaquin kit fox and its status on the proposed project site makes any analysis of potential direct or indirect impacts impossible. The DEIS makes little attempt to avoid or minimize any potential impacts to the kit fox. Instead it relies largely on mitigation lands, without an evaluation that adequate mitigation lands are even available. In addition, the proposed 1:1 to 4:1 mitigation is inadequate

12 Penrod et al. 2010

13 Ibid

14 Warrick et al. 2007

15 Cypher et al. 2009.

16 USFWS 1998 at pg. ix

even if the mitigation lands are truly habitat for the kit fox, due to the proposed project being within a core area. Because the proposed project sits directly within one of the last remaining core and recovery areas and bisects the only linkage for the species between the southern and northern parts of its range, required mitigation should be at a minimum 5:1 for all of the lands impacted by the project and *must* include highly suitable habitat as well as identified linkages and movement corridors. It is unclear if such mitigation lands are even available.

Additionally, the failure to identify the potential mitigation lands and how those lands would be managed further obfuscates the adequacy of the proposed mitigation. As mentioned above, scientific literature indicates that grazing is not compatible with the survival and recovery of many of the endangered species on the Carrizo Plain¹⁷. The proposed grazing plan, which is not available for review, may reduce the likelihood SJKF will utilize the mitigation areas.

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The DEIS proposes an absurd mitigation scenario as part of the inadequate 4:1 ratio (DEIS at 3-180 to 3-181). Disturbed lands that could be restored should first be considered for the proposed project site, because impacts to the suite of imperiled species would be considerably less. It makes no sense to impact functioning habitat for these imperiled species when an alternative disturbed site is available. It makes even less sense and is much more expensive to impact fully functioning habitat and mitigate it by “restoring” disturbed areas. Restored habitat has never been documented to support the full functioning ecosystem processes of undisturbed habitat¹⁸.

Rodenticides are known to be a leading cause of mortality in SJKR, yet the project only proposes to “avoid the use of rodenticides in management practices” (DEIS at 2-49). This proposed strategy fails to follow the Standardized Recommendations for Protection of the San Joaquin Kit Fox¹⁹ which states that rodenticide use should be restricted, and if rodent control must be conducted, zinc phosphide should be used because of proven lower risk to kit fox.

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Based on the DEIS’ failure to provide essential data, subsequent analysis of project impacts and adequate mitigation (including an analysis if full mitigation can even be accomplished) for this imperiled and declining species, we strongly urge the DOE to comprehensively address these issues in a supplemental or revised draft EIS.

G-12

2. *Giant Kangaroo Rat*

While no giant kangaroo rats were documented to occur on site, the DEIS notes that “suitable habitat may be present.” (DEIS at Table 3-18). The amount of the federally and state listed endangered giant kangaroo rat (GKR) habitat currently extant is only 3% of its historic habitat²⁰. In USFWS’ five year review for the GKR, recommendations for the Carrizo Plain including the California Valley is to conserve 100% of occupied habitat, include all existing

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17 Kimball and Schiffman 2003

18 Longcore et al. 1997

19 USFWS 2011

20 Loew et al. 2005.

habitat²¹. In addition USFWS' Recovery Plan for Upland Species of the San Joaquin Valley²² states that for GKR, "Where populations of giant kangaroo rats and associated, listed species appear to be robust, land use should not be changed when ownership or conservation status of parcels changes unless there are compelling reasons to do so." None of these recommendations are acknowledged in the DEIS, even as part of an avoidance, minimization or mitigation strategy. Identification of movement corridors and linkages are conspicuously absent for the GKR and must be identified and analyzed for impacts as well as conservation opportunities. Conservation of potentially occupied habitat, maintenance of connectivity and enhancement of effective dispersal between populations are the keys to recovering this imperiled species²³

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The DEIS is unclear if surveys were done for GKR on the powerline reconductoring project. These data are necessary in order to evaluate potential impacts.

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3. *Blunt-nosed Leopard Lizard*

The DEIS indicates that protocol surveys for blunt-nosed leopard lizard (BNLL) were conducted on only part of the site and that some of the areas were only surveyed for a single year (EIS at 3-131). No justification is provided as to the reason all open space areas in both Option A and B were not surveyed. Clearly the survey effort was inadequate because the whole site was not surveyed. Instead, just portions were included in protocol level surveys. One of the important purposes of comprehensive protocol level surveys is to identify where rare resources are located. It is unclear if surveys for the blunt-nose leopard lizard were completed on the powerline reconductoring project. It is particularly essential for species that are fully protected under State law, as the blunt-nosed leopard lizard is (see below for discussion of fully protected species). By failing to execute protocol level surveys over the whole site, the DOE loses the opportunity to identify presence of the species on-site and avoid potential impacts to this declining and fully protected species, for which the State cannot issue a "take" permit.

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SS-16

The recent 5-yr review by the USFWS for the blunt-nosed leopard lizard recognizes that the establishment of the Carrizo Plains National Monument aids in the recovery of the blunt-nosed leopard lizard²⁴. It is a key conservation area for this endangered species that has been under state and federal endangered species act protections for over 40 years. While surveys on the proposed project site to date have not located any blunt-nosed leopard lizards, the site still harbors habitat for the species and therefore is essential to this species recovery from the brink of extinction. Generally such large and controversial projects located on such sensitive habitat require multiple years of surveys. Adequate surveys should have been conducted prior to impact analysis, because the most important reason for surveys is to minimize the impacts to rare species and habitats. Instead, the DOE has based its analysis on a no, one or two seasons of surveys, and proposes a mitigation measure of more surveys (which is not a mitigation measure). Then if BNLL are found, the proposed mitigation can not fully mitigate for this species because BNLL is a fully protected species under California law. The DOE must agree and publish as part

SS-10

SS-17

21 USFWS 2010b

22 USFWS 1998.

23 Loew et al. 2005

24 USFWS 2010c

of the NEPA documentation that if BNLL are found on the site that the project must be redesigned to avoid this fully protected species and its occupied habitat.

The DEIS fails to require any mitigation for the BNLL habitat, which is recognized as occurring on site and that will be impacted by the project. That fact coupled with the failure to perform adequate surveys on the project site and the associated reconductoring project makes the analysis makes the NEPA analysis and proposed mitigation inadequate

SS-17
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4. *Kern Primrose Sphinx Moth*

No focused or protocol-level surveys were performed for the federally threatened Kern sphinx moth (DEIS at 3-141). Only a single day survey effort was undertaken that involved visiting known *Camissonia strigulosa* host plants sites and a superficial assessment of adjacent soils for suitability for burrowing sphinx moth larvae; this brief assessment does not substitute for protocol level surveys for this rare species. Due to the lack of data on this threatened species, the analysis of impacts from the proposed project is speculative at best, and therefore so are the proposed mitigation strategies.

SS-10

5. *Fairy Shrimp*

Both the federally listed endangered longhorn fairy shrimp and the federally threatened vernal pool fairy shrimp occur on the proposed project site (DEIS at 3-142). Because these are vernal pool obligate species, their presence also identifies a rare and declining plant community – vernal pools.

The U.S. Fish and Wildlife Service's Recovery Plan for Vernal Pool Ecosystems of Northern California and southern Oregon²⁵ identifies a 100% of occurrences of longhorn fairy shrimp need to be conserved in order for delisting to be considered. Likewise for the vernal pool fairy shrimp, which is more widespread, 80% of all occurrences need to be conserved in order for delisting to be considered. While DEIS proposes to avoid all of the vernal pools and provide a 250 foot buffer around the pools' perimeters, the DEIS does not provide the rationale for this buffer size. Based on the arid conditions of the Carrizo plain and the potentially altered hydrology resulting from the construction of the proposed project, a larger buffer may be required in order to maintain the pools' integrity especially in light of global climate change²⁶.

SS-18

6. *Mountain Plover*

Currently the proposed project site is one of the few locations in California where the mountain plover winters. While the DEIS acknowledges that "The Proposed Project would remove potential winter foraging habitat for mountain plovers, and the species is not expected to forage within the fenced areas of the site." (DEIS at 3-171). The document fails to evaluate the number of acres of foraging habitat that is proposed to be eliminated by the project. Mitigation

SS-4

²⁵ [USFWS](#) 2005

²⁶ Pyke 2005

is to occur on acquisition lands, however no evaluation of the quality of habitat and therefore the adequacy of mitigation is provided.

7. State fully Protected Species

Two of the rare species that occur on the project site are fully-protected species under California law (Fish and Game Code §5050), meaning that individuals of the species may not be “taken” (as defined in the Fish and Game Code) at any time, and CDFG may not authorize take except for scientific research purposes. Therefore all impacts must be avoided. In addition to the two species listed below please refer to the blunt-nosed leopard lizard comments above, which is also a state-fully protected species.

a. Golden eagles

Golden eagles were documented foraging on the project site (DEIS at 3-149). Aerial surveys for eagle nests were completed but the actual number of eagles’ nests and territories is buried in Appendices. Twenty-two golden eagle nests are located within a 10-mile radius of the proposed project, representing 11 territories, which conflicts with the DEIR which reported 12 territories (DEIR in Appendix 9). The EIS states that “The closest active nest to Study Area A is located approximately 7.2 miles southeast, and the closest active nest to Study Area B is located approximately 8.0 miles northwest. An inactive nest was observed approximately 5.1 miles east of Study Area A”. The DEIS fails to identify how many eagle territories will be impacted by the proposed project and how mitigation for the over 4,000+ acres of foraging habitat will be mitigated. The fact remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity and ultimately result in a “take”. Mitigation for golden eagle foraging habitat relies on SJKF mitigation, and as the Center has pointed out previously, any acquired mitigation lands are already supporting golden eagle foraging, so despite “mitigation’ the species will experience a *net loss of habitat*.

Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest²⁷. Regardless of distance, a straight-line view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of viewsheds using a three-dimensional GIS tool and development of buffers based on the modeling²⁸. Golden eagles have also been documented to avoid industrialized areas that are developed in their territory.²⁹ While the DEIS does a broad-brush impact analysis for the golden eagle under the Bald Eagle and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the take, possession, and commerce of such birds, but fails completely to identify or analyze the foraging habitat impacts, which could constitute a “take” of this species and is clearly not allowed under state law.

²⁷ Richardson and Miller 1997

²⁸ Camp et al. 1997; Richardson and Miller 1997

²⁹ Walker et al. 2005

SS-11

SS-19

SS-20

SS-19

b. Bald Eagles

Bald eagles were identified on the site (DEIS at 3-144). However no estimate of the number of bald eagles that could be affected by the proposed project is provided. As with the golden eagle, the broad-brush impact analysis for the golden eagle under the Bald Eagle and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the take, possession, and commerce of such birds, fails completely to identify or analyze the foraging habitat impacts, which could constitute a “take” of this species and is clearly not allowed under state law.

SS-19

c. White-tailed kite

While the white-tailed kite was not located on the project site, habitat was identified as occurring on the proposed project site (DEIS at 3-143). This species was documented on the proposed Sunpower site less than 5 miles away, so it is very likely that the white-tail kite also could forage on this proposed project site. As with the eagles above, no actual analysis of how the proposed project would affect the foraging ability of this fully protected species, and if the decrease in foraging could result in “take”. Furthermore, the number of kites that occur in the area as well as on the proposed project site, should be clearly identified. This deficiency needs to be included in a supplemental EIS.

SS-21

8. Swainson’s hawk

The State-threatened Swainson’s hawk is documented to occur on the site while the American peregrine falcon is identified as potentially occurring on the proposed project site (DEIS at 3-144), but no actual analysis of impacts is provided. The number and location of this species, which is also protected under the Migratory Bird Treaty Act, are unclear. The potential impact to them is unanalyzed in the DEIS and therefore is inadequate in disclosing all of the environmental impacts. Few avoidance, minimization and mitigation measures are not provided other than powerline avoidance. We fail to see how the proposed mitigation strategy including mitigation measures actually mitigates the loss of foraging habitat for these species.

SS-22

9. San Joaquin Antelope Squirrel (ST)

Because the San Joaquin antelope squirrel is typically sympatric with GKR³⁰, the shortcomings of the DEIS for the antelope squirrel are similar to the shortcomings with the GKR, which fails to provide the public and decisionmakers the requisite review and analysis regarding impacts to this state listed threatened species

SS-15

10. California Condor

While the California condor was not detected in the project area, we note that this wide-ranging species is recovering from the brink of extinction aided by substantial investments from both the public and private sector. Condors are currently significantly expanding their range into

SS-23

30 Hawbecker 1944

their historic range. The proposed project site is well within the historic range for the California condor and lies less than six miles from federally designated condor critical habitat. The DEIS dismisses the development of over 4,000 acres of potential foraging habitat for the California condor as it does for many of the wide-ranging avian species, and therefore fails to consider local and cumulative impacts to this species.

SS-23
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11. *Species of Concern*

Numerous species of concern of both State and federal resource agencies are identified to inhabit the proposed project site and have potential to be significantly impacted. Species specific issues are discussed below:

a. *Badger*

Badgers were identified to occur on the proposed project (DEIS at 3-146). Literature on the highly territorial badger indicates that badger home territories range from 340 to 1,230 hectares³¹. Therefore, the proposed project could displace *at least* one badger territory. While surveys prior to construction are clearly essential, even passive relocation of badgers into suitable habitat may result in “take”. Surveys need to be conducted for both on- and off-site badger territories if animals are to be passively relocated in order to increase chances of persistence. At a minimum, the revised or supplemental DEIS should identify suitable habitat nearby if the project is relying on passive relocation as a mitigation strategy.

SS-24

b. *San Joaquin Whipsnake (Coachwhip)*

The San Joaquin coachwhip (whipsnake), is present on the proposed project site (DEIS at 3-142). The DEIS fails to estimate the amount habitat that would be impacted by the proposed project for this species. While the DEIS addresses some avoidance measures, it suggests no mitigation strategy. Eliminating additional on-site habitat pushes this imperiled species closer towards extinction and to Endangered Species Act protection.

SS-25

c. *Western Spadefoot Toad*

There are multiple occurrences of western spadefoot toad, *Spea hammondi*, on the project site (DEIS at 3-142). The project will destroy habitat including breeding pools. The DEIS proposes to a mitigation strategy that would require preconstruction surveys and avoidance of known breeding pools. However, breeding pool habitat for this species is heavily rainfall dependent so breeding habitat may be not be easily identified, particularly without conducting multiple year surveys. The mitigation measures should provide for avoidance of all potential breeding habitat not just “known” breeding pools, and should provide an adequate buffer to minimize take of the breeding populations that use all the breeding habitats.

SS-26

31 Long 1973, Goodrich and Buskirk 1998

d. Migratory Birds and Sensitive Birds

Numerous migratory birds have been documented on the site. The DEIS fails to note that the proposed project is located in a globally recognized Important Bird Area³². The DEIS downplays the fatalities that have been documented to occur from birds running into panels³³ as well as impacts to avian species from reflective surfaces and power lines³⁴. Adjacent to the proposed project site are agricultural fields and rangelands, which attract birds. The DEIS does not quantify the number of birds (rare, migratory or otherwise) that use/traverse the project site from the avian point count surveys (which don't seem to have been done), nor does it evaluate the impact to those birds. The revised DEIS needs to analyze likely impacts to birds from the proposed project and PV configuration based on the point counts. The failure to provide the baseline data from which to make any impact assessment violates NEPA. This failure to analyze impacts is not only a NEPA violation, but for migratory birds, may also lead to a violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 -711, because migratory birds may be “taken” if the proposed project is constructed. While an Avian Protection Plan is proposed, it is not included in the DEIS. We request that at a minimum, the supplemental DEIS include such a plan.

SS-27

Additionally Executive Order 13186 states “Each Federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations is directed to develop and implement, within 2 years, a Memorandum of Understanding (MOU) with the Fish and Wildlife Service (Service) that shall promote the conservation of migratory bird populations.”³⁵ Because the proposed project is tied to federal actions, it too must abide by this EO. Furthermore the EO states that goals pursuant to the MOU include “3) prevent or abate the pollution or detrimental alteration of the Environment for the benefit of migratory birds, as practicable;” and “(6) ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern;”. Clearly, the supplemental DEIS needs to adequately identify the migratory bird issues on site and evaluate the impact to those species in light of the guidance in Executive Order 13186.

e. Burrowing owl

The DEIS notes that burrowing owls occur on the project site and that at least four active nest burrows were identified in Study Area A (DEIS at 3-159) and at least two active nest burrows in Study Area B (DEIS at 3-161). Additional active nest burrows were also located adjacent to both study areas. Preliminary results from the 2006-7 statewide burrowing owl census identified that the central western interior area actually harbors few Western burrowing owls.³⁶ So this density of burrowing owls on the site, suggests that the proposed project site harbors a robust populations of successfully reproducing burrowing owls in an area that generally does not support many burrowing owls.

SS-28

32 http://ca.audubon.org/maps/pdf/Carrizo_Plain.pdf

33 McCrary 1986

34 Klem 1990, Erickson et al. 2005

35 <http://ceq.hss.doe.gov/nepa/regs/eos/eo13186.html>

36 IBP 2008

The stronghold for burrowing owls in California – the Imperial Valley – has had a recently documented decline of 27% in the past 2 years³⁷, resulting in an even more dire state for burrowing owls in California. Because burrowing owls are in decline throughout California, and now their “stronghold” is documented to be declining severely, the burrowing owls on this proposed project site (and on other renewable energy projects) become even more important to species conservation efforts.

While “passive relocation” does minimize immediate direct take of burrowing owls, ultimately the burrowing owls’ available habitat is reduced, and “relocated” birds are forced to compete for resources with other resident burrowing owls and may move into less suitable habitat, ultimately resulting in “take”. No data is available on the fate of passively relocated birds, therefore it is unclear if the birds survive or not.

Mean burrowing owl foraging territories are 242 hectares in size, although foraging territories for owl in heavily cultivated areas is only 35 hectares³⁸. Mitigation is proposed as habitat acquisition for SJKF. Adequate acquisition of burrowing owl habitat needs to be acquired, calculated using the mean foraging territory size times the number of owls. Also using the average foraging territory size for mitigation calculations may not accurately predict the carrying capacity of the mitigation lands. It may be that in this arid region of California, the acres necessary to support a burrowing owl is much larger. While CDFG provided mitigation guidance in 2003, that guidance is now out of date in light of identified population declines³⁹, a more thorough census of burrowing owls throughout the state⁴⁰ and additional research on the species habitat⁴¹. Because the long-term persistence of burrowing owls lie in their ability to utilize natural landscapes, not human-created ones and the carrying capacity is tied to habitat quality, mitigation must include lands that are native habitats on undisturbed lands, not cultivated lands, which are subject to the whims of land use changes.

The DEIS relies on passive relocation. Because the Habitat Mitigation and Monitoring Plan is not provided, it is impossible to tell if any of the problems associated with phased passive relocation will be addressed in that document. Additional minimization and mitigation measures need to be included for this declining species, which has been petitioned for California Endangered Species Act protection in the past. Absent a clearer vision for the impacts and mitigation for the burrowing owl, the DEIS provides the public and decisionmakers a frustratingly vague and impacting scenario of burrowing owls on the proposed project site.

12. *Rare Plant Species and Communities*

While the DEIS states that none of the rare plants found on the project site are listed as threatened or endangered, six species are California list 1B plants. List 1B plants are eligible for

37 Manning 2009.

38 USFWS 2003

39 Manning 2009

40 Wilkerson and Siegel 2010

41 USFWS 2003

listing under the California Endangered Species Act, due to rarity and threat. These species include recurved round-leaved filaree (*California macrophylla*) 1B.1, Spiny-sepaled button celery (*Eryngium spinosepalum*) 1B.2, Diamond-petaled California poppy (*Eschscholzia rhombipetala*) 1B.1, Santa Lucia dwarf rush (*Juncus luciensis*) 1B.2, Munz's tidytips (*Layia munzii*) 1B.2, and shining navarretia (*Navarretia nigelliformis* ssp. *radians*) 1B.2., Therefore, significant effort needs to be taken to avoid impact to these species. The DEIS proposes no clear avoidance, minimization or mitigation strategy for these unique California species, and therefore fails to meet NEPA standards.

SS-29
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In addition, while the DEIS identifies plant communities that occur on the project site (DEIS at Table 3-14), it fails to identify that some of the on-site plant communities are considered rare by the California Department of Fish and Game⁴². For example, vernal pools (2.2 acres), ephemeral wetland depression (0.7 acres), natural non-wetland pool (0.7 acres) are identified in Table 3-14, all of which are or have the potential to be a rare plant community. While avoidance is proposed for the vernal pools, impacts to the other pool and wetlands are not discussed in the DEIS.

13. Insects

Besides for the Kern sphinx moth, which was not surveyed for, the DEIS fails to provide any information on rare insects on the proposed project site. In fact no surveys or evaluation of rare or common insects are included in the DEIS. The project site may provide habitat for rare insects, which are commonly overlooked in environmental documentation⁴³. Because of the ecosystem services that insects provide, the revised or supplemental DEIS needs to include results of surveys and an analysis of impacts to insects, in particular rare ones.

SS-30

14. State Protected Game Species

The DEIS recognizes that both pronghorn and Tule elk have been reintroduced onto the Carrizo Plain and use the proposed project site (DEIS at C.6-12). Connectivity maps for these species indicate that the general area of the proposed project site impact the connectivity for these important species(Appendix 9B). Significant public and private resources have been invested in order to re-establish these charismatic species back into their historic ranges. While the elk have re-established well and populations are robust, the pronghorn has not fared so well.

SS-7

Effects of the project on the pronghorn are particularly problematic and are not adequately analyzed in the DEIS. The proposed project site is an important lambing and summer forage area, as identified by California Department of Fish and Game⁴⁴. Eliminating this habitat is likely to be a significant impact to this species. The project as proposed also eliminates access to the only known pronghorn crossing along Highway 58⁴⁵, yet the DEIS fails to even mention this fact. In addition, the DEIS fails to provide a comprehensive analysis of the proposed project

42 <http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf>

43 Dunn 2005.

44 CDFG 2011

45 Penrod et al. 2010

in the context of connectivity of habitat for this species. Other federal projects in San Luis Obispo County to the north of this project have recognized that development actions will cause a significant impact on the connectivity of the pronghorn through population isolation⁴⁶ We believe the industrial scale of the proposed project and the development of the only documented crossing for pronghorn across Highway 58 will in fact isolate the populations of pronghorn in the northern and southern portion of the Carrizo plain. Because these populations are small to begin with, there is potential for this isolation to significantly negatively affect pronghorn populations on the Carrizo Plain including in those in the National Monument. Yet the DEIS completely fails to identify or analyze these potential impacts. This analysis must be included in the supplemental DEIS.

SS-7
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In addition thirty other rare species have high to moderate potential to occur onsite. With the paucity of survey effort on such a large proposed project site (typically a project site with such a density of rare species has many more years of study than two years), it is certainly conceivable that additional rare species will be discovered in subsequent years. However, no evaluation or modeling was undertaken to identify potential habitat and quantify potential impacts or propose potential mitigation

SS-9

15. Polarized Light Pollution

The DEIS fails to consider the impact on species of thousands of acres of solar panels that produce polarized light. Polarized light can serve as ecological traps that threaten populations of polarization-sensitive species, can disrupt the predatory relationships between species maintained by naturally occurring patterns of polarized light, and has the potential to alter community structure, diversity, and dynamics (Horvath et al. 2009). In addition to the lack of surveys for insects identified above, the DEIS also fails to evaluate the impact to insects from the polarized light produced by the solar panels on reproduction (Horvath et al. 2010)

SS-31

D. The DEIS Fails to Adequately Identify and Analyze Biological Resources under Climate Change.

In its discussion of the need for renewable energy production, the DEIS fails to address risks associated with global climate change in context the need for climate change adaptation strategies (e.g., conserving intact wild lands and the corridors that connect them). All climate change adaptation strategies underline the importance of protecting intact wild lands and associated wildlife corridors as a priority adaptation strategy measure.

G-9.1

The habitat fragmentation, loss of connectivity for terrestrial wildlife, and introduction of predators and invasive weed species associated with the proposed project in the proposed location may run contrary to an effective climate change adaptation strategy. As pointed out above, the proposed project virtually bisects the connectivity between the Carrizo Plain National Monument and other conservation investments to the north for numerous species. Use of the proposed project site by species that currently occupy the site is speculative at best. The project impacts short grass prairie and core, occupied habitat and important habitat linkage areas for

G-9.4

46 DOT-FHA & CalTrans 2006

numerous endangered species, major washes and other fragile biological resources could undermine a meaningful climate change adaptation strategy with a poorly executed climate change mitigation strategy. The way to maintain healthy, vibrant ecosystems is not to fragment them and reduce their biodiversity.

G-9.4
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E. Impacts to Water Resources— Surface and Groundwater Water Impacts

Because of the generally flat terrain of the Carrizo Plain, the proposed project will impact surface flow areas that may not be jurisdictional, but still provide important habitat values that may be lost by the construction of the proposed for the project site. Ephemeral and intermittent streams make up over 81% in the arid and semi-arid southwest (Arizona, New Mexico, Nevada, Utah, Colorado and California). These “streams” provide a variety of ecosystem services including

- landscape hydrologic connections;
- stream energy dissipation during high-water flows to reduce erosion and improve water quality;
- surface and subsurface water storage and exchange;
- ground-water recharge and discharge;
- sediment transport, storage, and deposition to aid in floodplain maintenance and development;
- nutrient storage and cycling;
- wildlife habitat and migration corridors;
- support for vegetation communities to help stabilize stream banks and provide wildlife services; and
- water supply and water-quality filtering⁴⁷.

WR-4

Yet the DEIS fails to evaluate the impact of the proposed project on the ephemeral and intermittent streams and the ecosystem processes that they provide both on and off of the proposed project site. The revised or supplement DEIS will need to include an analysis of these important issues.

F. The DEIS Fails to Adequately Identify, Analyze and Off-set Impacts to Air Quality and GHG Emissions.

Federal courts have squarely held that NEPA requires federal agencies to analyze climate change impacts. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508 (9th Cir. 2007). As most relevant here, NEPA requires consideration of greenhouse gas emissions (“GHG emissions”) associated with all projects and, in order to fulfill this requirement the agencies should look at all aspects of the project which may create greenhouse gas emissions including operations, construction, *and life-cycle emissions from materials*. Where a proposed project will have significant GHG emissions, the agency should identify alternatives and/or mitigation measures that will lessen such effects.

AQ-I

⁴⁷ Levick et al. 2008.

As part of the NEPA analysis federal agencies must assess and, wherever possible, quantify or estimate GHG emissions by type and source by analyzing the direct operational impacts of proposed actions. Assessment of direct emissions of GHG from on-site combustion sources is relatively straightforward. For the proposed project, energy consumption for manufacturing, transportation and construction, will be the major source of GHGs. The indirect effects of a project may be more far-reaching and will require careful analysis. Within this category, for example, the DOE should evaluate, GHG and GHG-precursor emissions associated with construction, electricity use, fossil fuel use, water consumption, waste disposal, transportation, the manufacture of building materials (lifecycle analysis), and land conversion. Moreover, because many projects may undermine or destroy the value of carbon sinks, including arid soils, projects may have additional indirect effects from reduction in carbon sequestration, therefore both the direct and quantifiable GHG emissions as well as the GHG effects of destruction of carbon sinks should be analyzed.

AQ-I
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The discussion of greenhouse gas emissions (“GHG”) in the DEIS notes that the solar project will produce GHGs primarily from construction. The GHG emissions from the construction phase of the project are stated to be over 74,000 tons CO₂ equivalent and for operations approximately 500 tons per year (DEIS at 3-55). There is no discussion of reducing these emissions by using more efficient equipment or vehicles.

The DEIS fails to identify any significant GHG emissions and therefore does not provide for avoidance, minimization, or mitigation. Moreover, it is undisputed that in the near-term GHG emissions will increase emissions during construction, and in the manufacturing and transportation of the components. The DEIS fails to consider any alternatives to the project that would minimize such emissions or to require that these near-term emissions be off set in any way.

Although the proposed project may reduce GHG’s overall it will also emit GHGs during construction and due to the manufacturing process that are not accounted for or off-set, DOE completely fails to explore this aspect of the impacts of the project in the DEIS in violation of NEPA.

G. The Analysis of Cumulative Impacts in the DEIS Is Inadequate

A cumulative impact is “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” 40 C.F.R. § 1508.7. The Ninth Circuit requires federal agencies to “catalogue” and provide useful analysis of past, present, and future projects. *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997); *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809-810 (9th Cir. 1999).

G-13.3

“In determining whether a proposed action will significantly impact the human environment, the agency must consider ‘[w]hether the action is related to other actions with

individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.’ 40 C.F.R. § 1508.27(b)(7).” *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-823 (9th Cir. 2006). NEPA requires that cumulative impacts analysis provide “some quantified or detailed information,” because “[w]ithout such information, neither courts nor the public . . . can be assured that the Forest Service provided the hard look that it is required to provide.” *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1379 (9th Cir. 1998); *see also id.* (“very general” cumulative impacts information was not hard look required by NEPA). The discussion of future foreseeable actions requires more than a list of the number of acres affected, which is a necessary but not sufficient component of a NEPA analysis; the agency must also consider the actual environmental effects that can be expected from the projects on those acres. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004) (finding that the environmental review documents “do not sufficiently identify or discuss the incremental impact that can be expected from each [project], or how those individual impacts might combine or synergistically interact with each other to affect the [] environment. As a result, they do not satisfy the requirements of the NEPA.”) Finally, cumulative analysis must be done as early in the environmental review process as possible, it is not appropriate to “defer consideration of cumulative impacts to a future date. ‘NEPA requires consideration of the potential impacts of an action *before* the action takes place.’” *Neighbors*, 137 F.3d at 1380 *quoting City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1313 (9th Cir. 1990) (emphasis in original).

G-13.3
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The DEIS identifies many of the cumulative projects but does not meaningfully analyze the cumulative impacts to resources in the Carrizo Plain and other areas of rare species habitat from the many proposed projects (including all energy projects, transmission, and others types of development). Moreover, because the initial identification and analysis of impacts is unfinished, the cumulative impacts analysis cannot be complete. For example, because the identification of potentially occurring rare insects on site is unfinished and incomplete, the cumulative impacts are also therefore inadequate.

The DEIS also fails to consider all reasonably foreseeable impacts in the context of the cumulative impacts analysis. *See Native Ecosystems Council v. Dombek, et al*, 304 F.3d 886 (9th Cir. 2002) (finding future timber sales and related forest road restriction amendments were “reasonably foreseeable cumulative impacts”). The DEIS also fails to provide the needed analysis of how the impacts might combine or synergistically interact to affect the environment in this valley or region. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004).

G-13.1

The NEPA regulations also require that indirect effects including changes to land use patterns and induced growth be analyzed. “Indirect effects,” include those that “are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include *growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.*” 40 C.F.R. s.1508.8(b) (emphasis added). *See TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003) (finding NEPA review lacking where the agency failed to address secondary growth as it pertained to impacts to groundwater, prime farmland, floodplains and stormwater run-off, wetlands and

OT-2

wildlife and vegetation); *Friends of the Earth v. United States Army Corps of Eng'rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000) (finding NEPA required analysis of inevitable secondary development that would result from casinos, and the agency failed to adequately consider the cumulative impact of casino construction in the area); *see also Mullin v. Skinner*, 756 F. Supp. 904, 925 (E.D.N.C. 1990) (Agency enjoined from proceeding with bridge project which induced growth in island community until it prepared an adequate EIS identifying and discussing in detail the direct, indirect, and cumulative impacts of and alternatives to the proposed Project); *City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create).

OT-2
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Among the cumulative impacts to resources that have not been fully analyzed are impacts to San Joaquin kit fox, impacts to connectivity for kit fox and pronghorn, impacts to blunt-nosed leopard lizard, impacts to golden eagles, and impacts to water resources. The cumulative impacts to the resources of the upland species of the San Joaquin Valley has not been fully identified or analyzed, and mitigation measures have not been fully analyzed as well.

G-13.3

H. The EIS' Alternatives Analysis is Inadequate

NEPA requires that an EIS contain a discussion of the “alternatives to the proposed action.” 42 U.S.C. §§ 4332(C)(iii),(E). The discussion of alternatives is at “the heart” of the NEPA process, and is intended to provide a “clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. §1502.14; *Idaho Sporting Congress*, 222 F.3d at 567 (compliance with NEPA’s procedures “is not an end in itself . . . [but] it is through NEPA’s action forcing procedures that the sweeping policy goals announced in § 101 of NEPA are realized.”) (internal citations omitted). NEPA’s regulations and Ninth Circuit case law require the agency to “rigorously explore” and objectively evaluate “all reasonable alternatives.” 40 C.F.R. § 1502.14(a) (emphasis added); *Envtl. Prot. Info. Ctr. v. U.S. Forest Serv.*, 234 Fed. Appx. 440, 442 (9th Cir. 2007). “The purpose of NEPA’s alternatives requirement is to ensure agencies do not undertake projects “without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means.” *Envtl. Defense Fund, Inc. v. U.S. Army Corps of Engrs.*, 492 F.2d 1123, 1135 (5th Cir. 1974). An agency will be found in compliance with NEPA only when “all reasonable alternatives have been considered and an appropriate explanation is provided as to why an alternative was eliminated.” *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1246 (9th Cir. 2005); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-1229 (9th Cir. 1988). The courts, in the Ninth Circuit as elsewhere, have consistently held that an agency’s failure to consider a reasonable alternative is fatal to an agency’s NEPA analysis. *See, e.g., Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992) (“The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate.”).

G-7.1

If DOE rejects an alternative from consideration, it must explain why a particular option is not feasible and was therefore eliminated from further consideration. 40 C.F.R. § 1502.14(a). The courts will scrutinize this explanation to ensure that the reasons given are adequately

G-7.3

supported by the record. See *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 813-15 (9th Cir. 1999); *Idaho Conserv. League*, 956 F.2d at 1522 (while agencies can use criteria to determine which options to fully evaluate, those criteria are subject to judicial review); *Citizens for a Better Henderson*, 768 F.2d at 1057.

G-7.3
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Here, DOE too narrowly construed the project purpose and need such that the DEIS did not consider an adequate range of alternatives to the proposed project. The alternatives analysis is inadequate even with the inclusion of the alternative site configuration. Additional feasible alternatives should be considered which would avoid all of occupied San Joaquin kit fox habitat. In addition, a phased alternative should have been included which could allow some portions of the project that have the fewest impacts to move forward while also affording the project proponent time to find and acquire permits for more appropriate sites for one or more additional phases of the project reconfigured on other lands (for example such as the abandoned farmlands in the Westlands Solar Park) and also to explore other off-site alternatives.

G-5

The document did not consider a distributed renewable energy alternative. The DOE should have also looked alternative siting on previously degraded lands that are not habitat for endangered species such as nearby farmlands, distributed solar alternatives, and other alternatives that could avoid impacts of the proposed project as well as impacts of the associated reconductoring of the transmission line. In addition, as discussed above, the DOE should have looked at alternatives for construction and operations that would reduce GHG emissions through offsets or other means.

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The DOE failed to consider any off-site alternative that would significantly reduce the impacts to biological resources including occupied kit fox habitat, key movement corridors, golden eagles, and others. Because such alternatives are feasible, on this basis and other the range of alternatives is inadequate. The Center urges the DOE to revise the DEIS to adequately address a range of feasible alternatives and other issues detailed above and then to re-circulate a revised or supplemental DEIS for public comment.

In addition, in order to meet the DOE's purpose and need states that: "The purpose and need of DOE's proposed action is to comply with its mandate to select eligible projects that meet the goals of the Energy Policy Act of 2005 (EPAct 2005), as amended by the American Recovery and Reinvestment Act (ARRA) of 2009. DOE is using the NEPA process and this EIS to assist in determining whether to issue a loan guarantee to the Project Proponent to support the Proposed Project." (DEIS at S-3). Assuming for the sake of argument alone that this is a proper project objective, the DEIS should have considered alternatives that would provide funding to other types of projects. Such alternatives could include, for example, conservation and efficiency measures that both avoid and reduce energy use within high-energy use load-centers including the greater Los Angeles.

G-8.3

Alternative measures could include funding community projects for training and implementation of conservation measures such as increased insulation, sealing and caulking, and new windows for older buildings and new or improved technologies for accomplishing these important goals. For example, air conditioning creates the largest demand for energy during

peak times and there already exist methods to reduce the energy use from air conditioning but implementation has lagged well behind technology. Conservation and efficiency measures are an excellent and quick way of reducing demand in both the short- and long-term and reduce the need for additional power sources. In addition, many of the existing conservation and efficiency measures can provide immediate jobs and training in high population areas with significant unemployment (particularly among low skilled workers and youth), thus fulfilling the purpose and objectives of the ARRA.

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The Corps' purpose and need states that: "must verify compliance with both the CWA and NEPA prior to issuing a permit for the Project." (DEIS at S-3). Assuming for the sake of argument alone that this is a proper project objective, the DEIS should have considered alternatives that would eliminate the impacts to Waters of the U.S., especially in this arid region.

G-8.4

The existence of these and other feasible but unexplored alternatives shows that the agencies' analysis of alternatives in the DEIS is inadequate.

II. Conclusion

Thank you for your consideration of these comments. We also submitted extensive comments on the Draft Environmental Impact Report for First Solar's Topaz Solar Farm/Twisselman Conditional Use Permit (DRC2008-00009) SCH#2008091026 which we incorporate here by reference.

In light of the many omissions in the environmental review to date, we urge the Agencies to revise and re-circulate the DEIS or prepare a supplemental DEIS before making any decision regarding the proposed project. In the event the Agencies choose not to revise the DEIS and provide adequate analysis, the DOE should not issue a loan guarantee to the Royal Bank of Scotland for Construction and Startup of the Topaz Solar Farm and the Corps should not issue a 404 permit for filling of Waters of the United States.. Please feel free to contact us if you have any questions about these comments or the documents provided.

G-12

Sincerely,



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From: [Brendan Hughes](#)
To: [Topaz-EIS](#)
Subject: Comments on Proposed Topaz Solar Farm
Date: Tuesday, April 05, 2011 4:32:39 PM

To whom it may concern:

My name is Brendan Hughes and I would like to comment on the proposed Topaz Solar Farm DEIS. This project will have severe negative consequences for wildlife. Although it will be located on former agricultural land, wildlife now appears to be reclaiming this area. If the project proceeds, it will destroy habitat for the endangered San Joaquin kit fox, badgers, burrowing owls, and many other species. Also, it will destroy foraging areas for golden and bald eagles and other raptors. The Department of Energy should not be facilitating the destruction of such important habitat with a loan guarantee when so many areas with fewer conflicts exist. Land owned by the Westlands Water District, for instance, might have fewer ecological conflicts. Also, since the Topaz Solar proposal is for photovoltaic technology, these solar panels could just as easily be installed on the rooftops of Bakersfield, San Luis Obispo, and Los Angeles. DOE should be supporting these types of projects, not projects that destroy the habitat of endangered species.

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Thank you for your consideration.

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May 9, 2011

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via U.S. mail and email: Angela.Colamaria@hq.doe.gov, Topaz-EIS@hq.doe.gov

Re: Comment Letter on the Draft Environmental Impact Statement (DEIS) for the Topaz Solar Farm Loan Guarantee Application (DOE/EIS-0458D)

Dear Ms. Colamaria:

These comments are submitted on behalf of Michael Strobridge, a resident of the Carrizo Plain area of eastern San Luis Obispo County (“the County”). Mr. Strobridge is owner and farmer of the land identified as San Luis Obispo County parcel number 072-051-026. Mr. Strobridge has owned this property (“the Strobridge Property”) since 2002. The Strobridge Property is located directly adjacent to the proposed Topaz Solar Farm project site. The Topaz project would, if constructed as originally proposed, completely surround Mr. Strobridge’s property on all four sides. No matter which alternative is ultimately selected, if any, the Topaz Project would directly affect Mr. Strobridge’s legally cognizable interest in his real property. Mr. Strobridge submits this comment letter, in addition, as an interested citizen of the County who uses and enjoys the Carrizo Plain regularly for its recreational, biological, and other unique natural resources.

Introduction

California has mandated a shift to renewable energy to be accomplished over a very short period of time. Thus, the number of solar projects proposed for development in California has increased sharply. The goal of attaining 1990 emissions levels by 2020, as set by California Assembly Bill 32 (AB 32), is laudatory and ambitious. However, as numerous environmental and community

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May 9, 2011

groups have long documented, solar power development should proceed with due caution, so as to ensure that we not place at risk those resources which are as critical as renewable energy. Solar energy generation at a large scale is relatively new and poses serious environmental and health risks, many of which have not been properly assessed. This is particularly true because of the many toxic chemicals used to manufacture solar panels. Additionally, large solar generating facilities like the proposed Topaz project take large amounts of land and resources, resulting in adverse impacts to wildlife, water resources, agricultural resources, and many other public and community resources.

The key to wise development of large solar power facilities is careful and appropriate siting. Areas with sensitive habitats and productive farming communities should be avoided, even if they are areas with abundant sunshine. California contains abundant land that is both rich in sunlight and lacking in sensitive resources, and these are clearly the first areas to be considered for development of large-scale solar generation. Unfortunately, the Topaz project is fatally flawed in this regard. It would be sited in an agricultural community which happens also to be a critically important area for numerous rare and endangered animal and plant species. Moreover, the project site has numerous other characteristics which make it manifestly unsuitable for large-scale industrial solar generation.

The Topaz project is mammoth. The project proposes to install as many as nine million photovoltaic (PV) solar modules. The project area serves as habitat or potential habitat for at least 40 special-status plant species (C.6-14) and at least 53 special-status animal species (C.6-21 to 22). Productive farming occurs throughout the project site.

The project would cover a large area of more than 6.25 square miles of the Carrizo Plain, one of the last and largest native grasslands remaining in California. The project would transform large areas of open grassland into industrial use, radically altering the aesthetic and natural character of the area. The quietness of the Carrizo Plain is another unusual characteristic of this special place. The project would create significant noise disturbances for wildlife and nearby residents and students. The dark quality of the night sky would be altered by the project's lighting, affecting the value of the area to numerous species and the character of the area to people. In addition to the extensive solar arrays, the project would construct monitoring and maintenance facilities, a new switching station, a voltage collection system substation, two double-circuit lattice steel transmission towers, and interconnection facilities to connect the existing Morro Bay-Midway 230 kV line with the new switching station. These facilities will radically alter the current pristine character of the Carrizo Plain, a character which makes the Carrizo Plain uniquely suitable for wildlife and recreational use and enjoyment.

The Topaz project is but one of two industrial solar generation projects planned for the Carrizo Plain. The other, the California Valley Solar Farm (CVSF), is planned for a short distance away from the Topaz project. The CVSF would be constructed on a 6.8 square-mile area of the

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California Valley subdivision within the Carrizo Plain. (CVSF Project Description, p. B-8) Together, these two industrial generating facilities would transform the landscape of the Carrizo Plain from a native grassland supporting one of California's largest concentration of endangered species into an industrial solar energy zone.

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Regardless of which Alternative is chosen, the Topaz project would remove and convert significant amounts of prime agricultural land to non-agricultural uses. And the proposed nine million panels would generate electricity through the use of cadmium telluride, a component of which (cadmium) is highly toxic and a known human carcinogen. Additionally, the project will have adverse impacts in many other areas including severe, substantial impacts on, without limitation, aesthetics, noise, traffic, fire risk, environmental justice, and water resources. All these extensive and significant impacts on the environment and on human communities could be avoided without sacrificing potential power generation if the project were located elsewhere. The Topaz project well illustrates how an industrial solar generating facility should *not* be designed and sited.

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The County has published a Final Environmental Impact Report (FEIR) for this project. The publication of this FEIR occurred subsequent to the publication of the DEIS which is the subject of this comment letter. (In referencing the FEIR, the DEIS states, "A Final EIR *is being prepared.*" (p. 3-3, italics added.) Thus, this DEIS contains outdated information and analysis to the extent that the FEIR updated the DEIR on which this DEIS relies. This extent is substantial. More importantly, the FEIR, as we have commented to the County in detail, contains numerous factual and legal deficiencies in its presentation of information, in its analysis of impacts, and in its proposals for mitigation. Many of these deficiencies implicate federal law. Our comments (and all the information therein, and all of the attachments thereto) submitted to the County on the DEIR and FEIR, up to the present and in the future, are hereby incorporated herein by reference. Those comment letters are attached to this letter as Attachments A through D.

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Because of the deficiencies of the County's DEIR and FEIR, the Department of Energy (DOE) should at a minimum conduct an independent evaluation of the environmental effects of the most recently proposed Alternative (Alternative 3B.1). Ultimately, the DOE should select the No Project Alternative for this project.

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Alternative 3B.1

The County appears poised to approve a project Alternative that was not analyzed in the DEIS. Alternative 3B.1 was developed after the end of public comment on the County's Draft Environmental Impact Report (DEIR). Because the DEIS contains no analysis of Alternative 3B.1, it does not contain an adequate analysis of the environmental impacts of the proposed project as required by the National Environmental Policy Act (NEPA).

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Alternative 3B.1 would result in significant environmental impacts which would not result from Alternative A or Alternative B. These significant impacts include (without limitation) impacts to jurisdictional waters and floodplains. As the County's FEIR states, "...[t]his alternative would result in greater impacts to surface water resources and jurisdictional waters in comparison to the Proposed Project." (FEIR at E-26.) Thus, a substantial impact is left unidentified by this DEIS. Moreover, this significant impact is left unmitigated by the provisions of the County's FEIR and by this DEIS.

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Impacts on Biological Resources

San Joachin Kit Fox

San Joachin Kit Fox - Current Status

The San Joachin kit fox (kit fox) is listed under the federal Endangered Species Act (FESA) as endangered. (32 Fed. Reg. 4001, March 11, 1967.) Kit fox populations overall are currently declining. Both state and federal wildlife agencies confirm this decline. In 2005, the California Department of Fish and Game (DFG) published its report, "The Status of Rare, Threatened, and Endangered Plants and Animals of California, 2000-2004." After noting several conservation efforts and studies, the report flatly states, "Despite these efforts, and other conservation efforts, San Joachin kit foxes continue to decline throughout their range and are close to extinction in the northern most part of the range... ."

Furthermore, the U.S. Fish and Wildlife Service (FWS) completed its required five-year review, "San Joaquin Kit Fox (*Vulpes macrotis mutica*) 5-Year Review: Summary and Evaluation" ("Five-Year Review"), on February 16, 2010. This study is considered the most comprehensive scientific study to date on the status of the kit fox and its ongoing threats and decline. This study contains this clear statement of ongoing kit fox decline:

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Based on the continued loss of kit fox habitat to agricultural and urban development, the continued threats from pesticide exposure, competitive exclusion by other canids, the highly fluctuating population dynamic of most kit fox populations, and the isolation and loss of small subpopulations due to stochastic events and habitat fragmentation, and due to threats identified since listing, such as off-road vehicle use and loss of prey, the kit fox continues to meet the definition of endangered. Although substantial progress has been made in protecting habitat, it is not yet likely that all protected habitat parcels contain the requisite contiguous acreage, vegetative structure, and prey base to adequately sustain kit fox. (Five-Year Review, p. 70.)

The Five-Year Review makes clear that habitat fragmentation is a principal concern. "Currently, the entire range of the kit fox appears to be similar to what it was at the time of the 1998

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Recovery Plan; however, population structure has become more fragmented ... Spatial distribution of the kit fox has become increasingly fragmented since listing. ... Both loss of habitat and habitat fragmentation have continued throughout the range of the kit fox.” (*Id.* at p. 15.) DFG confirms that habitat fragmentation is the main threat to the survival of the kit fox: “[t]he principal threats to the species are habitat loss and fragmentation resulting from agricultural, residential, and commercial development ...” (DFG, *California Wildlife: Conservation Challenges*, 2007, p. 206.) These studies reinforce and highlight the original conclusion of the FWS that “[c]ontinued habitat fragmentation is a serious threat to the survival of the kit fox population.” (FWS, *Recovery Plan for Upland Species of the San Joachin Valley, California*, 1998, p. 130.)

Moreover, scientists have clearly established that the Carrizo Plain subpopulation of kit fox must be preserved in order to avoid extirpation of the species. “The Carrizo Plain is thought to have the largest kit fox population remaining in California (B. Cypher pers. comm., as cited in Moonjian 2007).” (Five-Year Review, p. 18.) As the Five-Year Review notes, “...monitoring of kit fox subpopulations has indicated that the occupied range of the kit fox is contracting and increasingly fragmented, and that kit fox have likely disappeared from areas of extant habitat within the central and northern portions of their historic range.” (*Id.*, p. 17.) Thus, the Carrizo Plains subpopulation is designated a “Core Area” for the kit fox and the area is referred to as the “Carrizo Plains Core.” (*See, e.g.*, Five-Year Review, p. 12.) The Carrizo Plains Core supports one of the only remaining kit fox subpopulations not verging on a serious decline. (*Id.*, p. 16.)

Just as significantly, the Carrizo Plains Core provides a crucial link for the kit fox, connecting to other portions of the natural kit fox range such as the Carrizo Plains National Monument and the Kern County Core Area. Thus, a central issue presented by the Topaz project proposal is the extent to which the project will interfere in the migration of Kit fox to, from and within the Carrizo Plains Core.

The FWS Five-Year Review speaks directly to this issue as follows:

Kit fox subpopulations in the Western Kern County and Carrizo Plains core areas appear to be most robust, but even these populations have been shown to fluctuate greatly in abundance on an inter-annual basis, depending on climatic conditions. Population modeling using long-term monitoring data has indicated that *these subpopulations are at risk of extirpation in as little as 3 or 4 years under poor conditions*, such as the poor environmental conditions that reduce prey populations. In these core areas new development, including expanded oil and gas development *and the construction of solar farms*, threaten new areas of suitable habitat for the kit fox, which may further strain these source populations. (Five-Year Review, p. 70, italics added.)

Elsewhere in the Five-Year Review, the report states as follows:

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“Habitat loss, modification, and fragmentation due to construction of solar facilities – A number of large-scale solar development projects that would threaten kit fox population clusters are currently proposed for construction in kit fox habitat. Within the Carrizo Core Area, two solar firms propose to install solar panels on 13 square miles of land on the valley floor of the Carrizo Plain, San Luis Obispo County, just north of the Carrizo Plain National Monument (DeBare 2008). Although this area of the Carrizo has a fair amount of dryland farming and is less likely to be optimal kit fox habitat than land within the National Monument (B. Cypher, pers. comm. 2008), these projects will create barriers to the linkage between the Carrizo Plain Core Area, the Western Kern core area, and core and satellite areas to the north and west, thereby impeding kit fox dispersal and increasing habitat fragmentation.” (Id., p. 34.)

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It is important to emphasize the possibility of extirpation of the kit fox in the Carrizo Plains Core within a short time. As noted by FWS (above), the kit fox could become extinct in the Carrizo Plains Core in 3 to 4 years under “poor environmental conditions that reduce prey populations.” (*Id.*, p. 70.) This is a dire situation for the kit fox subpopulation of the Carrizo Plains Core. The DOE and FWS thus bear a heavy burden of proving that any impacts to kit fox and its habitat have been mitigated to a level of insignificance. The DEIS falls well short of providing the evidence necessary to carry this heavy burden.

San Joachin Kit Fox - Analysis of Impacts and Mitigation

The County’s DEIR and FEIR fail to mitigate for the substantial impacts resulting from project implementation on kit fox. The FEIR admits that there will be direct adverse impacts to the kit fox from mortality of individuals and loss of habitat. (C.6-53.) Therefore, incidental take authorization from FWS is required. Note that mortality will occur in several ways: by trampling, the crushing of active dens, and collisions with vehicles and equipment. Kit fox that “flee the construction site may also be subject to greater predation risks.” (*Id.*) Because kit fox at the project site have high site fidelity, mortality is also expected to result from displacement due to construction. Furthermore, direct impacts will occur “from construction noise, vibration, fugitive dust, human presence, and the loss of habitat and disruption of prey base from vegetation clearing.” (*Id.*) The FEIR also admits that there will be direct impacts to kit fox movement. (*Id.*) These impacts will be severe. As the FEIR admits, “[b]ecause the project will likely constrict movement and will reduce the size of the existing movement corridor by approximately 50 percent impacts would be considered significant without mitigation.” (C.6-69 *et. seq.*)

SS-13

The FEIR further admits that the applicant’s Draft Mitigation and Monitoring Plan is inadequate to provide the required mitigation. (FEIR at p. C.6-54.) Thus, the County proposes to incorporate some aspects of the applicant’s mitigation strategy while adopting additional measures. (C.6-54 to 55.) While the County has correctly determined that onsite mitigation

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proposed by the applicant is inadequate, the attempt to enhance onsite measures with offsite measures fails with a mitigation plan that does not adequately mitigate the impacts to kit fox.

SS-13
cont'd

Effects on Native Vegetation

As noted above, the kit fox could become extinct in the Carrizo Plains Core in 3 to 4 years under “poor environmental conditions that reduce prey populations.” (Five-Year Review, p. 70.) The DEIS fails to provide an explanation of how the construction of nine million solar modules on the project site will maintain adequate kit fox vegetation prey base. Reduction of prey populations is thus a foreseeable impact, with resulting extirpation of kit fox in the Carrizo Plains Core.

SS-12

The FEIR states, “[t]he primary mechanism for reducing impacts from habitat loss is the acquisition and preservation of mitigation lands and the reduction of *indirect* impacts such as the spread of weeds or degradation of habitat by fugitive dust or erosion.” (C.6-34, italics added.) Thus, *direct* impacts are only mitigated through offsite measures. Moreover, there is no discussion or analysis of how the mitigation offered for indirect impacts will benefit kit fox prey base. The kit fox will suffer a diminution of its prey base, even with the mitigation as proposed.

The lynchpin of the habitat restoration strategy is to restore disturbed areas to pre-construction conditions. However, there is no indication that any kit fox prey will benefit from this plan. It is not disclosed to what extent re-vegetation will occur in disturbed areas underneath the solar arrays near kit fox dens. Nine million panels occupying some 4,000 acres represents a severe impact on vegetation that is largely unmitigable for the kit fox. The loss of vegetation over such a large area will result in severe adverse impacts to kit fox. Crucially, there is simply no analysis of how the re-vegetation plan will specifically benefit kit fox prey. There is no discussion or analysis of what vegetation supports kit fox prey, much less any analysis of how the prey will be enhanced by the re-vegetation plan. These informational deficiencies, at a minimum, deprive the public of a meaningful opportunity to evaluate the project’s effects on kit fox. More to the point, they form a reasonable basis to conclude that adverse impacts to kit fox and its prey base will remain unmitigated.

SS-13

The Biological Assessment (BA) in the DEIS is wholly inadequate. The discussion of the effects on kit fox at pp. 33-35 of the BA are entirely conclusory and not supported by any evidence. The discussion presents a rose-colored view of the effects of the project on kit fox, imagining that there be various beneficial effects. Nothing could be further from the truth. The project will remove substantial movement corridors no matter which Alternative is chosen. It will remove more than 800 acres of native grassland, devastating kit fox prey base. It will cause direct and indirect, unmitigated adverse impacts to kit fox and its habitat. These impacts will occur in one of three identified core areas for the declining kit fox. As noted above, FWS’s own Five-Year Review document warned of an impending extirpation of the kit fox Carrizo Plains Core

G-15

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subpopulation if poor environmental conditions persist affecting its prey base. Under these circumstances, the Fish and Wildlife Service *must* conduct a Section 10 consultation and require a Habitat Conservation Plan. Otherwise, the kit fox is at risk of extirpation of the affected population.

G-15
cont'd

Kern Primrose Sphinx Moth

The Kern primrose sphinx moth is federally listed as threatened. However, only a very limited survey was done for this species. The DEIS fails to provide adequate evidence that this species does not occur on the project site. The DEIS fails to show that any of the many potential impacts listed will be mitigated to a level of insignificance.

SS-10

Distributed Solar

Or, of course, the DOE is free to select the No Project Alternative and pursue what is an increasingly popular and promising avenue toward sustainable energy production: Distributed Power (DP). The DEIS, however, blithely dismisses DP as infeasible. (P. 2-12) This dismissal is conclusory, without any evidentiary support, and is arbitrary and capricious.

First, distributed power will contribute jobs to the economy on a much more sustained basis over the long term than a three-year construction project that has no guarantee that local workers will be hired. And distributed power will contribute jobs to the local economy and re-direct wealth locally, a strategy considered increasingly important by advocates of sustainable communities.

Distributed power, moreover, is flexible and adaptable to changing conditions, as opposed to the potentially obsolete technology the County would be married to if it were to adopt the Topaz plan for power generation. That is because technology in this area quickly advances, much like computer technology. Distributed power will be able to absorb these changes quickly, whereas the County and the DOE's loan program could become weighed down by obsolete technology within a few short years. This problem virtually ensures that the loan presently contemplated would have to be borne publicly. And that obsolete technology could prove toxic to the environment in ways that newer panels would not. Meantime, First Solar could sell the Topaz project to a third party, leaving the County and perhaps the DOE with the responsibility for its remaining implementation and decommissioning. This would include, of course, responsibility for any toxic cleanup that would be required.

G-8.1

There are many types of new and more efficient solar panels in the pipeline that will come online in the next few years. Distributed power will be able to adopt that new technology more efficiently than large industrial solar plants. Relevant in this regard is that First Solar manufactures

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the panels that will be used in the proposed project. Thus, First Solar has a deep self-interest in the promotion of this project and in the use of these particular panels. Why would First Solar change over to other more efficient panels by other manufacturers? First Solar's CdTe panels are not the most efficient on the market - they are used because they are cheap to produce. That cheapness comes with a cost, but a cost that will be borne not by First Solar, but by the public. While the County may be receiving various letters of support from individuals and entities who have a vested interest in the promotion of this project, the DOE should take a hard, careful look at the *long range* costs and benefits of the project to the taxpayers of the United States.

G-8.1
cont'd

The DOE should consider the work and writings of Bill Powers, an engineer in San Diego and a longtime advocate of DP. His work is available on the internet.

Conclusion

Attached below are letters we have submitted to the County of San Luis Obispo. These letters contain much information and present numerous reasons for the rejection of this project based on California state law. However, many of those reasons also implicate federal law. To the extent that the attached arguments implicate federal law, the DOE should recirculate a legally sufficient DEIS reflecting new analyses of the many impacts along with new mitigation measures and consideration of alternatives. We believe that after these required analyses are conducted, the DOE will select the No Project Alternative.

G-12

We believe that the only reasonable conclusion to be reached, particularly when this flawed and deficient DEIS is closely studied, is that this project is ill-suited for the Carrizo Plain, as are all projects of this kind. There are simply too many valuable public resources at stake - public resources which it is the responsibility of the DOE as Trustee of the public interest to protect. Therefore, we urge the DOE to consider the public interest *first*, before considering the benefits that will flow to private interests from the project.

G-11

For the reasons discussed above, at a minimum the DOE should re-write this DEIS to comply with the law and recirculate it for public comment. Ideally, the DOE will see the "big picture" and save its resources for other more worthy sustainable energy projects. There is no reason to destroy the unique resources of the Carrizo Plain when better locations exist. Please adopt the No Project Alternative.

G-12

Thank you for your attention to this letter and attachments. Please include this letter and all documents attached hereto in the administrative record for this project. This letter is being submitted via email on May 9, 2011 prior to 2:00 pm EST.

Samuel B. Johnston

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Yours Truly,

/s/

Samuel B. Johnston
Attorney for Michael Strobridge

cc: Michael Strobridge
Sharon E. Duggan, Esq.

From: [jean public](#)
To: [Topaz-EIS; Angela_Colamaria@hq.doe.gov](#)
Subject: Fw: NOTICE OF PUBLIC HEARING: Topaz Solar Farm, San Luis Obispo County, CA
Date: Thursday, April 07, 2011 5:08:38 PM

i do not approve of good farm land being used for solar installation. dont lose open space to solar. put the solar on top of commercial buildings, houses, and on landfills and contaminated land. not on sound farm land or open space.
jean public address if required

G-1.2
G-8.1

From: [Adele](#)
To: [Topaz-EIS](#)
Subject: Topaz Solar Project
Date: Tuesday, April 05, 2011 11:19:37 AM

Sender: A.Stern -- neighboring property owner and SLO resident.

Reason: Concern over one, easily resolved, negative environmental issue

Background: As a supporter of P.V. energy production, I have no problem with the concept.

I object to the placing of the medium voltage wires on 8-12 miles of 45' tall wooden

poles throughout the project. The county ordinances say they should be underground, the

U.S. Army Corp of Eng. in their report (p.3&4) also places them underground.

The

Topaz people want to compromise and just put some under.

PLEASE: Make it a condition of our tax dollars supporting their profit, to keep the Carrissa Plain, a clear flat view, not an industrial park.

VR-I



Topaz Solar Farms LLC (Project Proponent)

Topaz Solar Farms LLC
C.O.: First Solar, Inc.
1111 Broadway, 4th Floor
Oakland, CA 94607
Phone: 510.625.7400
Fax: 510.835.1274

May 9, 2011

Via FedEx and Electronic Mail <Topaz-EIS@hq.doe.gov>

Ms. Angela Colamaria
Loan Guarantee Program (LP-10)
U.S. Department of Energy
1000 Independence Avenue, SW.
Washington, DC 20585

Re: DOE/EIS-0458 — Draft Environmental Impact Statement for the DOE Loan Guarantee to Royal Bank of Scotland for Construction and Startup of the Topaz Solar Farm, San Luis Obispo County, California

Dear Ms. Colamaria:

Topaz Solar Farm LLC (“Topaz” or “Project Proponent”) hereby provides to the Department of Energy (“DOE”) its written comments on the Draft Environmental Impact Statement for the Topaz Solar Farm Project issued by the DOE on March 25, 2011 (“DEIS”), and for which the DOE published a Notice of Availability on March 31, 2011 (76 Fed. Reg. 17844).

At the outset, we thank DOE staff and the DOE’s consultant, Environmental Management and Planning Solutions, Inc. (“EMPSi”), for their hard work in compiling and preparing this DEIS regarding the Topaz Solar Farm Project (“Proposed Project”). We also appreciate the significant public outreach efforts and agency consultation that has been conducted for the DEIS by the DOE under the National Environmental Policy Act (“NEPA”), which has included, among other things, a public review period for the October 22, 2010 Notice of Intent to Prepare an Environmental Impact Statement (75 Fed. Reg. 65306), a public scoping meeting on November 16, 2010, and a public hearing on the DEIS held on April 13, 2011.

Topaz has organized its comments on the DEIS into two main sections. First, Topaz will describe a revised layout for the Proposed Project, which is a slight variation of the Reduced Acreage PV Array Layout located entirely within Study Area A and therefore encompassed by Alternative A in the DEIS. This revised layout is referred to as “Alternative 3B.1” in the Final Environmental Impact Report (“FEIR”) prepared for the Proposed Project by the County of San Luis Obispo (“County”) pursuant to the California Environmental Quality Act (“CEQA”). Alternative 3B.1 has been identified as an “environmentally superior alternative” in the FEIR and has been recommend by County staff to the County Planning Commission for approval. In this letter, Topaz refers to this variation of the Reduced Acreage PV Array Layout as “Project Layout 3B.1.”

Second, we will provide our general comments on the DEIS, followed by specific comments on each chapter of the DEIS. Note that where we have suggested specific changes to the text of the DEIS, we have used underline formatting to identify proposed inserted text and ~~strikethrough~~ formatting to identify proposed deleted text.

I. PROJECT LAYOUT 3B.1

At the request of the County, and in consultation with state and federal wildlife agencies and the U.S. Army Corps of Engineers (“USACE”), Topaz developed Project Layout 3B.1, which is a slight variation of the Reduced Acreage PV Array Layout within Study Area A, and is therefore encompassed by Alternative A that achieves 550 MW of solar PV capacity while addressing key environmental concerns. A map depicting Project Layout 3B.1 is attached as Exhibit A.

Importantly, Project Layout 3B.1 is located entirely within Study Area A. As described in the DEIS, Study Area A could result in the development of up to 4,100 acres to construct the Project. There was also a Reduced Acreage PV Array Layout within Study Area A presented in the DEIS in Figure 2-7, and Project Layout 3B.1 is a minor variation on that Reduced Acreage layout involving the movement of nine PV arrays.

Environmental improvements achieved by Project Layout 3B.1 as compared to Alternative B (DEIS Figure 2-8) and the Maximum Acreage PV Array Layout in Alternative A (DEIS Figure 2-7) include the following:

- Complete avoidance of land under California Land Conservation Act (“Williamson Act”) contracts;
- Reduction of overall fenced area of the Proposed Project by about 15% to approximately 3,500 acres;
- Increased avoidance of grassland areas, resulting in a 52% reduction in grassland habitat within the Proposed Project’s fenced area (from up to 1,721 acres for the Maximum Acreage PV Array Layout in Alternative A to 833 acres for Project Layout 3B.1);
- Reconfiguration of the layout to preserve and enhance wildlife movement corridors on both sides of the Proposed Project, including the elimination of arrays in an area approximately 1.25 miles wide along the former eastern edge of the Proposed Project; and
- A minimum setback of 500 feet on both sides of Highway 58 to reduce potential visual impacts. Exhibit B to this letter presents four visual simulations prepared

by Truescape Ltd. that have been updated to reflect Project Layout 3B.1 within Study Area A.

These and other improvements result in a Proposed Project layout within Alternative A that achieves 550 MW of solar PV capacity while addressing key environmental concerns. As a result, we request that DOE select Project Layout 3B.1 within Study Area A (known in the FEIR as Alternative 3B.1) as the agency-preferred alternative in the Final EIS, and that DOE approve it in the Record of Decision. This decision would be entirely consistent with and included within the DEIR’s environmental analyses because Project Layout 3B.1 is located entirely within Study Area A, is encompassed entirely by the Alternative A environmental analyses, and would not result in new or more severe impacts than were analyzed for Alternative A.

G-3.2
 cont'd

II. SPECIFIC COMMENTS ON DEIS CHAPTERS

A. General Comments on the DEIS

Comment GC#1:

Throughout the DEIS text and various tables, it is sometimes stated that construction of the Proposed Project will be completed in approximately three years and sometimes stated that it will occur within three years. While it is Topaz’s goal to complete construction of the Proposed Project in the shortest timeframe while still fully complying with various County, State and Federal approvals, permits and authorizations, circumstances may arise that result in a longer construction period than three years. Accordingly, please revise the reference to the construction period throughout the DEIS to “approximately three years.”

PP-1

B. DEIS Summary

Comment S#1 (page S-3, Project Purpose and Need):

The DEIS should include, either in the third or fourth bullet, or in a new bullet, a statement that on April 12, 2011, California Governor Jerry Brown signed Senate Bill SBX1-2 into law, which mandates that the state adopt a 33 percent Renewable Portfolio Standard by the year 2020.

PP-2

Comment S#2 (page S-4, USACE Purpose and Need):

The DEIS states that the Project Proponent will establish (create) new waters within the impacted watershed. This is not quite correct. Rather, Topaz will re-establish previously existing waters that have been lost to prior land use activities within the impacted watershed and are currently uplands.. Please revise the last sentence of the last paragraph in the section as follows: “... in the form of ~~establishment (creation) of new~~ re-establishment of former waters within the impacted watershed.”

PP-3

Comment S#3 (page S-5, Proposed Action):

The first sentence of the first paragraph is confusing and makes it appear as though there

PP-4

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are two switching stations, when in fact there is only one switching station. We suggest that this sentence be revised as follows: "... for delivery via a new on-site Pacific Gas and Electric Company (PG&E) switching station, ~~and the PG&E switching station~~ that interconnects the Proposed Project to PG&E's existing Morro Bay to Midway 230-kV transmission line"

PP-4
 cont'd

Comment S#4 (page S-5, Proposed Action):

The last paragraph should also refer to Senate Bill SBX1-2 as a mandate for achieving the 33 percent renewable electricity source goal. See also Comment S#1 above.

PP-5

Comment S#5 (page S-6, Project Specific Alternatives):

In the last paragraph, which describes Alternative A, please revise the last sentence to incorporate the information provided above regarding Project Layout 3B.1, which is referred to in the FEIR as Alternative 3B.1. We suggest that the last clause be revised as follows: "although Project Layout 3B.1 is only approximately 3,500 acres."

PP-6

Comment S#6 (page S-11, USACE Proposed Action and Alternatives, Proposed Action):

In the first line of the first sentence of the first paragraph, please insert "a" in between "requires" and "US Army Corps of Engineers."

In addition, the second sentence of the first paragraph should be revised because the USACE will incorporate the NEPA analysis provided in the EIS into its Clean Water Act ("CWA") alternatives analysis pursuant to the Section 404(b)(1) Guidelines. We propose the following revision to clarify this sentence:

PP-7

The USACE will incorporate the EIS into their ~~As part of a~~ separate CWA alternatives analysis in accordance with the Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), ~~USACE will incorporate into their NEPA analysis an evaluation of~~ to evaluate the potential impacts on the aquatic environment resulting from the construction and operation of the Proposed Project.

Comment S#7 (page S-19, Summary of Environmental Impacts, Table S-3):

Under the "Water Resources" section of Table S-3, third sentence, the description of impacts to jurisdictional ephemeral drainages is incorrect, in that trenching will not result in permanent impacts to jurisdictional ephemeral drainages, only temporary impacts. This description should be replaced with the following:

PP-8

Construction of at-grade road crossings and associated scour arrestors would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages, and construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional

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ephemeral drainages.

PP-8
cont'd

C. Chapter 1. Purpose and Need

Comment PN#1 (whole chapter):

PP-9

Please correct the header so that it states: “1. Purpose and Need,” throughout the chapter.

Comment PN#2 (Section 1.3.1, pages 1-4 to 1-5):

PP-10

The DEIS should include, either in the third or fourth bullet, or in a new bullet, a statement that on April 12, 2011, California Governor Jerry Brown signed Senate Bill SBX1-2 into law, which mandates that the state adopt a 33 percent Renewable Portfolio Standard by the year 2020.

Comment PN#3 (Section 1.3.3, page 1-6):

PP-11

The DEIS states that the Project Proponent will establish (create) new waters within the impacted watershed. This is not quite correct. Rather, Topaz will re-establish previously existing waters that have been lost to prior land use activities within the impacted watershed and are currently uplands. Please revise the last sentence of the last paragraph in the section as follows: “... in the form of ~~establishment (creation) of new~~ restoration of former waters within the impacted watershed.”

Comment PN#4 (Section 1.4.2, page 1-8):

PP-12

The first paragraph should be amended to include the latest developments in the County’s environmental review of the Project Proponent’s application for a conditional use permit. Please revise the second to the last sentence of the first paragraph as follows: “A draft environmental impact report (EIR) was released by the County in October 2010, and after a public comment period, a final EIR was released by the County in March 2011.”

Comment PN#5 (Section 1.4.2, page 1-8, County Permitting Overview):

PP-13

In the second to last sentence of the second paragraph in this subsection, please insert, “, including Project Layout 3B.1,” after “The Proposed Project” to acknowledge that Project Layout 3B.1, which is the same as Alternative 3B.1 as described in the FEIR, is the Project Proponent’s layout recommended for adoption by County Planning staff to the Planning Commission.

Comment PN#6 (Section 1.4.3, page 1-9):

PP-14

In the first line of the first paragraph, please insert “Bay” between “Morro” and “to Midway.”

Comment PN#7 (Section 1.4.3, page 1-9):

The discussion of the relationship between the Proposed Project, the proposed PG&E switching station and the PG&E Reconductoring Project in the context of this NEPA document should be clarified. Please revise the last sentence in the third paragraph as follows:

Because these upgrades are required to interconnect The PG&E switching station for the Proposed Project is evaluated in this EIS as part of the Proposed Project. Because the reconductoring of 35 miles of 230-kV transmission lines is required to interconnect the final 150 MW of the Proposed Project's generation capacity and other projects in the region, they are being evaluated in the EIS as a connected action (see Section 2.4).

PP-15

D. Chapter 2. Proposed Action and Alternatives

Comment PA#1 (Section 2.1.3, page 2-5, Alternative A):

As discussed above, the FEIR has determined in the CEQA process that Project Layout 3B.1, known in the FEIR as Alternative 3B.1, is the environmentally superior 550 megawatt alternative. Project Layout 3B.1 will have a fenced area of approximately 3,500 acres that is completely within the footprint of Study Area A. Therefore, the environmental impacts of Project Layout 3B.1 were fully analyzed in connection with the Alternative A impacts because Project Layout 3B.1 is a specific alternative located entirely within Study Area A and encompassed by the Alternative A environmental analyses.

PP-16

Comment PA#2 (Section 2.1.3, page 2-5, Alternative B):

The fourth sentence of this paragraph states that Figure 2-1 shows the amount of land in Study Area B that does not overlap with Study Area A are under Williamson Act contracts. This appears to be incorrect, as Figure 2-1 does not have a reference to Williamson Act lands. Please clarify the DEIS or develop a new figure that conveys the information described in this sentence.

PP-17

Comment PA#3 (Section 2.3.2, page 2-20, Solar Generating Equipment):

The first paragraph states that the wooden poles for the overhead 34.5-kV high capacity collection system lines would be approximately 43 feet high. While the majority of the electrical collection system poles for the Proposed Project are designed to be a maximum of 43 feet in height, there are 25 poles that will need to be taller, up to 52 feet tall. To minimize the total length of electrical collection system cables and limit the number of collection system corridors, we have consolidated the electrical collection system. This is accomplished by designing each corridor to collect the maximum number of circuits feasible. This becomes more challenging as the collection system approaches the Project substation because more circuits must be collected into a single corridor. In order to carry the necessary number of circuits within about 0.5 mile of

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the Project substation, the collection system poles will need to be slightly higher to provide the necessary spacing between cables.

The limited number of 52 foot poles will be located in consolidated collection system corridors within 0.5 miles of the Project substation. As they will be located close to the Project substation and existing high-voltage transmission lines, these poles will blend in with the existing viewshed and will not cause additional visual impact. The updated visual simulations prepared by Truescape, Ltd. included in Exhibit B to this letter, which were specifically prepared to reflect Project Layout 3B.1 and which were provided to the County as part of the CUP approval process, reflect the collection system pole heights described in this letter.

PP-18
cont'd

Accordingly, please revise the EIS accordingly to state, “Wooden poles approximately 43 to 52 feet high would support these overhead lines.”

Comment PA#4 (Section 2.3.2, page 2-20, Solar Generating Equipment):

Please incorporate the attached map of Project Layout 3B.1 into Figure 2-7 to update the “Reduced Acreage PV Array Layout.”

PP-19

Comment PA#5 (Section 2.3.2, page 2-25, Solar Energy Learning Center):

Please revise the first line of the first sentence to say that “the Project Proponent ~~would~~ may construct and operate a Solar Energy Learning Center....” This change reflects the County’s draft condition of approval that provides Topaz the options of donating money to the local community center or building an on-site or off-site Solar Energy Learning Center.

PP-20

Comment PA#6 (Section 2.3.2, page 2-25, Fencing):

In response to requests from the state and federal wildlife agencies and environmental organizations, Topaz revised the fencing design to facilitate passage of the San Joaquin kit fox (“kit fox”). Instead of providing small openings at the base of the fence approximately every 100 yards, as is currently stated in the DEIS, the bottom of the fencing is to be continuously elevated five to six inches above the ground to allow for kit fox passage. Please revise the DEIS accordingly.

PP-21

Comment PA#7 (Section 2.3.2, pages 2-25 to 2-26, Drainage Improvements):

First, the first sentence of the first paragraph of this section on page 2-25 could be misread to mean that all ephemeral drainages within Study Areas A and B are subject to USACE jurisdiction under CWA Section 404. This is not the case, as documented by Althouse & Meade and Huffman-Broadway Group (2010) and discussed further in Chapter 3, Section 3.7.2. Accordingly, please revise the first sentence of the first paragraph by inserting “some of” in between the comma and “which.”

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Second, the first line of the first paragraph on page 2-26 implies that placement of PV module support posts is “fill” that requires a permit from the USACE. As reflected in the application to the USACE for an individual Section 404 permit, placement of the PV module posts does not constitute “fill” and therefore the USACE’s authorization is not required for this activity. It was found that where PV modules extend across ephemeral drainages, direct fill impacts to waters could be avoided because the PV modules are placed on piles and can accommodate an ungraded surface. Piles are exempt from USACE regulation as “fill” in accordance with 33 C.F.R. § 323.3(c)(2).

Third, the first sentence of third paragraph on page 2-26 should distinguish between permanent and temporary impacts to jurisdictional ephemeral drainages that would result from the Proposed Project and the proposed mitigation ratios for each of those two kinds of impacts. In addition, at the end of the first sentence in the third paragraph, please replace “ration” with “ratio.” To summarize, we request that you replace the first sentence of the third paragraph with the following text:

The Project Proponent would compensate for the permanent impacts to loss of jurisdictional ephemeral drainage habitat through re-establishment in-kind habitat restoration of a portion of former waters within of the main drainage at a minimum ratio of 2:1. In addition, the Project Proponent would compensate for temporary impacts ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 1:1.

Fourth, in the last sentence of third paragraph states that the 100-foot buffer for the mitigation area “will” be protected by a recorded confirmation easement. Although a 100-foot buffer for the main ephemeral drainage is provided for in Project Layout 3B.1, no decision has been made at this time as to whether the buffer will be included in the easement. Therefore, please revise the beginning of this sentence as follows: “The mitigation area and, potentially, the buffer will be protected”

Comment PA#8 (Section 2.3.3, page 2-29, PG&E Switching Station):

To clarify the scope of the environmental analysis in the DEIS, please revise the second sentence in the first paragraph of this subsection as follows: “Although the PG&E switching station is included ~~within the scope~~ as part of the Proposed Project for purposes of this EIS,”

Comment PA#9 (Section 2.3.4, page 2-35, Site Preparation):

Please delete the hanging left parenthesis in the second sentence of the third paragraph on this page.

PP-22
cont'd

PP-23

PP-24

Comment PA#10 (Section 2.3.4, page 2-40, Table 2-6):

Table 2-6 should be amended to account for the fact that Topaz will use mineral oil in the main step-up transformers, as described in Chapter 3, Section 3.14, page 3-224. Mineral oil is a hazardous material. Please insert a row in Table 2-6 as follows:

Mineral Oil	Main Step-up Transformers	72,000 gallons
-------------	---------------------------	----------------

PP-25

Comment PA#11 (Section 2.3.5, page 2-43, Table 2-7):

Consistent with Comment PA#10 above, please insert a row in Table 2-7 as follows:

Mineral Oil	Main Step-up Transformers	72,000 gallons
-------------	---------------------------	----------------

PP-26

Comment PA#12 (Section 2.3.6, page 2-44, Solar Project Decommissioning):

To ensure the accuracy of the DEIS's description of the funding mechanism for the First Solar Recycling Program, please revise the first bullet as follows: "... in a restricted investment account controlled by a third party insurance company under a trust structure and controlled by a major financial institution."

PP-27

Comment PA#13 (Section 2.3.7, pages 2-45 to 2-46, Table 2-8):

First, the "Status" column in Table 2-8 for the Section 7 Consultation should be updated to reflect that consultation was formally initiated by DOE in February 2011.

Second, the Proposed Project will not require: (1) a Flood Control/Drainage Channel/Encroachment/Crossing Permit, or (2) an Authority to Construct and Permit to Operate – New Stationary Source. Please delete these permits from Table 2-8.

Third, the text in "Status" column in Table 2-8 for CEQA Authorization should be replaced with "Final EIR released in March 2010," to reflect the current status of that process.

PP-28

Comment PA#14 (Section 2.3.8, pages 2-48 to 2-55, Table 2-9):

First, to the extent that Measure Number Bio-2 on page 2-48 is not amended when the County's Conditions of Approval are incorporated into Table 2-9, please revise Bio-2 to reflect that the fencing design to facilitate passage of the San Joaquin kit fox ("kit fox") has been modified at the request of the state and federal wildlife agencies. As described in Comment PA#6 above, instead of providing small openings at the base of the fence approximately every 100 yards, as is currently stated in the DEIS, the bottom of the fencing is to be continuously elevated five to six inches above the ground to allow for kit fox passage.

PP-29

Second, Measure Number WQ-1 should distinguish between the Proposed Project's permanent and temporary impacts to jurisdictional ephemeral drainages and the mitigation ratios

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that would be utilized in each. Consistent with Comment PA#7 above, and to the extent Measure Number WQ-1 is not revised at the County level, please revise the first sentence of Measure Number WQ-1 as follows:

The Project Proponent would compensate for the permanent impacts to loss of jurisdictional ephemeral drainage habitat through re-establishment in-kind habitat restoration of former waters within a portion of the main drainage at a minimum ratio of 2:1. In addition, the Project Proponent would compensate for temporary impacts ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 1:1.

PP-29
cont'd

Comment PA#15 (Section 2.4, page 2-57, Connected Action):

The second sentence of the fourth paragraph is unclear. Please insert “could” in between “potential effects” and “result from truck movement.”

PP-30

Comment PA#16 (Section 2.4, page 2-58, Connected Action):

Please note that PG&E has information regarding the potential presence of federally listed California tiger salamander in one area in Kern County where PG&E will be working as part of the Reconductoring Project. However, as set forth on page 47 of the Topaz Biological Report (Althouse and Meade 2010) in Appendix E of the DEIS, the California tiger salamander is not present in or near Study Areas A or B. Topaz believes that PG&E has already, or will soon, communicate this information to DOE. DOE should incorporate this information, if appropriate, into Appendix B of the DEIS.

PP-31

E. Chapter 3. Affected Environment and Environmental Impacts

1. Section 3.1. Introduction

Comment IN#1 (Section 3.1.2, page 3-3, Characterization of Potential Impacts):

The second paragraph should be amended to state that, following a public comment period on the Draft EIR, the County released a Final EIR in March 2011.

pp-32

2. Section 3.7. Water Resources

Comment WR#1 (Section 3.7.2, page 3-94, Proposed Action, Alternative A):

The second sentence in the third full paragraph on page 3-94 is incorrect, in that trenching will not result in permanent impacts to jurisdictional ephemeral drainages, only temporary impacts. This sentence should be replaced with the following:

PP-33

Construction of at-grade road crossings and associated scour

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arrestors would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010). Construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010).

PP-33
cont'd

Comment WR#2 (Section 3.7.2, page 3-94, Proposed Action, Alternative A):

Consistent with Comments PA#7 and PA#14 above, the first sentence in the fourth paragraph should distinguish between permanent and temporary impacts to jurisdictional ephemeral drainages that would result from the Proposed Project and the proposed mitigation ratios for each of those two kinds of impacts. Please replace the first sentence of the third paragraph with the following text:

The Project Proponent would compensate for ~~the permanent impacts to loss of~~ jurisdictional ephemeral drainage habitat through ~~re-establishment in-kind habitat restoration of former waters within~~ a portion of the main drainage at a minimum ratio of 2:1. In addition, the Project Proponent would compensate for ~~temporary impacts ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage~~ at a minimum ratio of 1:1.

PP-34

Comment WR#3 (Section 3.7.2, page 3-95, Proposed Action, Alternative A):

The third sentence in the first full paragraph should be revised to acknowledge that Project Layout 3B.1 is the reduced-acreage alternative that has been recommended for adoption by County planning staff to the Planning Commission. In addition, the third sentence should also be clarified to state that PV arrays under Project Layout 3B.1 would not be placed in the FEMA-designated Zone A floodplains, although PV arrays would be installed in areas adjacent to the FEMA-designated Zone A (i.e., 100-year) floodplains that may be susceptible to flooding during a 100-year storm event. Accordingly, please revise this sentence as follows:

PP-35

If a smaller PV development area is permitted by the County, ~~such as Project Layout 3B.1~~, PV arrays may be placed ~~in areas adjacent to the FEMA-designated Zone A floodplains that may be susceptible to flooding during a 100-year storm event~~ so as to avoid impacts associated with development in grasslands.

Comment WR#4 (Section 3.7.2, page 3-98 to 3-99, Proposed Action, Alternative B):

The sentence that crosses over from page 3-98 to page 3-99 is incorrect, in that trenching will not result in permanent impacts to jurisdictional ephemeral drainages, rather it will cause only temporary impacts. Consistent with Comment WR#1 above, this sentence should be replaced with the following:

PP-36

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Construction of at-grade road crossings and associated scour arrestors would result in permanent impacts to less than 0.1 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010). Construction of underground electrical collection system trenches would result in temporary impacts to less than 0.05 acre of jurisdictional ephemeral drainages (Althouse and Meade and Huffman-Broadway Group 2010).

PP-36
cont'd

Comment WR#5 (Section 3.7.2, page 3-93, Proposed Action, Alternative B):

Consistent with Comment WR#2 above, the second sentence in the second full paragraph should distinguish between permanent and temporary impacts to jurisdictional ephemeral drainages that would result from the Proposed Project and the proposed mitigation ratios for each of those two kinds of impacts. Please replace the first sentence of the third paragraph with the following text:

PP-37

The Project Proponent proposes to compensate for ~~the permanent impacts to loss of~~ jurisdictional ephemeral drainage habitat through re-establishment in-kind habitat restoration of former waters within a portion of the main drainage at a minimum ratio of 2:1 (See WQ-1 in Table 2-9). In addition, the Project Proponent would compensate for temporary impacts to ephemeral drainage habitat through re-establishment of former waters within a portion of the main drainage at a minimum ratio of 1:1.

3. Section 3.8. Vegetation

Comment VE#1 (Section 3.8.1, page 3-100, Regulatory Framework):

We would modify the description of the Clean Water Act regulatory framework to conform to existing law. First, the CWA did not set water quality standards for all contaminants in surface waters. Rather, it provided a process for the federal and state governments to do so and has resulted in many such standards. Second, the description of the nature and effect of a Section 401 water quality certification should be modified. A Section 401 water quality certification is not itself a permit -- rather, it is a certification that is required as part of a Section 404 permit process and the conditions in the Section 401 water quality certification are incorporated into the Section 404 permit. Third, if the state agency responsible for issuing a Section 401 water quality certification does not act quickly enough, a permit can be issued without the Section 401 water quality certification, so it is not accurate to state that this cannot happen. Please revise this paragraph accordingly.

PP-38

Comment VE#2 (Section 3.8.1, page 3-101, Methods):

In the first paragraph of the methods section, we request that you add a sentence, consistent with the biological reports incorporated into the DEIS, explaining that 2009-2010 was an above-average rainy season, thereby providing a high level of confidence that all plant species

PP-39

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present in Study Areas A and B were detected.

PP-39
cont'd

Comment VE#3 (Section 3.8.1, page 3-106, General Project Area):

The three paragraphs entitled, respectively, “Ephemeral Wetland Depressions”, “Natural Non-Wetland Pool”, and “Anthropogenic Non-Wetland Pool”, all refer to “criteria” for determining whether these water features are wetlands. Please reference exactly what “criteria” are being referred to. For example, does this mean CWA jurisdictional wetland criteria?

PP-40

Comment VE#4 (Section 3.8.1, page 3-109, Study Areas A and B):

The first and seventh paragraphs on page 3-109 describe “anthropogenic habitat” in Study Areas A and B, respectively. Please amend each paragraph to state the acreage of anthropogenic habitat, which is 23 acres for Study Area A and 25 acres for Study Area B, to conform to the parallel acreage references in the other vegetation community sections.

PP-41

4. Section 3.9. Wildlife

Comment WI#1 (Section 3.9.1, page 3-117, Affected Environment):

In the paragraph entitled, “Invertebrates,” the third sentence is not quite accurate. All three fairy shrimp species are not expected to inhabit all types of pools. For example, ephemeral wetland depressions are surface water features that persist for a minimum of seven days. However, the shortest period in which fairy shrimp can reproduce in an ephemeral wetland depression is three weeks. Thus, there may be ephemeral wetland depressions at the Project site that are too short-lived to support fairy shrimp. Accordingly, please revise the third sentence as follows: “All three fairy shrimp species could potentially inhabit certain types of vernal pools, ephemeral wetland depressions, and natural non-wetland pools within the Project Site, as appropriate.”

PP-42

Comment WI#2 (Section 3.9.2, page 3-125, Proposed Action):

In the first bullet, the text should be amended by inserting “or modified” in between “within the Project Site” and “to promote”, to account for the flexibility provided by the County’s draft Conditions of Approval for the Proposed Project.

PP-43

Comment WI#3 (Section 3.9.2, page 3-125, Proposed Action):

The California Department of Fish and Game (“CDFG”) requested that the Project Proponent plant shrub species, such as Atriplex, that are good late-summer forage for antelope and elk on portions of the mitigation land. Please add a sentence at the end of the second bullet stating that the Project Proponent intends to do so.

PP-44

5. Section 3.10. Special Status Species

PP-45

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Page 14

Comment SS#1 (Section 3.10.1, page 3-128, Regulatory Framework):

The citations on this page for the California Endangered Species Act and Fully Protected Species should be to the “California Fish and Game Code,” not to “CDFG Code.”

PP-45
cont'd**Comment SS#2 (Section 3.10.2, page 3-169 and 3-170, Proposed Action):**

In the last bullet on page 3-169 and the fourth full paragraph on page 3-170, the document refers to “[c]onservation easements on adjacent parcels” and “conversion of existing cropland habitat surrounding the proposed facility.” By these references, are you referring to lands within the proposed mitigation land package that is currently being evaluated by the wildlife agencies? If so, we suggest that you qualify these statements accordingly.

PP-46

Comment SS#3 (Section 3.10.2, page 3-172, Proposed Action):

In the fourth full paragraph on this page, potential impacts to American badgers will be avoided through use of preconstruction surveys and other avoidance measures. In assessing potential impacts to badgers, it was recognized that proposed mitigation lands for kit fox would more than compensate for any impacts to badgers, therefore no specific mitigation measures were proposed.

PP-47

Comment SS#4 (Section 3.10.2, page 3-172, Proposed Action):

In the fifth full paragraph on this page, we suggest that the phrase “take federally listed species” be followed by “other than potentially the San Joaquin kit fox.” Due to the potential for take of kit fox, DOE has initiated consultation regarding this species with the U.S. Fish and Wildlife Service.

PP-48

Comment SS#5 (Section 3.10.2, page 3-178, Environmental Protection Measures):

In the first bullet under measures to protect the San Joaquin kit fox, there is a reference to the three-stage survey protocol and protection program during project construction. Please be more specific within this bullet as to what each of the three stages consists of.

PP-49

Comment SS#6 (Section 3.10.2, page 3-179, Environmental Protection Measures):

In the second bullet under measures to protect kit fox, please note that, as discussed in Comments PA#6 and PA#14, the fencing design to facilitate passage of the San Joaquin kit fox (“kit fox”) has been revised. Instead of providing small openings at the base of the fence approximately every 100 yards, as is currently stated in the DEIS, the bottom of the fencing is to be continuously elevated five to six inches above the ground to allow for kit fox passage. Please revise the DEIS accordingly.

PP-50

Comment SS#7 (Section 3.10.2, page 3-180, Environmental Protection Measures):

We suggest that you refer to the San Joaquin Kit Fox Mitigation and Monitoring Plan in Exhibit E as the “Draft” Plan.

PP-51

Comment SS#8 (Section 3.10.2, pages 3-180 to 3-181, Environmental Protection Measures):

The mitigation ratios and acreage numbers contained in the bulleted paragraph that crosses over these two pages should be updated with the latest ratios and figures reflected in the draft County conditions of approval.

PP-52

Comment SS#9 (Section 3.10.2, page 3-181, Environmental Protection Measures):

The first full bullet on this page is generally accurate, but could be made more specific. The mitigation lands would be “placed” rather than “enrolled” in a conservation easement, and it is most accurate to state that “if feasible and appropriate,” the properties used for the Proposed Project may later be placed in a permanent conservation easement. Moreover, we recommend adding “Certain” before “[o]ff-site lands adjacent to the fenced PV array ...” in the first sentence of this bullet.

PP-53

6. Section 3.11. Cultural Resources and Tribal Consultation

Comment CR#1 (Section 3.11.1, pages 3-191 to 3-192, Table 3-21):

Not all resources in Table 3-21 are documented or evaluated in Lichtenstein et al. 2010, as stated in Footnote 4 of the table. Specifically Site Numbers AE-1939-ISO-8 and ISO-9 are evaluated in Haydu (2010). Please add this reference to Footnote 4. In addition, please add to Footnote 4, or in a new footnote, a reference for the evaluation and/or recording of State Highway 58 and the Carrizo Plain substation.

PP-54

Comment CR#2 (Section 3.11.1, page 3-193, Reconductoring):

In the last paragraph, please add a citation for the survey performed by the ICF archaeologists.

PP-54

Comment CR#3 (Section 3.11.1, page 3-194, Reconductoring):

Please add a citation for the “additional cultural resources inventory” referred to in the first paragraph. Please add a citation for the survey performed by Ecology and Environment referred to in the second paragraph that led to the discovery of an “additional prehistoric site.”

PP-56

Comment CR#4 (Section 3.11.2, page 3-195, Proposed Action):

In the last paragraph on page 3-195, the DEIS uses the terms “sites” for all of the identified historic and prehistoric cultural properties within the boundary of Study Area A. Some of these “sites” are more appropriately referred to as “isolates,” so we recommend revising

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the references as appropriate to avoid confusion to the reader.

Because the DEIS states in this paragraph that these sites are considered ineligible for listing on state or federal registers, subject to concurrence by the State Historic Preservation Officer (“SHPO”), the DEIS should conclude that removal or destruction of these sites would not be an adverse impact. Accordingly, please revise the last clause of the last sentence to state “this would not be an minor-adverse impact.”

PP-57
cont'd

Comment CR#5 (Section 3.11.2, page 3-196, Proposed Action):

In the vernacular of cultural resource evaluations under NEPA, an impact is either adverse or not, without qualification. Accordingly, in the last sentence of the last paragraph on page 3-196, please change “substantial” to “adverse.”

PP-58

Comment CR#6 (Section 3.11.2, page 3-197, Proposed Action)

In the fourth paragraph, relating to construction of Alternative B, the DEIS states that these sites are considered ineligible for listing on state or federal registers, subject to concurrence by the SHPO. Accordingly, the DEIS should conclude that removal or destruction of these sites would not be an adverse impact. Please revise the last clause of the last sentence to state “this would not be an minor-adverse impact.”

PP-59

7. Section 3.13. Socioeconomics

Comment SO#1 (Section 3.13.2, page 3-211, Proposed Action):

The second paragraph discusses findings that, due to occasional exceedances of housing supply created by the overlapping construction requirements of the Proposed Project and the California Valley Solar Ranch, the Proposed Project would have minor to moderate impacts on housing supply in the area. Please consider incorporating into the DEIS a brief analysis of housing impacts similar to that in the County’s FEIR (page C.12-5 in PH-2), which concludes that there is a Class II (significant, but mitigable) impact because the labor force for the Proposed Project would require housing that exceeds the supply of local housing or temporary housing facilities.

PP-60

8. Section 3.15. Public Health and Safety and Hazardous Materials and Waste

Comment PH#1 (Section 3.15.1, page 3-222, Clean Water Act):

In the carry-over paragraph at the top of page 3-222, the DEIS incorrectly states that a facility is subject to SPCC requirements if it contains a single oil storage tank with a capacity greater than 660 gallons. This requirement was deleted from the SPCC rule during recent revisions. Please delete this reference from the DEIS.

PP-61

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Comment PH#2 (Section 3.15.2, page 3-230, Proposed Action):

In the second sentence of the second full paragraph on page 3-230, the statement is made that: “Grass fires occurring within energized arrays can be fought using normal firefighting techniques, while being careful not to damage the arrays and cause an electrical or chemical hazard.” The DEIS should clarify that the “chemical hazard” referred to does not include the release of significant amounts of cadmium telluride (“CdTe”). As the DEIS notes on page 3-229 (first full paragraph): “Even if a grass vegetation fire at the site could reach [1041 degrees Celsius], the actual loss of CdTe from a module would be insignificant (approximately 0.04%) (Fthenakis 2005).” Moreover, as the DEIS states on pages 3-228 and 3-229, grass “fires tend to be short-lived due to the limitations on available fuel. As a result, these fires are unlikely to expose PV modules to prolonged fire conditions or to temperatures high enough to volatilize CdTe.” Thus, according to the DEIS, CdTe would not be a chemical that could cause a “chemical hazard” as a result of the use of normal firefighting techniques against grass fires within energized arrays. Please specify which other chemicals the DEIS is referring to or delete the reference to “chemical hazards.”

PP-62

9. Section 3.16. Transportation**Comment TR#1 (Section 3.16.1, page 3-234, Project Area Roadways):**

In the first paragraph under the heading, “Highway 58,” please correct the end of the second sentence as follows: “at ~~two to three~~ five or six locations on Highway 58.”

PP-63

10. Section 3.18. Cumulative Impacts**Comment CU#1 (Section 3.18.4, page 3-258, Water Resources):**

First, the first paragraph, entitled “Surface Waters,” should include a statement that the cumulative impacts on floodplains that could result if a reduced acreage alternative is implemented has been analyzed. The DEIS evaluates the potential impacts of the Proposed Project, including a reduced acreage alternative, on floodplains in Section 3.7.2, page 3-95, finding that even if PV arrays were placed in floodplains, due the wide spacing and small size of the PV support posts, the “level of disturbance would not be expected to raise base flood elevations or affect up- or downstream flow levels.” As clarified in Comment WR#3 above, PV arrays under Project Layout 3B.1 would not be placed in FEMA-designated Zone A floodplains, but may be placed in areas adjacent to the FEMA floodplains that are susceptible to flooding during a 100-year storm event. The analysis in DEIS Section 3.7.2, as clarified by the additional information provided by Topaz, provides sufficient evidence for DOE to determine that there will be no cumulative impacts to the 100-year floodplain due to the construction of the various PV Array Layouts that could be developed within the Study Areas for Alternatives A or B. Please revise this paragraph accordingly.

PP-64

Second, consistent with Topaz’s Comments S#2, WR#2 and WR#5, the second to the last sentence in the first paragraph should distinguish between permanent and temporary impacts to jurisdictional ephemeral drainages and the associated mitigation ratios that Topaz proposes to

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compensate for each kind of impact. In addition, Topaz will re-establish former waters within a portion of the main ephemeral drainage, not create new waters. Accordingly, please revise the second to the last sentence in the first paragraph as follows:

Permanent Project impacts to these other Waters of the US would be mitigated by ~~creating~~ re-establishment of former waters within a portion of the main ephemeral drainage at a 2:1 mitigation-to-impact ratio, and temporary impacts to these other Waters of the US would be mitigated by re-establishment of former waters within a portion of the main ephemeral drainage at a 1:1 mitigation-to-impact ration. This would ~~and~~ ensure that no loss of acreage, function, or associated services would occur.

PP-64
cont'd

Third, at the end of the first paragraph on page 3-258, delete “quality.” “Surface water quality” is addressed in the next paragraph.

Comment CU#2 (Section 3.18.4, page 3-259, Biological Resources):

The last full paragraph on page 3-259 introduces unnecessary confusion regarding the “installation of barbed wire over time” on the Carrizo Plain as contributing to cumulative impacts of the Proposed Project. The installation of barbed wire over time, as well as roads that have already been constructed, are properly considered as part of the environmental baseline for the environmental analysis of the cumulative impacts of the Proposed Project and other reasonably foreseeable projects in the Carrizo Plain. Please clarify this paragraph to make this distinction clearer.

PP-65

Comment CU#3 (Section 3.18.4, pages 3-259 to 3-260, Biological Resources):

The cross-over paragraph on pages 3-259 to 3-260 and the first full paragraph on page 3-260 should acknowledge that fact that Project Layout 3B.1 will have less individual and cumulative impact on wildlife movement corridors because of its compressed layout. By refining the Reduced Acreage PV Array Layout within Study Area A, Project Layout 3B.1 enhances wildlife movement corridors on both sides of the Project. Thus, the cumulative impact on biological resources of Project Layout 3B.1 and the CVSR will be less than if the Maximum Acreage Layout under Alternative A were constructed. Please revise the EIS to incorporate this information.

PP-66

Comment CU#4 (Section 3.18.4, page 3-260, Biological Resources):

As a clarification of the cumulative impacts analysis, please revise the second full paragraph on page 3-260 as follows:

Mitigation measures to reduce cumulative impacts on vegetation, wildlife, and special status species are the same as those described in their respective sections in Chapter 3, and will minimize any potential cumulatively considerable impacts to these resources.

PP-67

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Comment CU#5 (Section 3.18.4, page 3-261, Paleontological Resources):

As a clarification of the cumulative impacts analysis, please revise the second full paragraph on page 3-261 by adding the following sentence at the end: “Mitigation measures discussed in Section 3.12 will minimize potential cumulative impacts.”

PP-68

Comment CU#6 (Section 3.18.4, page 3-263, Transportation):

First, in the last sentence of the second full paragraph under the heading, “Transportation,” please replace “increase” with “improve” to clarify the impact that widening Highway 46 would have on the existing Level of Service (“LOS”).

PP-69

Second, as a clarification of the cumulative impacts analysis, please revise the third full paragraph in the Transportation subsection by adding the following sentence at the end: “Mitigation measures discussed in Section 3.16 will minimize potential cumulative impacts.”

Comment CU#7 (Section 3.18.4, page 3-264, Infrastructure):

In the first paragraph under the Infrastructure subsection, please note that it is not entirely correct to state that increased demand for emergency services is being covered by “County development impact fees.” Rather, the County is receiving additional sales and use tax revenues, and some property tax revenues, that will be tracked and for which the Project Proponent has agreed to provide a minimum guarantee. Please revise the DEIS accordingly.

PP-70

F. Chapter 4. Other Required Considerations**Comment OR#1 (Section 4.1, page 4-3, Operation):**

In the first full paragraph on page 4-3, please add the following text to the end of the last sentence: “, although these impacts are potentially reduced through the revised fencing design which has been adopted.” See also Comments PA#6, PA#14 and SS#6.

PP-71

Comment OR#2 (Section 4.2, page 4-3):

Because the PG&E Reconductoring Project is a connected action for purposes of this NEPA document, we suggest that this subsection briefly compare the temporary effects of the PG&E Reconductoring Project on the environment with its potential effects on its long-term productivity. The DEIS makes a parallel analysis of the PG&E Reconductoring Project for each of the other two topics covered by this chapter.

PP-72

Comment OR#3 (Sections 4.2 and 4.3, pages 4-3 to 4-4):

Although the Proposed Project will be decommissioned at the end of its life, it is not assured at this time that the reclaimed and restored land would be available for future development. It is possible that a preservation easement could be established on all or part of the Project site following decommissioning, although there are regulatory and operational considerations that must be taken into account in evaluating this possibility. Thus, there exists

PP-73

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the potential that certain land uses could be restricted after the Proposed Project is decommissioned, which may preclude certain uses. We recommend that the discussion of post-decommissioning uses and the potential for an irretrievable commitment of resources in Sections 4.2 and 4.3 be revised to reflect this information.

PP-73
cont'd

* * * * *

Thank you for the opportunity to comment on the DEIS. We appreciate the considerable time and effort that the DOE and EMPSi have devoted to the developing this document. The comments by Topaz herein are intended to add transparency and further explain the analysis contained in the DEIS, so that the final EIS summarizes all of the relevant data, analysis and conclusions.

Please feel free to contact us at any time if you have any questions or would like to discuss these comments.

Sincerely yours,

TOPAZ SOLAR FARMS LLC



Lisa M. Bodensteiner

Attachments

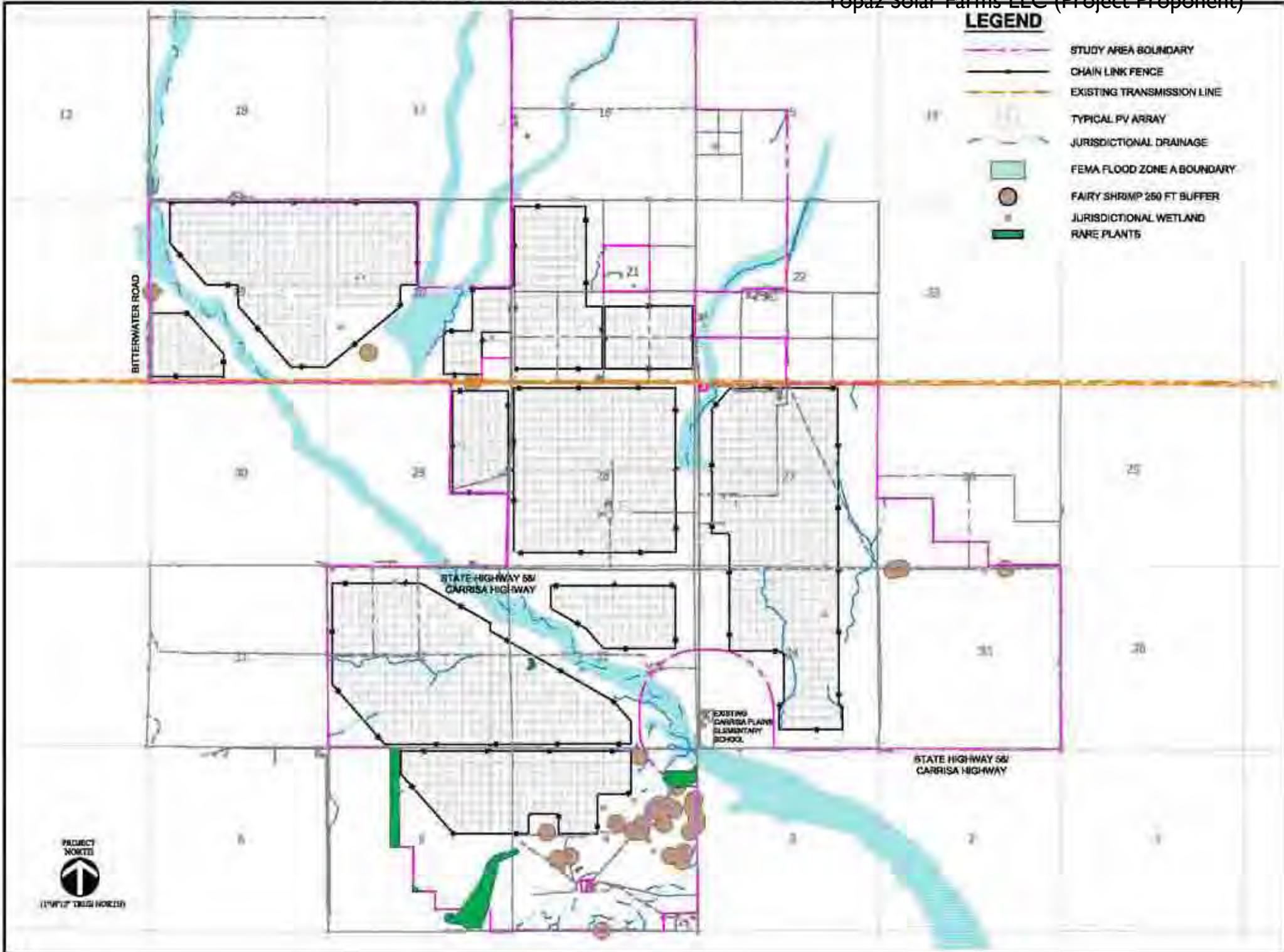
cc: Kathryn Arbeit
Ashley Kenny
Paul P. ("Skip") Spaulding, III, Farella Braun + Martel LLP

Exhibit A

Project Layout 3B.1

TOPAZ SOLAR FARM: PROJECT LAYOUT 3B.1

Topaz Solar Farms LLC (Project Proponent)



LEGEND

- STUDY AREA BOUNDARY
- CHAIN LINK FENCE
- EXISTING TRANSMISSION LINE
- TYPICAL PV ARRAY
- JURISDICTIONAL DRAINAGE
- FEMA FLOOD ZONE A BOUNDARY
- FAIRY SHRIMP 250 FT BUFFER
- JURISDICTIONAL WETLAND
- RARE PLANTS

PROJECT NORTH
1"=100' (TRUE NORTH)

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UNITED STATES DEPARTMENT OF ENERGY
PUBLIC HEARING ON THE DRAFT EIS

FOR THE PROPOSED LOAN GUARANTEE FOR THE
TOPAZ SOLAR FARM, SAN LUIS OBISPO COUNTY, CALIFORNIA

HELD AT THE
CARRISA PLAINS HERITAGE ASSOCIATION COMMUNITY CENTER

SANTA MARGARITA, CALIFORNIA
WEDNESDAY, APRIL 13, 2011
6:30 P.M. - 7:20 P.M.

CERTIFIED COPY

TRANSCRIPT OF PUBLIC HEARING

REPORTED BY: JERI CAIN, CSR #2460 RMR, CCRR, CRR
FILE NO. 210792



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UNITED STATES DEPARTMENT OF ENERGY
PUBLIC HEARING ON THE DRAFT EIS
FOR THE PROPOSED LOAN GUARANTEE FOR THE
TOPAZ SOLAR FARM, SAN LUIS OBISPO COUNTY, CALIFORNIA
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CARRISA PLAINS HERITAGE ASSOCIATION COMMUNITY CENTER
SANTA MARGARITA, CALIFORNIA
WEDNESDAY, APRIL 13, 2011
6:30 P.M. - 7:20 P.M.



TRANSCRIPT OF PUBLIC HEARING

REPORTED BY: JERI CAIN, CSR #2460 RMR, CCRR, CRR
FILE NO. 210792

1 WEDNESDAY, APRIL 13, 2011

2 ON RECORD AT 6:40 P.M.

3 -o0o-

4 ANGELA COLAMARIA: We are going to get
5 started. Welcome, everyone, to the public hearing for
6 the proposed Topaz Solar Farm. It's a small crowd
7 tonight compared to our scoping comments, so hopefully
8 we can make this quick and painless for everyone.

9 I think the last time you had to sit around for
10 a couple of hours waiting for your chance to talk, so we
11 hope that doesn't happen this time.

12 All right. So we'll have a very quick
13 presentation, and then we will get right into oral
14 comments.

15 My name is Angela Colamaria. I'm with the
16 Department of Energy Loan Guarantee Program. We are
17 here today because the DOE is considering giving a loan
18 guarantee to Topaz Solar Farm for a solar farm here in
19 San Luis Obispo County.

20 The purpose of the hearing tonight is to hear
21 comments on our Draft Environmental Impact Statement
22 that we published on March 25th. This is going to be --

23 Okay. I just want to briefly go over NEPA --
24 that's the reason we're here -- the National
25 Environmental Policy Act. The purpose of the National

1 Environmental Policy Act is to make sure that the
2 federal government considers the environmental impacts
3 of its decision before it actually makes the decision.

4 NEPA potentially applies whenever the federal
5 government makes a major Federal action. So a loan
6 guarantee by the Loan Guarantee Program is a Federal
7 action that requires NEPA review. So that is why we are
8 here tonight, to -- as part of the NEPA process for the
9 proposed Topaz Solar Farm.

10 So how does NEPA work? The DOE first
11 determines what the appropriate level of NEPA review is,
12 and we do this very early in the process. This
13 appropriate level of review depends on the significance
14 of the potential environmental impacts of whatever
15 project they are considering.

16 There are three levels of NEPA review. The
17 most extensive level is the Environmental Impact
18 Statement. That's a detailed document that's required
19 for major Federal actions that may significantly affect
20 the quality of the human environment. And that is what
21 we have prepared for the Topaz Solar Farm Environmental
22 Impact Statement. I'll refer to that as the Draft EIS
23 from here on out.

24 In addition to the statute, the NEPA statute,
25 there are also regulations, internal DOE guidelines that

1 we also need to comply with.

2 The NEPA process has numerous steps. The first
3 step is the publication of the Notice of Intent. The
4 NOI states the need for the action and provides just
5 preliminary information about what we are considering
6 analyzing, the environmental and social impacts.

7 The NOI, when it's published, that begins the
8 scoping process. Many of you here participated in our
9 scoping meeting that we had last fall. The scoping
10 process is our chance for the public to tell us what
11 environmental impacts, cultural and socioeconomic
12 impacts, that we should analyze in relation to each
13 project. So we had that scoping meeting and the comment
14 process last fall. And then we moved to the next step,
15 which is to draft the Environmental Impact Statement.

16 We take all the comments that we received
17 during the scoping process and we consider those while
18 we're drafting the EIS.

19 We drafted the EIS and we published it on March
20 25th of this year, just last month. Once we publish the
21 draft EIS we again have a public comment period where
22 the public can give us comments on -- on the document.

23 We're obviously in the middle of that comment
24 period right now. It lasts 45 days. For this project,
25 the comment period will end on May 9th.

1 Once we get all oral and written comments
2 during this process on our Draft EIS, we will
3 incorporate all those comments into a Final EIS. We
4 will respond to public comment in our final EIS, and
5 then we will publish it.

6 Once we publish that Final EIS, we can issue a
7 Record of Decision. And that is announcing the agency's
8 decision, explaining our decision, and then it also will
9 describe any commitments for mitigating potential
10 environmental impacts that we are requiring from the
11 applicant.

12 Most of you here are very familiar with this
13 project so I'm not going to go down the list of all of
14 the components of this project. You can read them
15 there.

16 In addition to the solar arrays, the project
17 would include various other components and facilities,
18 including an onsite PG&E switching station. The PG&E
19 switching station connects the project's power to the
20 existing PG&E transmission line. The Morro Bay to the
21 Midway transmission line. And that runs right through
22 the project site into Kern County.

23 PG&E needs to upgrade its transmission line to
24 accommodate several projects in the region, including
25 the last 150 megawatts of this project, so because of

1 that, we have included that PG&E upgrade in the
2 document -- that connected action in our EISes. It's
3 not part of the proposed action -- it's not technically
4 part of the project, but because it's connected, we have
5 also considered the environmental impacts for that
6 upgrading in our Draft EIS.

7 The decision on the final facility
8 configuration, exactly where the arrays are going to be
9 put on the ground, will be made by the County of San
10 Luis Obispo as part of the conditional use permitting
11 process. So although the Federal NEPA process is a
12 completely separate process from the County process, we
13 will include information about the County's final
14 configuration in our Final EIS.

15 The County -- I think most of you are aware the
16 County has prepared a Final EIR, which is very similar
17 to our EIS. It presents three environmentally superior
18 alternatives, and it's my understanding that the staff
19 recommendation to the Planning Commission is that they
20 approve what they are calling Alternative 3B.1. So you
21 may have heard about that in the County process.

22 Our Draft EIS does not specifically mention
23 3B.1, but it covers all of the alternatives that the
24 County is considering and they may end up finalizing.

25 We knew that the County process was happening

1 parallel to ours. We knew that they weren't going to
2 make a decision on the final configuration until after
3 we had published our Draft EIS, so in our EIS, we
4 covered a broad area and we analyzed impacts of a broad
5 area that -- just to make sure that no matter what the
6 final decision the County makes, we will have analyzed
7 those impacts in our document.

8 These are just some of the resource areas that
9 we examined in the Draft EIS. Those of you who have
10 read it know that we covered a lot more. These are just
11 the few that I wanted to touch on real quick.

12 Wetlands and floodplains assessment. This site
13 does have both floodplains and jurisdictional wetlands.
14 The Army Corps of Engineers has authority for issuing a
15 CWA section 404 permit for this project, so they
16 participated as the cooperating agency in drafting this
17 EIS. So the Corps will issue a separate decision
18 document for their permit but they will incorporate the
19 environmental analyses that we have in our EIS in that
20 decision document.

21 If you have any questions about the Corps
22 permitting process, Holly Costa, from the Army Corps of
23 Engineers, is sitting in the back, so afterwards, if you
24 have any questions, she will be happy to answer those
25 questions.

1 Ecological and biological resources. The
2 project area contains habitat for several threatened and
3 endangered species, including two species of Fairy
4 shrimp and the San Joaquin Kit Fox.

5 We are consulting and coordinating with the
6 Fish and Wildlife Service to make sure that we come up
7 with the best configuration that will have the least
8 impact on these species.

9 Cultural and socioeconomic resources. We have
10 initiated a consultation with the State Historic
11 Preservation Officer, and in order to avoid impacts to
12 historic structures and places of sacred or special
13 cultural and spiritual significance for Native American
14 tribes, we have invited the three federally-recognized
15 Native American tribes in this area to formal
16 government-to-government consultation, but we've also
17 reached out to all the tribes in the area that may have
18 an interest in asking them to comment as well.

19 Cumulative impacts, I think, is another
20 important area that we looked at. That includes impacts
21 of this project on resources in combination with other
22 projects that may be occurring in the area such as the
23 SunPower-California Valley Solar Ranch project, which is
24 proposed right down the street.

25 How to provide comments. As I mentioned

1 earlier, comments for this -- on this Draft EIS are due
2 May 9th. You can either submit written comments today,
3 to myself or to my colleague, Doug Boren, in the back in
4 the blue shirt. You can e-mail them to this e-mail
5 address. You can mail them via traditional mail to this
6 address, or you can give oral comments today, which I
7 know several of you are going to do.

8 Written and oral comments are given equal
9 weight. It doesn't matter if you do one or the other.
10 Both are all given equal weight in this process.

11 Just some additional information about our
12 program, our NEPA process. If you have any questions
13 about the comment period or NEPA, in general, this is my
14 contact information.

15 So now it's just time to hear the public
16 comments on the Draft EIS. We have a small list of
17 people signed up to provide public comments. If you
18 decide you want to sign up, feel free to sign up at
19 either that table there or we have a table over here
20 during the process.

21 When I read your name, just please come up to
22 the microphone, state your name. If you are
23 representing an organization, state the name of the
24 organization, and then provide your oral comments.

25 This is an opportunity for you to submit oral

1 comments into the record, so it's not a discussion
2 session, which I know is a little different from the
3 County process. For this reason, when someone else is
4 speaking, please be courteous and keep quiet so that the
5 court reporter can accurately record their testimony
6 into the record.

7 We'd like to initially limit comments to five
8 minutes so everyone can speak, and then if you have --
9 if you want to speak for longer, then after that, you
10 can speak as long as you need to.

11 So I think that's all I have to say.

12 Let's get the list.

13 The first on the list is Mike Strobridge.

14 MIKE STROBRIDGE: Could I speak last because
15 mine's a little bit more than five minutes so I'd rather
16 give the whole shot at once.

17 MS. COLAMARIA: Sure.

18 Jenny Strobridge.

19 MRS. STROBRIDGE: Jenny Strobridge. I have to
20 be honest; I have not read the new final. It's a little
21 long, and we've been kind of overwhelmed with the amount
22 of EIRs we've had to read. So I'm basically just going
23 to restate all my previous comments and add a few more.

24 Again, there is nothing that they can mitigate
25 for us, for our travel time to town. 9:00 to 4:00 is

1 what they have planned. I'm sorry. I travel to town
2 all day long throughout the day. My children, they are
3 going to absolutely stop our life. They only give us
4 one emergency exit out of our home with the new 3B.1.
5 That's absolutely not acceptable when I have three
6 children at the home and livestock.

TT-1

7 I just don't understand why we're here right
8 now. First Solar has way too many problems with their
9 project. They are going to -- it's going to be held
10 up. And why not put the money into a project where the
11 Westlands are, where the project can get approved, and
12 we don't have some much controversy.

G-8.2

13 I know that it doesn't look like there's a lot
14 of people in this room right now, but just look at the
15 list of comments that people have submitted to the
16 County. It's continual. They cannot -- they can't
17 mitigate for the amount of farmland. They can't
18 mitigate for the endangered species. The list just
19 continues.

LU-4

SS-8

20 There's no overriding consideration for them
21 destroying the Carrizo Plains.

22 Thank you.

23 MS. COLAMARIA: David Webb.

24 MR. WEBB: Thank you. My name is David Webb,
25 and the address I put down there is our mailing address

G-1.2

1 because we don't have a zip code out here. My real
2 address -- my physical address in the county is 12270
3 Central Valley Trail, California Valley. That's on our
4 tax thing.

5 I'm basically going to read something, but I
6 did want to -- I did want to mention, I'm really against
7 the -- I really think that the DOE should really give a
8 lot of consideration to the environmental impact this is
9 going to cause out here. And First Solar has an answer
10 for everything, but the answers aren't really good
11 enough. And what I want to read today, and I really
12 don't think you guys should -- or if -- in your approval
13 process, on your end of it, you better really -- I mean,
14 I wish you would really think about it, because this is
15 going to impact this whole environment out here for a
16 long time if they come in here. Maybe forever.
17 Probably will.

G-1.2

18 Anyway, I'm going to just go ahead and read
19 this now. And what I want to talk about today, and what
20 I want to bring up that's never really been brought up,
21 the real thing about it, it's the aspects of sheep
22 grazing.

VEG-
I

23 Now, the Topaz -- and I don't know all the
24 regulations, but they're talking about -- they need
25 to -- they want to have vegetation under the solar

1 panels. This is what I gather as just a layman. And,
2 by the way, I don't have any ties to any organizations.
3 I'm just a guy out here retired and tired of coming to
4 all these meetings for the last two years.

5 But, anyway, they are telling us that they
6 want to keep the vegetation under there for the
7 habitat. They want -- you know, they want to do the
8 best thing they can for any habitat that's around, any
9 kind of ground habitat, and they've actually showed
10 us -- Topaz PR people showed us a photo of a couple of
11 sheep nibbling grass under a big solar panel. It's a
12 good photo, and the sheep are all nice and clean. I
13 think they got them from Cal Poly. I don't know where
14 they got them. But, anyway -- but this is not even
15 close to the reality of sheep grazing that will keep
16 down the vegetation and still allow for animals.

17 It's like a -- okay. I'm just going to tell
18 you. How many panels will these sheep need to graze?
19 There's nine million of them. So you put two sheep
20 under every panel. That's 18 million sheep. And this
21 is all summer. Maybe eight or nine months grazing.

22 I've lived out here for twenty -- no, longer
23 than that -- about 27 years of having the sheep industry
24 in my backyard in California Valley. They -- that's
25 another story, but the community over there, actually,

VEG-I
cont'd

1 for many years, before we even came here 30 years ago,
2 was illegally allowing the sheep to graze on
3 two-and-a-half-acre lots, and there's 7,000
4 two-and-a-half acre lots in California Valley. So
5 that's a long story, but that's a long time those sheep
6 grazed out there, and they did a lot of damage. And for
7 27 years, we had the sheep industry in our backyard.
8 And the observations of them grazing -- thousands of
9 them, by the way -- thousands of them -- three sheep
10 companies -- makes me somewhat of an expert just by
11 being around them all the time.

12 So here we go.

13 A few sheep per panel will not work unless you
14 chain them and drag them around like a dog on a leash to
15 each panel. And that would be inhumane, and you can't
16 just assign a few to each panel. They need direction.
17 They need shepherders. They need sheepdogs. Sheepdogs
18 can do that. How many dogs will be needed?

19 Topaz will need thousands of sheep to keep down
20 all the grass and the weeds. I already said that.

21 On hot summer days sheep bunch up by the
22 hundreds in huge groups. Between the sheep, the
23 shepherders, and the sheepdogs, K-rats, Kangaroo Rats,
24 Blunt Nose Lizards, Burrowing Owls, Snakes, Ground
25 Squirrels, Mice, and anything that walks or lives on or

VEG-I
cont'd

1 in the ground is driven out, and we know that because
2 now they are coming back.

3 By the way, we got them out of there. We got
4 together, a bunch us, and we sued them, and we got an
5 out-of-court settlement, but they said they can't come
6 back for 25 years. So now after three years, I
7 believe -- this is the third year -- in California
8 Valley, which is all Carrisa Plains, same old stuff,
9 stuff is coming up that's unbelievable. My wife and I
10 take walks. We take our dogs out there. It's
11 unbelievable. We're seeing native grasses coming up.
12 Where were they all this time? I can't believe it.
13 There's plants that are coming up we've never seen
14 before.

15 The Kangaroo Rats have had the best year. It's
16 an unbelievable year they're having. And they were
17 never out there. We never saw them out there. Now
18 they're all over the place. All over.

19 And the Kit Fox, it's all of them, it's the
20 whole food chain; they're all coming back now. They
21 were all driven out at all times by the shepherders.
22 Trust me. I'm not lying. I'm not here to lie. I don't
23 lie. We saw the difference. It's unbelievable.

24 Our valley is now fresh. It's real. It's --
25 it's grass. It's nice. And this is a good time of year

VEG-I
cont'd

1 anyway.

2 MS. COLAMARIA: You're at 5 minutes and 37
3 seconds.

4 MR. WEBB: Could I go a couple more minutes?

5 MS. COLAMARIA: If you've only got a few
6 minutes left, that's fine.

7 MR. WEBB: Okay. Thanks.

8 MS. COLAMARIA: There's not a lot of people to
9 speak.

10 MR. WEBB: I really appreciate that.

11 I just want to say that the sheep totally upset
12 the chain -- the natural food chain. And if you've ever
13 smelled big herd sheep, that's a reality that is not in
14 those pictures. The sheep make a lot of dust. The dust
15 contains dry sheep urine and feces. Summer winds will
16 scatter that dust, black dust devils that look like
17 mid-western tornados. The dirty dust can rise over 200
18 feet. It blows all over the place. Dust will settle on
19 solar panels. Some will cross over the highway. The
20 wind takes it wherever it pleases. It stinks and you
21 don't want to breathe it, and you don't want to get it
22 on you.

23 Electrical wires. I don't know if they are
24 going to have any electrical wires on the ground, but
25 anything hanging on the ground, sheep will drag them

VEG-I
cont'd

1 around. You should see all the barbed wire that they
2 have dragged around up there.

3 In summer, shepherders haul thousands of
4 gallons of fresh water daily to take care of all their
5 sheep. Where will they get this water? It's gonna hurt
6 our water table.

7 Sheep dung's not what anyone would like to walk
8 through. How would the solar boys deal with that? Who
9 pays medical bills and/or lawsuits if an employee gets
10 sick from the sheep dung dust?

11 Sheep must be inoculated against anthrax. It's
12 a state law. And there is anthrax that's waiting in the
13 ground. Who will monitor that?

14 Topaz solar panel support posts, there's a
15 support post for everything. Their panels, they seem
16 flimsy. They will not be concreted in. Sheep will rub
17 on them and loosen them up.

18 The sheep industry uses dogs. They are very
19 protective of the herd. Some of the dogs are huge and
20 they can be quite violent, and I know that. They are
21 great big appaloosas, I think they call them. What are
22 they? They're huge.

23 Anyway, sick and old sheep will die. Sheep-
24 herders don't remove the carcasses right away. They
25 really don't care. I'm telling you. I know this. I've

VEG-I
cont'd

1 lived this. We've -- I can show you dead bones out
2 there. They're still scattered all over the place,
3 dead -- the sheep bones.

4 Shepherders who smoke can cause grass fires.
5 Empty wine bottles can act as magnifying glasses and
6 start fires.

7 Who will monitor shepherd facilities? They
8 use travel trailers, and they've been known to dump
9 human waste on the ground. Who will monitor the
10 legality and the health conditions of these trailers?
11 Who will insure the sheep industry?

12 Winter rains. And now I'm finally finishing.
13 Thank you for giving me the extra time.

14 Winter rains will wash away all the sheep's
15 summer leftovers. That pollution will flow into the
16 Carrizo Plain watershed. And Army Corps of Engineers, I
17 want to tell you, you ought to know by now, if you
18 looked at it, it all goes to Soda Lake eventually. The
19 pollution will flow into the Carrizo Plain watershed and
20 after polluting everything along the way, will
21 eventually make its way into Soda Lake and the Carrizo
22 Plains National Monument.

23 And I could tell you a lot of stories about
24 sheep, shepherders, sheepdogs, and all that stuff.
25 It's a real negative thing. And by the way, you're

VEG-I
cont'd

1 going to need 18 million sheep -- maybe I said that
2 already -- 18 million sheep to put two per panel.

3 Thank you very much. I appreciate you letting
4 me go over time. Thanks.

5 MS. COLAMARIA: Yafet Tekle.

6 MR. TEKLE: Yeah. Hi. My name is Yafet
7 Tekle. I live over here on five acres.

8 Actually, at last meeting I missed your
9 presentation, but I did e-mail you, DOE, and thank you
10 for sending me the environmental statement about the
11 EIS, and it was very exhaustive, compressive, and I
12 don't know how much from the community was put in that
13 report.

14 I actually -- I need to vent my feeling about
15 the balance of the environmental impact review
16 technology, and that's the kind of detail I want to see
17 in the future. But for the present, just a couple of
18 quick questions and a comment.

19 On this loan guarantee, one of the criteria you
20 want to put to this company, Topaz, or -- and the other
21 companies coming after Topaz, the Environmental Impact
22 Statement.

23 Actually, if that is the main criteria, if
24 there's an urgency to select ecology in the United
25 States, will that be impeding getting along or some

VEG-I
cont'd

OT-I

1 company which is rich in resources, have millions of
2 dollars, or billions of dollars, can override this
3 criteria and develop by their own? I'm not clear about
4 that. If you understand my question.

5 Secondly, because I have a follow-up comment
6 about that.

7 And the second one is the cumulative impacts of
8 the environment here. There's only one company we are
9 discussing right now; Topaz. There's SunPower, and
10 there may be another one coming after that.

11 This is a small area of residents. Very
12 precious fishes live around here. These companies,
13 because of reasons, technology alternatives, in Japan,
14 and the world, as we know, solar is kind of a sexy
15 thing. Everybody's talking about it. But we don't know
16 how much we trust solar.

17 Let me tell you about a couple. There's a
18 gentleman who lived here for about 50 years. There was
19 a company here called ARCO. You probably know them.
20 They were here many years ago. By the time they left,
21 they left so many pallets. They shipped them to China,
22 some of them. Some of them, there were so many of them,
23 they crushed them using a bulldozer.

24 So continuing that, this place is going to be
25 here forever. Companies come and go. Technologies come

OT-I
cont'd

1 and go. So how much can we trust these companies to be
2 protectors of the environment where people live? This
3 only unique place left in Northern California, or, for
4 that matter, maybe in America. I don't know. So that
5 kind of long-term environmental impact, especially
6 during construction, after construction, because we're
7 talking about hundreds of people coming. They working
8 here, carpooling, load, unload, as is now. So many
9 accidents happen all the time, not to mention during the
10 flood time, the rainy time, and weekends, too. There
11 are so many tourists who don't know the area. They come
12 in here. They drive like crazy.

13 So the committee here is concerned about
14 that. They have been venting this. I don't have seen
15 that much input of that in that report. I haven't. I
16 have to admit I haven't read the whole thing, seriously,
17 because it's a huge report.

18 So considering all this, I'd like the next
19 report to be all-inclusive, comprehensive, and followed
20 through.

21 Thank you very much.

22 MS. COLAMARIA: All right. I think that's it.
23 So Mike, you are the last on the list so far.

24 Mike Strobbridge.

25 MIKE STROBRIDGE: My name's Mike Strobbridge,

OT-1
cont'd

TT-2

1 and I appreciate the opportunity to speak this evening.
2 I can appreciate the time taken in preparing the EIS,
3 but, unfortunately, the EIS does not analyze the revised
4 Topaz project, 3B.1. The EIS needs to be rewritten and
5 recirculated to address the proper Topaz project 3B.1.

G-3.1

G-12

6 The DOE needs to perform their own individual
7 analysis of the project and not weigh so heavily on
8 Topaz's EIR which we have found to be flawed in many
9 aspects.

G-10.1

10 The Topaz EIR also does not analyze the
11 revised project 3B.1. The revised project will impact
12 jurisdictional waters which would not have been impacted
13 if Option A or B had been used. These impacts have not
14 been analyzed.

WR-1

15 Also, with regards to the jurisdictional
16 waterways, I personally have jurisdictional waters that
17 flow through the northwest corner of my property which
18 have not been acknowledged, and I have not been
19 consulted by the DOE, the County, First Solar, or the
20 Army Corps.

WR-6

21 Also, my neighbor, Santos Reyes, to the east
22 of my land, also has jurisdictional waterways that flow
23 directly through the center of his property which also
24 have not been acknowledged, and Mr. Reyes also has not
25 been consulted by the applicant or any agencies

1 involved. In fact, when the EIS, Volume I, on page
2 3-85, Figure 3-14, actually shows jurisdictional waters
3 standing at my property line, which is not accurate, and
4 jurisdictional water ending at the northern border of
5 the Reyes property, and again and again, at the south
6 end of the Reyes land, but never shows it on its
7 property. Yet, if you look at the 3B.1 revised project
8 maps provided by Aspen, it shows these drainages running
9 both through my property and the Reyes property.

WR-6
cont'd

10 Another issue is the Westlands alternative
11 site. According to the EIS on page 2-10, the Westlands
12 CREZ is a 30,000 acre area with moderate solar resource
13 potential in Kings and Fresno counties. This is not
14 accurate. According to the County of SLO on page E-37
15 of the EIR, the Westlands CREZ was identified as being a
16 high solar area capable of generating between 5 and 6
17 kilowatt per square meter per day. It was incorporated
18 in the RETI because it consists of disturbed land that
19 is adjacent to existing transmission lines.

G-8.2

20 Furthermore, the report submitted to the
21 California Energy Commission on March 16th, 2010, by
22 Bill Powers, of Powers Engineering: Transmission
23 pathway 15 passes through the Westlands. Path 15 can
24 transmit 5,400 megawatts from south to north. Currently
25 the transmission capacity from north to south is 3,400

1 megawatts.

2 According to this report, 5,000 megawatts of
3 solar power can be developed in Westlands with
4 potentially no expansion of the existing Path 15, high
5 voltage transmission capacity that serves Westlands
6 now.

7 In conclusion, Mr. Powers states that the
8 Westlands Water District is a low impact "shovel ready"
9 alternative site to the two-inch scale solar projects.

G-8.2
cont'd

10 The EIS also claims that the original Topaz
11 site is nonPrime Ag land. This is also inaccurate.
12 According to the letter written to the Board of
13 Supervisors on February 10th, 2010, by the SLO County Ag
14 Department, the majority of the land is prime farmland
15 under California Government Code section 51201. Prime
16 farmland is designated by the California revised story
17 index. The story index is based on soil profile
18 development, surface texture, slope and other soil and
19 landscape conditions and does not consider agriculture
20 infrastructure such as the availability of water.

LU-5

21 The Ag Department goes on to state that a
22 large percentage of the soils located within the Carrizo
23 Plains soil survey area have a story index rating that
24 meets California Government Code section 51201 for prime
25 ag land.

1 Additionally, this area has a long history of
2 production of agriculture despite the lack of available
3 irrigation.

LU-5
cont'd

4 The EIS also assumes that the Carrizo water
5 basin is not in an overdraft state.

6 In the conclusion set forth on applicant's
7 water model, performed by Cleath-Harris, I would like to
8 make it clear that the Carrizo does not have the water
9 supplies to accommodate Topaz.

10 According to the SLO County Master Water Plan
11 update, the Carrizo is currently in an overdraft state
12 and true perennial yields are unknown.

13 This update goes on to state that a complete
14 basin study needs to be performed.

WR-7

15 Also, the Carrizo-Shandon area plan on 3-2
16 states that the Carrizo basin is also currently in an
17 overdraft state.

18 There have been three separate groundwater
19 logs performed; one by URS and Ausra, another by URS and
20 SunPower, and the third by First Solar and Cleath-
21 Harris. All three models come up with drastically
22 different results, thus showing the need for a complete
23 water basin study. Without a complete basin study,
24 we'll never know the true perennial yield of this
25 basin. These companies are hired by the applicants, and

1 the results shown from each individual model are -- seem
2 to be results to satisfy their client.

WR-7
cont'd

3 Also, according to the EIS, the release of
4 Cadmium from First Solar panels is unlikely to happen.
5 I have submitted a report to you tonight performed by an
6 independent source at U.C. Berkeley that shows
7 otherwise, and that the release of Cadmium is a good
8 possibility.

9 Also, according to First Solar's 2008 Security
10 and Exchange Commission filings Form 10K, on pages 18
11 and 19, First Solar states:

12 "While we believe that these factors and
13 procedures are sufficient to protect our associates,
14 end-users, and the general public from adverse health
15 effects that may arise from cadmium exposure, we cannot
16 assure that human or environmental exposure to cadmium
17 or cadmium compounds used in our products will not
18 occur."

PHS-4

19 Furthermore, a study done for the DOE states:

20 "Total regulated waste discharges under 100
21 pounds per year per megawatt throughput was not achieved
22 because an economic recovery pathway for Cadmium was not
23 identified."

24 The report goes on to say:

25 "An economically viable recovery pathway for

1 Cadmium was not achieved and was consciously abandoned
2 because of the low intrinsic value of Cadmium"...

3 In other words, First Solar does not recycle
4 Cadmium from their panels.

5 The only batteries currently -- that use
6 Cadmium are NiCads, and NiCads are currently being
7 phased out. There will be no Cadmium NiCads in 20 to 25
8 years.

PHS-4
cont'd

9 Now, according to a report I read from the
10 National Renewable Energy Laboratory, First Solar is
11 justifying their Cadmium. They're going to battery
12 companies.

13 It's common sense to say that these things
14 aren't going to be there in 25 years. They are already
15 going away.

16 Finally, all federally-protected species need
17 to be fully analyzed and fully mitigated such as the
18 California Condor, Golden Eagle, Bald Eagle, San Joaquin
19 Kit Fox, Swainson's Hawk, Burrowing Owl, Loggerhead
20 Shrike, Giant Kangaroo Rat, Tipton Kangaroo Rat,
21 Nelson's Antelope Squirrel, Blunt-nosed Leopard Lizard,
22 Longhorn Fairy Shrimp, Vernal Pool Fairy Shrimp, Kern
23 Primrose Sphinx Moth.

SS-22

24 Until the Topaz revised project 3B.1 is
25 analyzed, the impacts to these species are largely

1 unknown.

2 Also in the EIR Topaz states that their project
3 is unlikely foraging habitat for the condor. Ausra did
4 the same thing during their proceedings with the
5 California Energy Commission in '07 and '08, and the
6 Biological Department of the Energy Commission didn't
7 entirely agree with that and had ordered Ausra to do a
8 15-mile quadrant study of the California condor within
9 their project site, which was never done, by the way,
10 because about two days before the biological assessment
11 was to be released, First Solar bought them out, and
12 that biological report disappeared.

13 First Solar states in their EIR that the
14 condor only exist sporadically in the western mountain
15 ranges of their project site, which would be the
16 Caliente mountain range, yet in the EIS, there's a map.
17 I'm sorry. I don't have the page number on that one.
18 I'm kind of doing this off the top of my head. There's
19 a map there that shows condor nesting sites, active and
20 inactive nesting sites. There are nine active condor
21 nesting sites north, south, west and east of both
22 SunPower and the Topaz project sites and even more
23 inactive nests.

24 Now, if the Carrizo was not being used as
25 foraging habitat -- let's keep in mind, the main

SS-2
2

1 foraging -- the main thing condors forage for is dead
2 animals. Livestock mainly. Cattle, sheep, goats.
3 Whatever they can find. Usually larger animals. They
4 are a very big bird. They don't forage in the
5 mountains. They forage in the plains and the
6 flatlands.

7 If the Plains is not foraging habitat, then I
8 would kind of like somebody to explain to me why the
9 condors have nesting sites 360 degrees around the
10 perimeter of the Carrizo Plains.

11 Animals usually live within an area of its
12 easiest and best foraging habitat. That applies to any
13 animal. Also, condors forage -- they have a foraging
14 range of 140 miles, so they've got condor nests
15 probably, from what the map looked like, probably within
16 a 20-mile radius around their project site, if not
17 less. So condor foraging in the Plains is active.

18 I know that Ausra has said -- of course, the
19 ranchers that are selling to First Solar, they were
20 selling to Ausra before. They said, oh, they will pick
21 up all of our dead animals. I have pictures that I sent
22 to the Energy Commission and that's what initiated them
23 to do their foraging study of the Plains. I still have
24 them. Honestly, there's a dead cow out there right now,
25 and it's just --

SS-2
cont'd

1 I would just like 3B.1 to be analyzed. And
2 also the residents that live within these project sites,
3 we have been ignored, and we have been intimidated by
4 the companies into keeping our mouths shut about our own
5 land and our homes, because when we do open our mouths,
6 we are attacked as newbies, and if that is the way First
7 Solar does business, that's fairly pathetic. Labeling
8 local residents with a prejudicial attitude such as this
9 is not right and it's wrong.

10 And we have as much rights as the Kangaroo Rat
11 and the Kit Fox also, and we need to be acknowledged.
12 And up to this point, we have not been able to.

13 In fact, our Supervisor Jim Patterson told me
14 that I should move my family into town because these
15 project sites were coming here. That's what I'm getting
16 from my local District 5 representation.

17 I need the DOE to at least stand up and
18 represent us. We are taxpayers. We have been actively
19 involved.

20 I appreciate your time. Thank you.

21 MS. COLAMARIA: Is there anyone else who wants
22 to speak even if you haven't signed up yet?

23 All right. Well, we'll call it for now, but
24 we'll stick around to answer questions.

25 So unless anyone else has anything else to say,

G-11

1 I'll call an end to our formal public comments.

2 Thank you all for coming.

3

4 (Record closed at 7:20 p.m.)

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Appendix RTC-A

Attachments to North County Watch
Comment Letter

CLASS A AND B SOLAR PROJECTS IN DFG REGION 4

Class A and B solar projects in DFG Region 4 March 4, 2011

Project Name	County	Developer	Cap. (MW)	Type	Acres	Federal NEPA Lead Agency	CEQA Lead Agency	CESA / ESA ITP's (spp.)	LSAA (Y,N,?)	Notes re spp., permits status, etc.	CEQA/NEPA status	Class (for solar projects only)*
Bakersfield Fuel and Oil Solar Project	Kern	Bakersfield Fuel and Oil	20	Solar PV	140	NA	City of Shafter	no	no	Active Ag site.	Neg Dec 2/11	A
McFarland Solar Energy Project	Kern	Integrated Resourced Development, LLC	18	Solar PV	100	NA	City of McFarland	NA	NA	SWHA and kit fox documented in area, but active ag land	Neg Dec 8/10	A
Nickles Site	Kern	Fotowatio	?	Solar PV	316	NA	Kern County	N/A	N/A	On Farmland; CDFG visited site with applicant; overall low bio concerns		A
North Star Solar I	Fresno	North Light Power, LLC	60	Solar PV	640	NA	Fresno County	?	?	On ag land and likely will not have significant biological issues - is near Mendota WA	pre-consultation 2/2011	A
Reddy Site (2 parcels)	Kern	Fotowatio	?	Solar PV	446	NA	Kern County	N/A	N/A	On Farmland; CDFG visited site with applicant; BUOW adjacent to site, raptor nest on transmission tower, but overall low bio concerns		A
San Bernard Solar	Kern	enXco	6	Solar PV	43	NA	Kern County	N/A	N/A	Carrot farm, Department requested nesting bird surveys at adjacent trees and raise fence for SJKF movement, but no other bio concerns at this time.	NOP 4/10	A
Scarrone Site	Kern	Fotowatio	?	Solar PV	265	NA	Kern County	N/A	N/A	On Farmland; CDFG visited site with applicant; overall low bio concerns	pre-consultation	A
SR Solis Huron Solar Generation Facility	Fresno	SR Solis, LLC	20	Solar PV	39	NA	City of Huron	NA	N/A	SWHA and SJKF documented in area, but site is active ag	IS/MND 9/10	A
Tehachapi Solar	Kern	Recurrent Energy	20	Solar PV	158	NA	Kern County	NA	NA	irrigated ag	NOP 1/2011	A
Tehachapi Solar II	Kern	Recurrent Energy	20	Solar PV	157	NA	Kern County	NA	NA	irrigated ag	NOP 1/2011	A
VA Outpatient Clinic, Monterey	Monterey	VANEBC	?	Solar PV	?	?	?	N/A	N/A	Most panels will be on roof or car port; one proposed location in open field near multiple CNDDDB records	pre-consultation	A
Vie Del Solar Project (?)	Fresno	Vie-Del Company	?	Solar PV	8	NA	Fresno County	NA	NA	heavily disturbed site surrounded by active ag	pre-consultation	A
Westlands Solar Farm	Fresno	Westlands Solar Farms, LLC	23	Solar PV	91	NA	Fresno County	NA	NA	Active ag, but SWHA, SJKF documented in area	pre-consultation	A
Gestamp Solar Enrio CUP no. 3300	Fresno	Gestamp Solar	26	Solar PV	183	NA	Fresno County	N	N	cotton in a sea of cotton	pre-consultation	A
Gestamp Solar Matson CUP No. 3299	Fresno	Gestamp Solar	26	Solar PV	158	NA	Fresno County	N	N	cotton in a sea of cotton	pre-consultation	A
McHenry Solar Farm	Stanislaus	Solar Star California VII, LLC	25	Solar PV	157	NA	Modesto Irrigation District	N	N	SWHA nest records nearby, likely foraging habitat	NOP 12/10	A
Old River	Kern	Recurrent Energy	25	Solar PV	234	NA	Kern County	?	?	not reviewed yet	NOP 12/21/10	A
PSP 10-027 Alpaugh Atwell Island	Tulare	Element Power	20	Solar PV	160	NA	Tulare County	N	N	irrigated ag, fence includes openings for wildlife	MND 8-10	A
PSP 10-028 Alpaugh Atwell Island	Tulare	Element Power	20	Solar PV	160	NA	Tulare County	N	N	irrigated ag, fence includes openings for wildlife	MND 8-10	A
PSP 10-031 White River	Tulare	Solar Project Solutions	20	Solar PV	180	NA	Tulare County	N	N	irrigated ag, fence includes openings for wildlife	MND 8-10	A
PSP 10-032 White River	Tulare	Solar Project Solutions	18	Solar PV	149	NA	Tulare County	?	?			A

Class A and B solar projects in DFG Region 4 March 4, 2011

Project Name	County	Developer	Cap. (MW)	Type	Acres	Federal NEPA Lead Agency	CEQA Lead Agency	CESA / ESA ITP's (spp.)	LSAA (Y,N,?)	Notes re spp., permits status, etc.	CEQA/NEPA status	Class (for solar projects only)*
PSP 10-045 White River West	Tulare	Element Power	40	Solar PV	320	NA	Tulare County	N	N	irrigated ag, fence includes openings for wildlife	MND 8-10	A
PSP 10-30, 10-29 Alpaugh Solar	Tulare	Solar Project Solutions	70	Solar PV	550.5	NA	Tulare County	N	N	irrigated ag, fence includes openings for wildlife	MND 8-10	A
Vaquero Solar	Kern	?	1	Solar PV	8	NA	Kern County	N	N		county exempted it	A
Cal Solar Pack XI CUP 10-06 EI	Merced	CAL S.P. XI, LLC	10	Solar PV	97	NA	Merced County	N	N		pre-consultation	A
Cal Solar Pack XI CUP 10-17 EI	Merced	CAL S.P. XI, LLC	5	Solar PV	58	NA	Merced County	N	N		pre-consultation	A
Nido-Baird												
CalRenew-1	Fresno	Cleantech America	5	Solar PV	50	NA	City of Mendota	N	N	on farm land	approved	A
CSU Bakersfield Photovoltaic Project	Kern	CSU Bakersfield	1	Solar PV	375	NA	CSU Trustees	N	N	rooftop and parking lot	approved	A
CSU Stanislaus Photovoltaic Project	Stanislaus	CSU Stanislaus	1	Solar PV	?	NA	CSU Trustees	N	N	rooftop and parking lot	approved	A
Monterey Pollution Control Agency Recycled Water facility	Monterey	Clean Energy Systems	1	Solar PV	6	NA	Monterey Regional Water Pollution Control Agency	N	N	project built, serves treatment plant	built	A
Westlands Solar Park	Fresno, Kings	Westlands Holdings, LLC	5,000	Solar PV	30,000	NA	?	?	?	marginal to non-habitat, area not important to recovery of listed spp.	pre-consultation	A
CUP 11-001	Merced	Cenergy Power	3	Solar PV	15	NA	Merced County	N	N	active ag., SWHA foraging habitat loss		A
CUP 11-002	Merced	Cenergy Power	3	Solar PV	15	NA	Merced County	N	N	active ag., SWHA foraging habitat loss		A
GA Solar, CUP 3292	Fresno	GA Solar	22	Solar PV	318	NA	Fresno County	N	N			A
Gestamp Solar CUP 3313 IS 6348	Fresno	Gestamp Solar	14	Solar PV	120	NA	Fresno County	N	N	active ag	pre-consultation	A
Huron	Fresno	PG&E	20	Solar PV	?	NA	CPUC*	N	N	project under 131D so no CEQA by CPUC	pre-consultation	A
Rocket	Kings	SolarReserve LLC/ SolarGenUSA LLC	20	Solar PV	158	NA	City of Avenal	N	N			A
San Bernard	Kern	PG&E	20	Solar PV	?	NA	CPUC*	N	N	project under 131D so no CEQA by CPUC	pre-consultation	A
San Joaquin	Fresno	PG&E	20	Solar PV	?	NA	CPUC*	N	N	project under 131D so no CEQA by CPUC	pre-consultation	A
Schindler 1 and 2	Fresno	PG&E	30	Solar PV	320	NA	CPUC*	N	N	project under 131D so no CEQA by CPUC	pre-consultation	A
Sirius Solar	Kern	Boulevard Associates, LLC	20	Solar PV	160	NA	Kern County	N	N		pre-consultation	A
SR Solis Crown	Tulare	SolarReserve LLC/ SolarGenUSA LLC	15	Solar PV	118	NA	Tulare County	N	N			A
Stroud	Fresno	PG&E	20	Solar PV	?	NA	CPUC*	N	N	project under 131D so no CEQA by CPUC	pre-consultation	A
Sun City-Sand Drag	Kings	Avenal Solar Holdings, LLC	39	Solar PV	420	NA	Kings County	N/A	N/A	project approved by County, existing ag, fencing raised 5" above ground for wildlife movement	MND 2/10	A
Whitney Point Solar Pumpjack	Fresno Kern	Whitney Solar LLC ?	40 ?	Solar PV Solar PV	329 480	NA NA	Fresno County Kern County	N N	N N	Adjacent to good occupied habitat for SJV spp., but should be able to avoid take if cooperative. Contacted by bio consultant.	pre-consultation pre-app	A A
Rio Bravo	Kern	?	?	Solar PV	640	NA	Kern County	N	N	irrigated ag, low potential for TKR, SWHA, BUOW. Contacted by bio consultant.	pre-app	A
Wildwood	Kern	?	?	Solar PV	240	NA	Kern County	N	N	Adjacent to good occupied habitat for SJV spp., but should be able to avoid take if cooperative. Contacted by bio consultant.	pre-app	A
Angiola	Tulare	DTE Energy	20	Solar PV	160	NA	Tulare County	?	no	CNDDDB documents TKR on site.	pre-consultation	B

Class A and B solar projects in DFG Region 4 March 4, 2011

Project Name	County	Developer	Cap. (MW)	Type	Acres	Federal NEPA Lead Agency	CEQA Lead Agency	CESA / ESA ITP's (spp.)	LSAA (Y,N,?)	Notes re spp., permits status, etc.	CEQA/NEPA status	Class (for solar projects only)*
Beltran	Stanislaus	Scatech Solar	50	Solar PV	384	NA	Stanislaus County	no	no	Scatech staff person assigned to this project took a new position at another company. He said someone would contact us. Potential SJKF corridor concerns.	IS/MND in prep	B
Cal S.P. IV, LLC 20 MW PV Electrical Generation Facility Cantil	Tulare	Cal S.P. IV, LLC	20	Solar PV	215	NA	Tulare County	N	N	Currently active ag; crop is "hay;" SWHA, BUOW, SJKF documented in area	pre-consultation	B
	Kern	Nautilus Solar	9	Solar PV	77	NA	Kern County	?	?	MGS & DETO surveys negative, but reports not submitted	NOP 6/10	B
Columbia	Kern	Recurrent Energy	20	Solar PV	165	NA	Kern County	?	?	potential for DT, MGS	NOP 1/2011	B
Columbia II	Kern	Recurrent Energy	20	Solar PV	155	NA	Kern County	?	?	potential for DT, MGS	NOP 1/2011	B
Columbia III	Kern	Recurrent Energy	10	Solar PV	80	NA	Kern County	?	?	potential for DT, MGS	NOP 1/2011	B
Copper Moutain	Stanislaus	World International, LLC	13	Solar PV	124	NA	Stanislaus County	?	yes	reported GOEA and pond turtles on site	pre-consultation	B
Elk Hills Solar	Kern	enXco	7	Solar PV	67	NA	Kern County	Unknown	N/A	At south end of Buena Vista Valley - potential SWHA nest documented near project, CEQA	NOP 4/10	B
Eurus Energy - Lemoore	Kings	Eurus Energy	?	Solar PV	?	NA	Kings County	Unknown	unk	Adjacent to MBHCP land, potential TKR, SJKF,	NOP 4/10	B
Goose Lake Solar	Kern	enXco	15	Solar PV	158	NA	Kern County	Unknown	N/A	potential for DT, MGS	NOP 1/2011	B
Great Lakes 40	Kern	Recurrent Energy	5	Solar PV	40	NA	Kern County	?	?		NOP 1/2011	B
Henrietta Solar	Kings	GWF Power	125	Solar PV	957	NA	Kings County	N/A	N/A	BUOW on edge of property; SWHA ~ 1-2 mile from site	IS/MND 10/2010	B
Leo Solar	Merced	Fotowatio	170	Solar PV	1,009	NA	Merced	?	?	known through FWS letter, no applicant contact w/ DFG		B
Lost Hills Solar	Kern	First Solar	32.5	Solar PV	307	NA	Kern County	?	N/A	potential SJKF, BUOW, BNLL, SJAS all documented nearby; consultant said site completely disked; may seek ITP for O & M - undecided;	DEIR 7/10	B
Mojave Solar I Monte Vista	Kern	Fotowatio	20	Solar PV	?	NA	Kern County	?	NA	potential for MGS, DT		B
	Kern	First Solar	126	Solar PV	1,040	NA	Kern County	Unknown need - no app yet	Unknown need - no app yet	Haven't heard from applicant. potential DETO, MGS, BUOW, SWHA? Desert washes also described on project site - SAA and ITP may be recommended but no bio report yet.	NOP 4/10	B
Rio Grande	Kern	Recurrent Energy	5	Solar PV	46	NA	Kern County	?	?	potential for MGS, DT	NOP 1/2011	B
Rosamond 1	Kern	Recurrent Energy	20	Solar PV	160	NA	Kern County	?	?	potential for MGS, DT	NOP 1/2011	B
Rosamond 2	Kern	Recurrent Energy	20	Solar PV	160	NA	Kern County	?	?	potential for MGS, DT	NOP 1/2011	B
Site 1	Kern	Solar Electric Solutions	TBD	Solar PV	50	NA	City of Taft?	?	?	Based on aerial, some disturabance but appears to be good potential habitat.		B
Site 2	Kern	Solar Electric Solutions	TBD	Solar PV	155	NA	City of Taft?	?	?	This site may have been used as past mitigation. BUOW, SJKF, SJAS likely; some disturbance but good potential habitat		B
Smyrna Solar	Kern	enXco	20	Solar PV	176	NA	Kern County	Unknown need - no app yet	Unknown need - no app yet	Adjacent or near to MBHCP lands. Potential SJKF, BNLL, SJAS, BUOW, TKR, plants. LSA hired McCormick Biological to develop species surveys.	NOP 4/10	B
South Kern Solar	Kern	Valos Solar Ventures, LLC		Solar PV	165	NA	?	?	?	Email with site location and phone conversation only info to date, unknown impacts		B

Class A and B solar projects in DFG Region 4 March 4, 2011

Project Name	County	Developer	Cap. (MW)	Type	Acres	Federal NEPA Lead Agency	CEQA Lead Agency	CESA / ESA ITP's (spp.)	LSAA (Y,N,?)	Notes re spp., permits status, etc.	CEQA/NEPA status	Class (for solar projects only)*
Avenal Park- Anderson Conditional Use Permit	Kings	Eurus Energy	9	Solar PV	86	NA	Kings County	N	N	reconductoring in Kettleman Hills	MND done	B
Corcoran Irrigation District Solar Generation Facilities Project (CUP 10-04 and 10-05)	Kings	Corcoran Irrigation District	40	Solar PV	320	NA	Kings County	N	N	tilled and irrigated grazing land, bordered by large recharge reservoirs	draft MND 4/29/10	B
Fink Road Solar Farm	Stanislaus	JKB Development	100	Solar PV	800	NA	Stanislaus County	N	?	Footprint is orchard and cropland. Low potential for kit fox in this area. Fencing on only two sides and would be elevated for wildlife passage. Potential for BUOW, badgers, spadefoot toad upland habitat (tilled though).	MND circ 12/1/10	B
Grangeville	Kings	Recurrent Energy	20	Solar PV	200	NA	Kings County	N	N	SWHA nest records nearby, likely foraging habitat	pre-consultation	B
Kansas	Kings	Recurrent Energy	20	Solar PV	170	NA	Kings County	N	N	SWHA nest records nearby, likely foraging habitat	pre-consultation	B
Kansas South	Kings	Recurrent Energy	20	Solar PV	200	NA	Kings County	N	N	SWHA nest records nearby, likely foraging habitat	pre-consultation	B
Maricopa Sun Solar Complex	Kern	Maricopa Sun, LLC	700	Solar PV	9,027	NA	Kern County	SJKF, TKR, SJAS	N	no DFG applications yet; impacts are mostly during operation--footprint is poor or non-habitat for these spp. Should be easily mitigated through project design, enhancement on applicant-owned lands, and O&M procedures.	DEIR 11/30/10	B
Antelope Valley Solar Project	Kern	Renewable Resource Group	650	Solar PV	5,698	NA	Kern County	no	no	SWHA foraging habitat near known nests	NOP 4/10	B
Champagne Solar	Kern	Iberdrola	?	Solar PV	?	NA	Kern County	N	N	in ag, 1.3 miles from SWHA nest		B
High Desert Solar	Kern	Element Power	?	Solar PV	?	?	?	?	?			B
Rosamond Solar Array	Kern	First Solar	155	Solar PV	1,177	NA	Kern County	N	N	SWHA foraging habitat	NOP 4/10	B
Rosamond Solar Project	Kern	SGS Antelope Valley	200	Solar PV	960	NA	Kern County	N	N	SWHA foraging habitat	DEIR 7/10	B
SinarPower	Kern	SinarPower, Inc.	4	Solar PV	18	NA	Kern County	Y	Y	DT, MGS, Bako Cactus		B
SR Solis Firebaugh	Fresno	SolarReserve LLC/ SolarGenUSA LLC	5	Solar PV	52	NA	City of Firebaugh	N	Y		MND 6/10	B
SR Solis Ora Loma	Fresno	SolarReserve LLC/ SolarGenUSA LLC	19	Solar PV	?	NA	Fresno County	N	N			B
SR Solis Ora Loma Teresina	Fresno	SolarReserve LLC/ SolarGenUSA LLC	19	Solar PV	?	NA	Fresno County	N	N			B
SR Solis Terra Bella	Tulare	SolarReserve LLC/ SolarGenUSA LLC	40	Solar PV	128	NA	Tulare County	?	?			B
SR Solis Vestal Almond	Tulare	SolarReserve LLC/ SolarGenUSA LLC	18	Solar PV	141	NA	Tulare County	N	N			B
SR Solis Vestal Fireman	Tulare	SolarReserve LLC/ SolarGenUSA LLC	19	Solar PV	160	NA	Tulare County	N	?			B
SR Solis Vestal Herder	Tulare	SolarReserve LLC/ SolarGenUSA LLC	40	Solar PV	309	NA	Tulare County	N	N			B
SunSeeker Solar	Kern	NextEra	?	Solar PV	?	NA	?	Y	?	project dead?, SJAS		B

Class A and B solar projects in DFG Region 4 March 4, 2011

Project Name	County	Developer	Cap. (MW)	Type	Acres	Federal NEPA Lead Agency	CEQA Lead Agency	CESA / ESA ITP's (spp.)	LSAA (Y,N,?)	Notes re spp., permits status, etc.	CEQA/NEPA status	Class (for solar projects only)*
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*A: Minimal biological impacts expected, site is highly disturbed and low value habitat, no ITP expected.
 B: Biological impacts may require some compensatory mitigation but the impacts can be mitigated fairly easily; may or may not require an ITP.
 C: Project is in core habitat--poorly sited and would require a substantial compensatory mitigation effort; take of listed species is substantial and likely.

**PG&E's 2008 ELECTRIC TRANSMISSION GRID
EXPANSION PLAN**

PG&E's
2008 Electric Transmission Grid Expansion Plan
San Joaquin Valley and Los Padres

Isaac Read

November 20, 2008

Folsom, CA



Transmission Projects Overview

■ Projects Seeking CAISO Approval

- Camden 70 kV Breaker Installation (May 2009)
- Wilson – Oro Loma 115 kV Line Reconductor (May 2009)
- Cassidy 70 kV Breaker Installation (May 2010)
- Herndon 115 kV Circuit Breaker Replacement (May 2010)
- Sanger – Reedley Area Reinforcement (May 2010)
- Sanger – California Ave. 70 kV to 115 kV Voltage Conversion (May 2010)
- Guernsey – Henrietta 70 kV Line Reconductor (May 2011)
- Herndon 230/115 kV Transformer Installation (May 2011)
- Kern – Old River Line Reconductor (May 2011)
- Midway – Renfro 115 kV Line Reconductor (May 2011)
- Shepherd Substation Interconnection (May 2011)
- West Fresno 115 kV Bus Upgrade (May 2011)
- Caruthers – Kingsburg 70 kV Line Reconductor (May 2012)
- Cressey – Gallo 115 kV Line Installation (May 2012)
- 230 kV Solar Switching Station (May 2010)
- Morro Bay – Midway 230 kV Line Reconductor (May 2011)

San Joaquin Valley Projects Recommended for Submittal into Request Window

Camden 70 kV Breaker Installation

■ Background

- Camden is a distribution substation located in Fresno County and supports the greater Riverdale area.
- Camden Substation is radially served via the Caruthers-Kingsburg 70 kV transmission line.
- The Caruthers-Kingsburg 70 kV Line is comprised of approximately 40 circuit miles (including all tap lines) of various conductor sizes and is constructed mainly on single wood poles

■ Assessment

- Loss of the Caruthers-Kingsburg 70 kV Line (L-1)
 - Radial load at Camden would be dropped

■ Scope

- Install a 70 kV bus with circuit switcher with SCADA, and two 70 kV line circuit breakers with SCADA at Camden Substation

■ Other Alternatives Considered

- Install 70 kV Ring Bus at Camden Substation

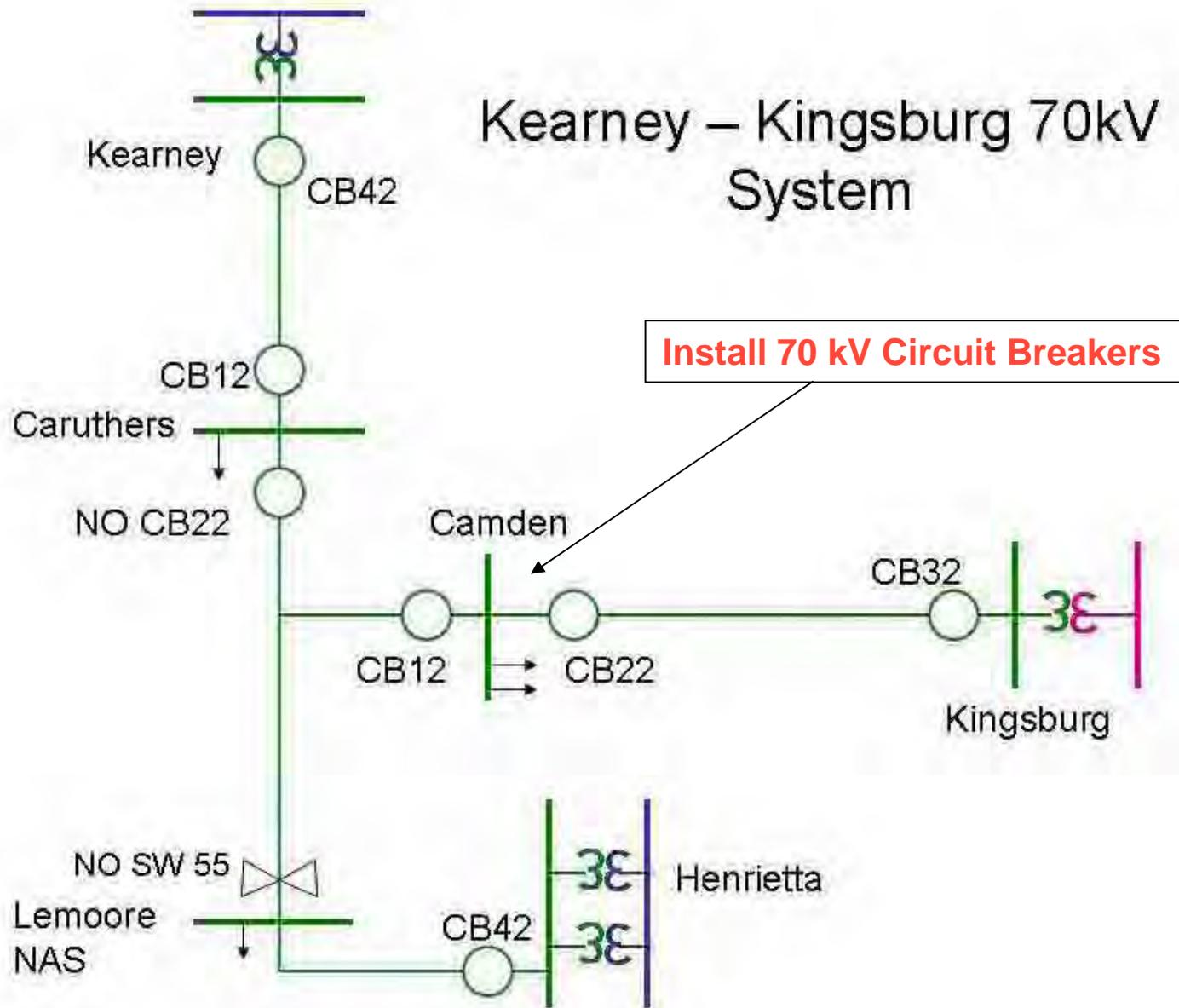
■ In Service Date

- May 2009

■ Cost

- \$2M-\$4M

Kearney – Kingsburg 70kV System



Wilson – Oro Loma 115 kV Line Reconductor

■ Background

- Panoche Energy Center, LLC, plans to install a 401 MW combined cycle generating facility (PEC), near the Company's Panoche Substation In June 2007,
- the Company and the CAISO completed a generation interconnection study for PEC .

■ Assessment

- Wilson – Oro Loma 115 kV Line does not have adequate capacity to allow the reliable full delivery of PEC power to the grid.

■ Work Scope

- Reconductor 5.25 miles of 115 kV line between Wilson Substation (Tower 2/4) and Le Grand Junction (Tower 8/2) with carrying a minimum ampacity rating of 631 Amps.

■ Other Alternatives Considered

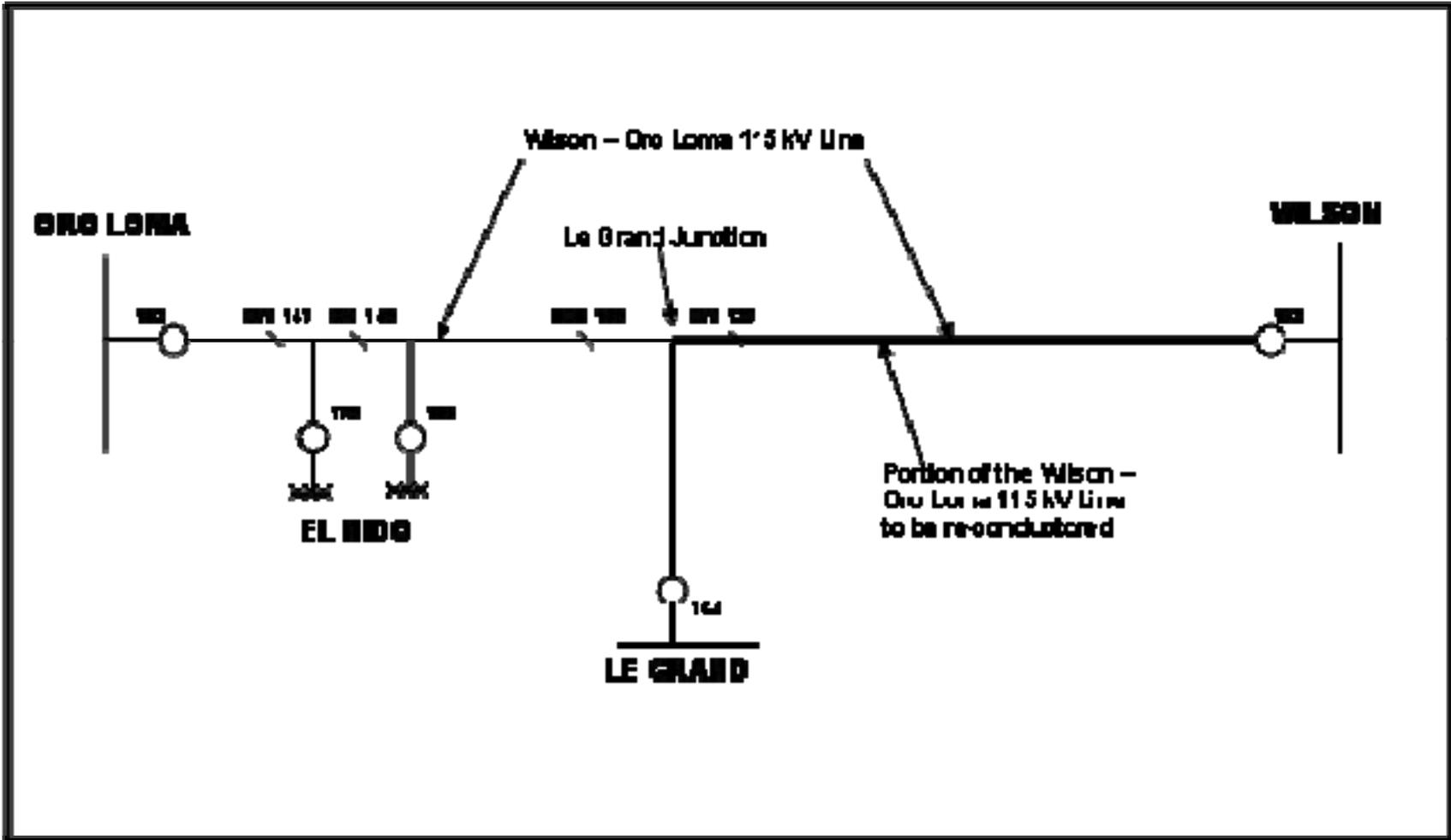
- Install a Special Protection Scheme (SPS) at Herndon Substation

■ Unit Cost Range

- \$2M - \$3M

■ In Service Date

- May 2009



Cassidy 70 kV Breaker Installation

■ Background

- Cassidy is a distribution substation located in Fresno County and supports the greater Northern Fresno area.
- Cassidy Substation is served via a single tap off the Borden-Coppermine 70 kV transmission line.
- A maintenance project has been initiated to upgrade Cassidy Bank No. 1 to a 115x70/21 kV 45 MVA transformer. EDRO for this project is May 2010.

■ Assessment

- Loss of the Borden-Coppermine 70 kV Line (L-1)
 - Load at Cassidy would be dropped

■ Scope

- Install two 70 kV line circuit breakers with SCADA and a UVLS scheme at Cassidy Substation.

■ Other Alternatives Considered

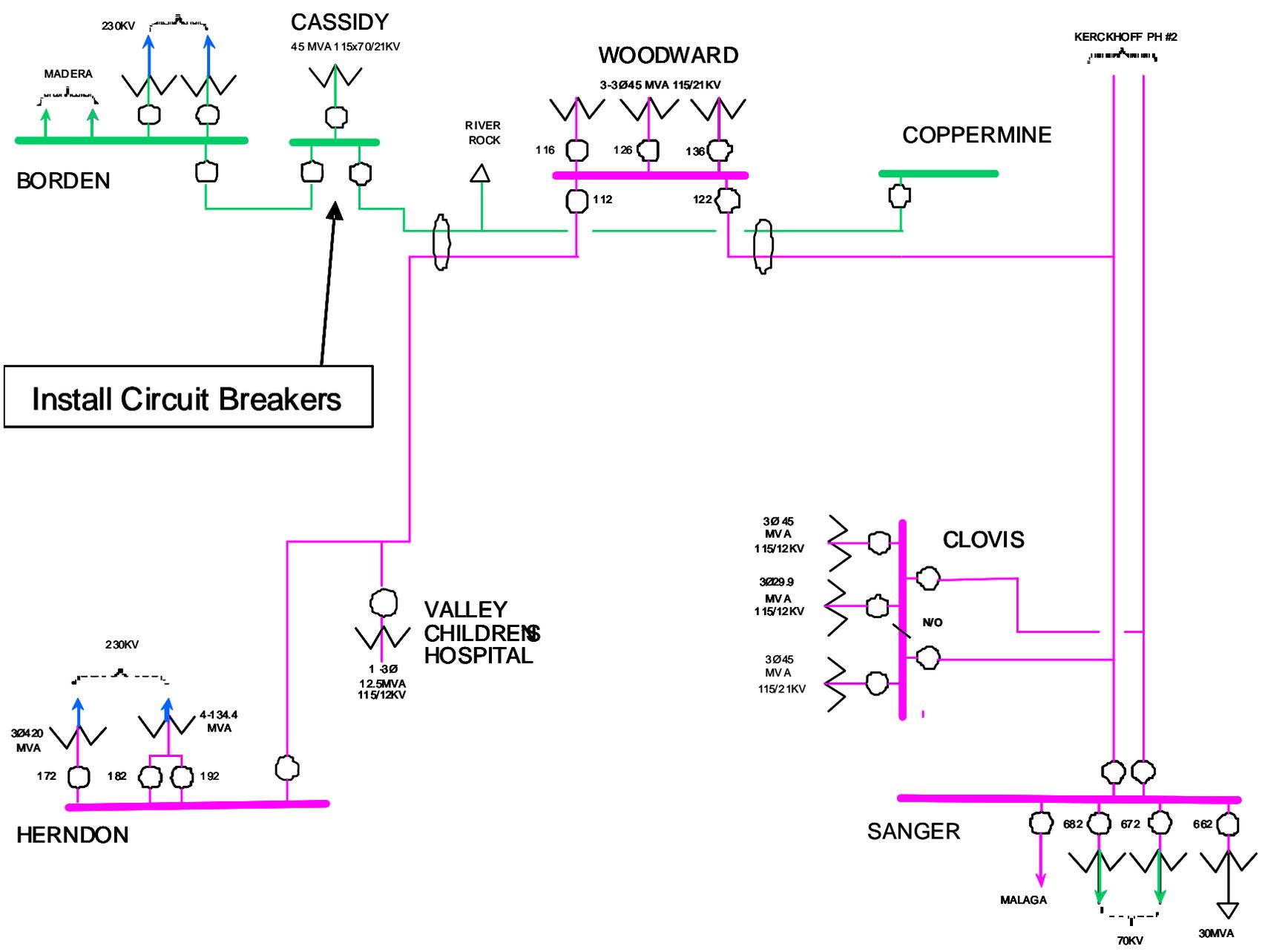
- Install 70 kV ring bus at Cassidy Substation
- Convert Borden-Coppermine 70 kV Line to 115 kV service

■ In Service Date

- May 2010

■ Cost

- \$2M-\$4M



Herndon 115 kV Circuit Breaker Replacement

■ Background

- Herndon Substation is located in Fresno County and serves as the only source to both Pinedale and Bullard substations.
- Herndon-Bullard 115 kV Line Number (No.)1 and No. 2 are currently limited to 1200 amps by Herndon Circuit Breaker (CB) No. 122 and associated switches on both Herndon CB No. 122 and CB No. 112.

■ Assessment

- Loss of either Herndon-Bullard 115 kV Line #1 or #2
 - Overloads the remaining Herndon-Bullard 115 kV Line.

■ Scope

- Replace Herndon 115 kV CB No. 122 and its associated switches rated to 2,000 amps or higher

■ Other Alternatives Considered

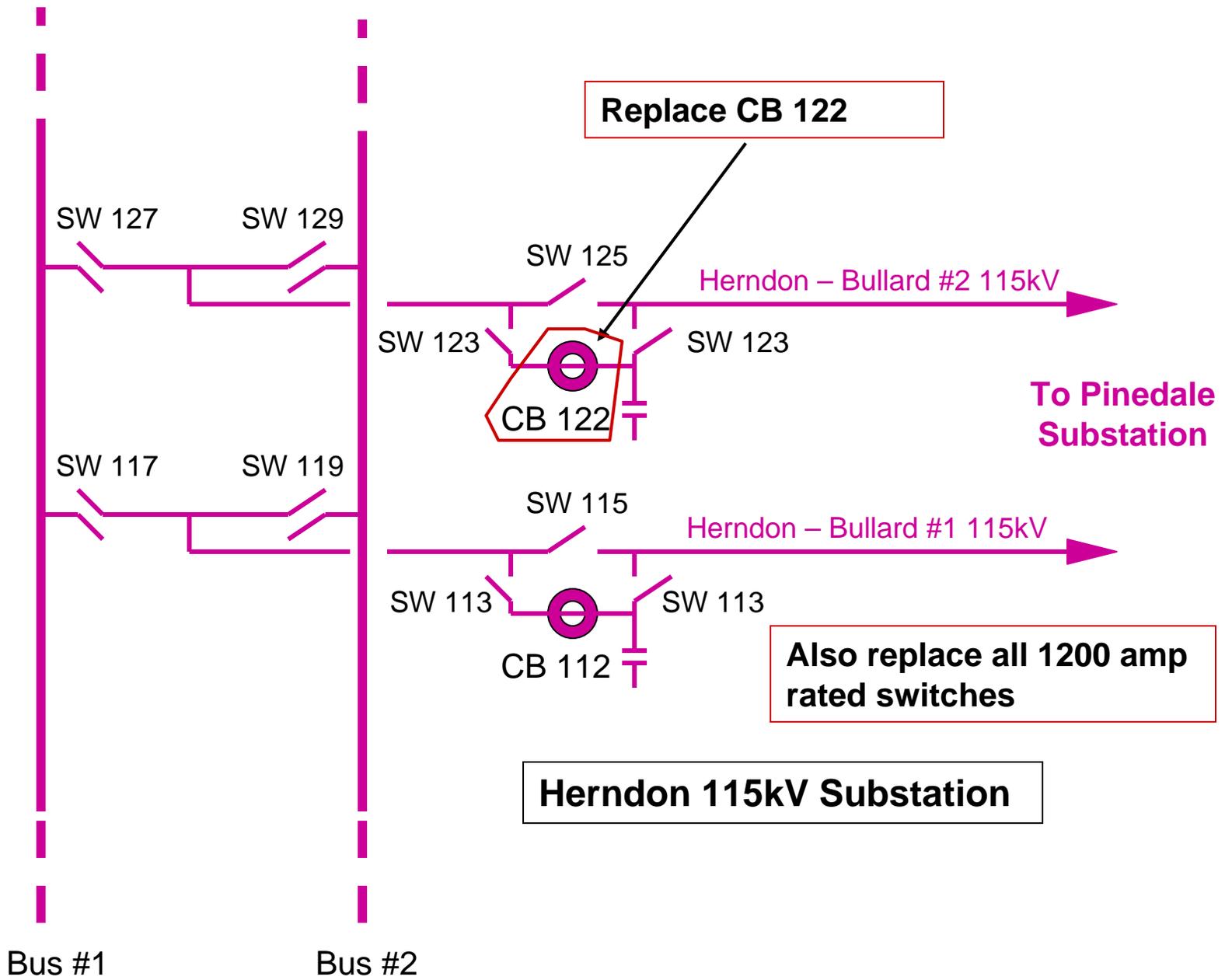
- Status Quo

■ In Service Date

- May 2010

■ Cost

- \$1M - \$3M



Sanger-Reedley Area Reinforcement Project

■ Background

- Reedley 70 kV system is located east of Fresno and is served via McCall Substation on the McCall-Wahtoke 115 kV Line.
- Alternate source is Sanger Substation via Sanger-Reedley 70 kV and Kings River-Sanger-Reedley 115 kV lines.

■ Assessment

- Loss of the McCall-Wahtoke 115 kV Line and Kings River PH or Sanger Cogen offline (L-1/G-1)
 - Overloads Sanger-Reedley 70 kV Line in 2010
 - Overloads Kings River-Sanger-Reedley 115 kV Line in 2013

■ Scope

- Convert Sanger-Reedley 70 kV Line to 115 kV operation, upgrade line with a conductor capable of 900 Amps emergency.
- Convert Parlier Substation and require Sanger Cogen to convert to 115 kV operation.
- Convert Reedley 115 kV bus to BAAH

■ Other Alternatives Considered

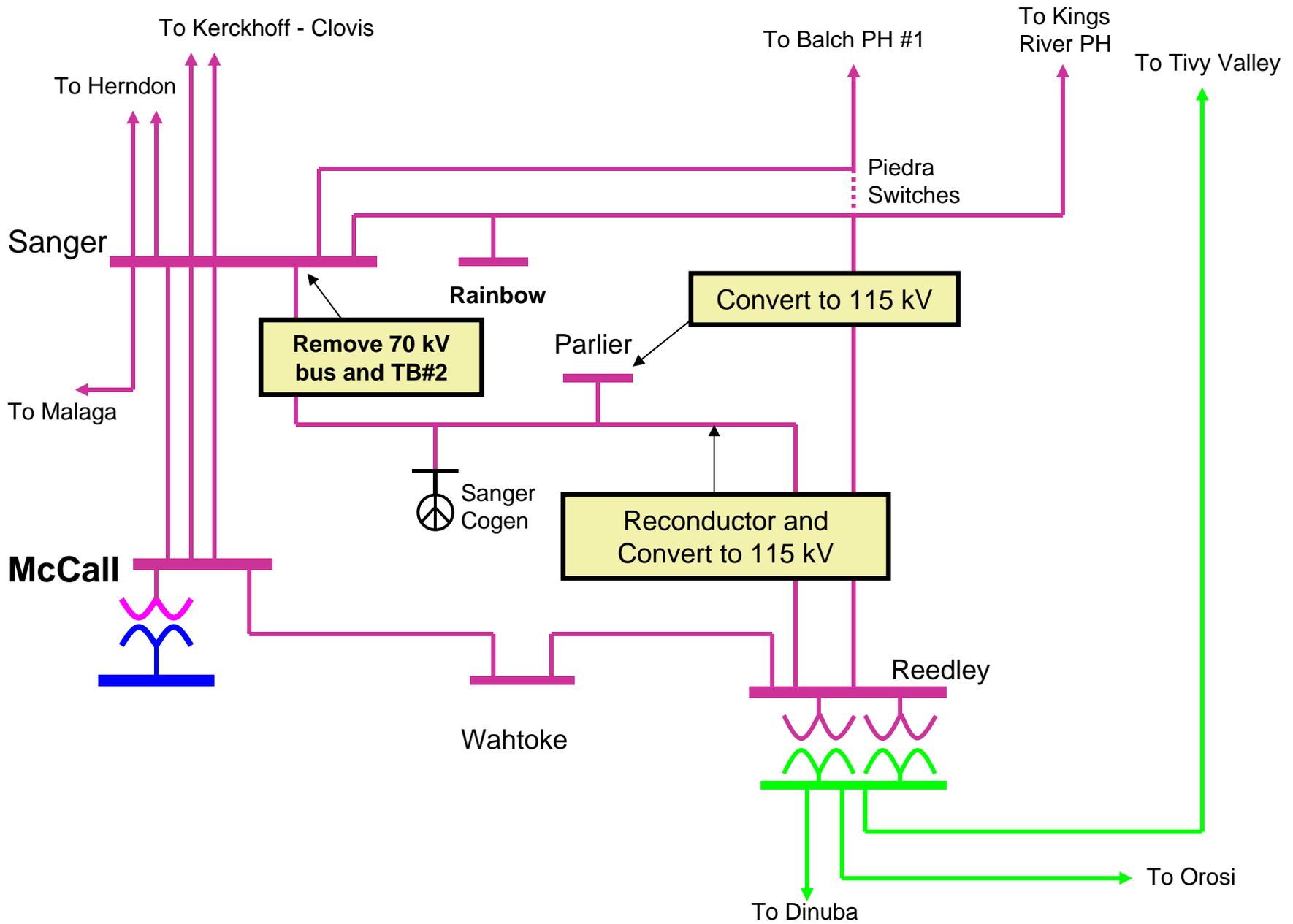
- Reconductor 47 miles of Sanger-Reedley 70 kV and Kings River-Sanger-Reedley 115 kV lines
- New McCall-Reedley 115 kV Line

■ In Service Date

- May 2010

■ Cost

- \$20M - \$25M



Sanger-California Ave 70 kV to 115 kV Conversion

■ Background

- California Ave and West Fresno Substations are located in southwest Fresno.
- McCall Substation serves both West Fresno and California Ave via McCall-West Fresno and California Ave-McCall 115 kV lines. West Fresno-California Ave 115 kV Line connects the two substations.

■ Assessment

- Loss of either McCall-West Fresno or California Ave-McCall 115 kV lines (L-1)
 - Low Voltage conditions on West Fresno and California Ave 115 kV buses
 - Overloads California Ave-McCall 115 kV Line in 2018

■ Scope

- Convert idle Sanger-California Ave 70 kV Line #2 to 115 kV operation. Upgrade line with conductor capable of 900 Amps emergency rating.

■ Other Alternatives Considered

- Install 75 MVAr of shunt capacitors at either West Fresno or California Ave

■ In Service Date

- May 2010

■ Cost

- \$5M - \$10M

West Fresno

California Ave.

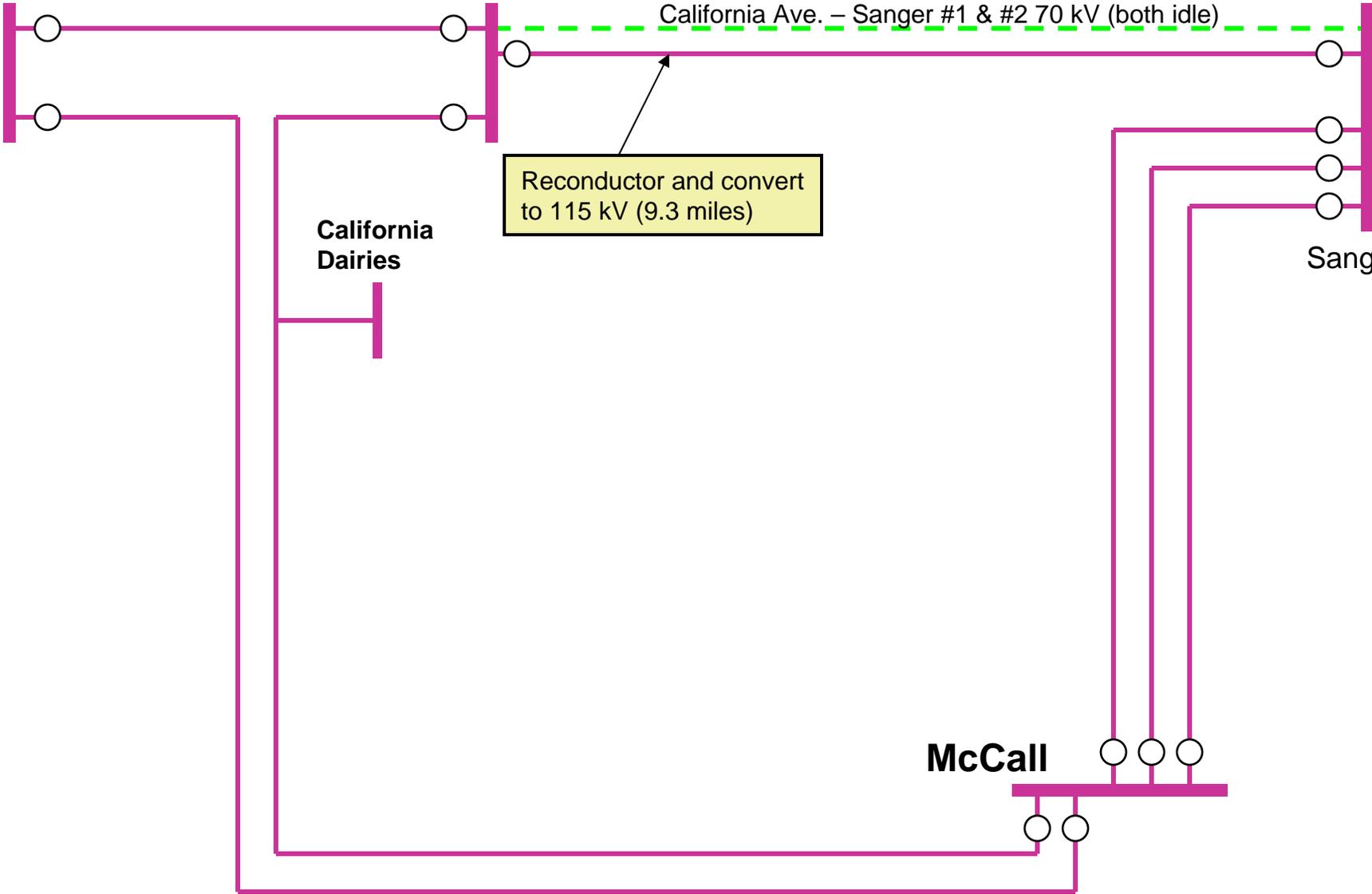
California Ave. – Sanger #1 & #2 70 kV (both idle)

Reconductor and convert to 115 kV (9.3 miles)

California Dairies

Sanger

McCall



Guernsey-Henrietta 70 kV Line Reconductoring

■ Background

- Guernsey-Henrietta 70 kV Line is located in Kings County and radially serves Jacobs Corner, Guernsey, and Reserve Oil substations and GWF Hanford generation.
- Henrietta to Jacobs Corner section of line re-rated to 4 fps wind speed in 2004.

■ Assessment

- Loss of GWF Hanford (G-1) overloads a three mile line section between Henrietta and Jacobs Corner substation.

■ Work Scope

- Reconductor three mile limiting section of Guernsey-Henrietta 70 kV Line with a conductor capable of 975 Amps emergency.

■ Other Alternatives Considered

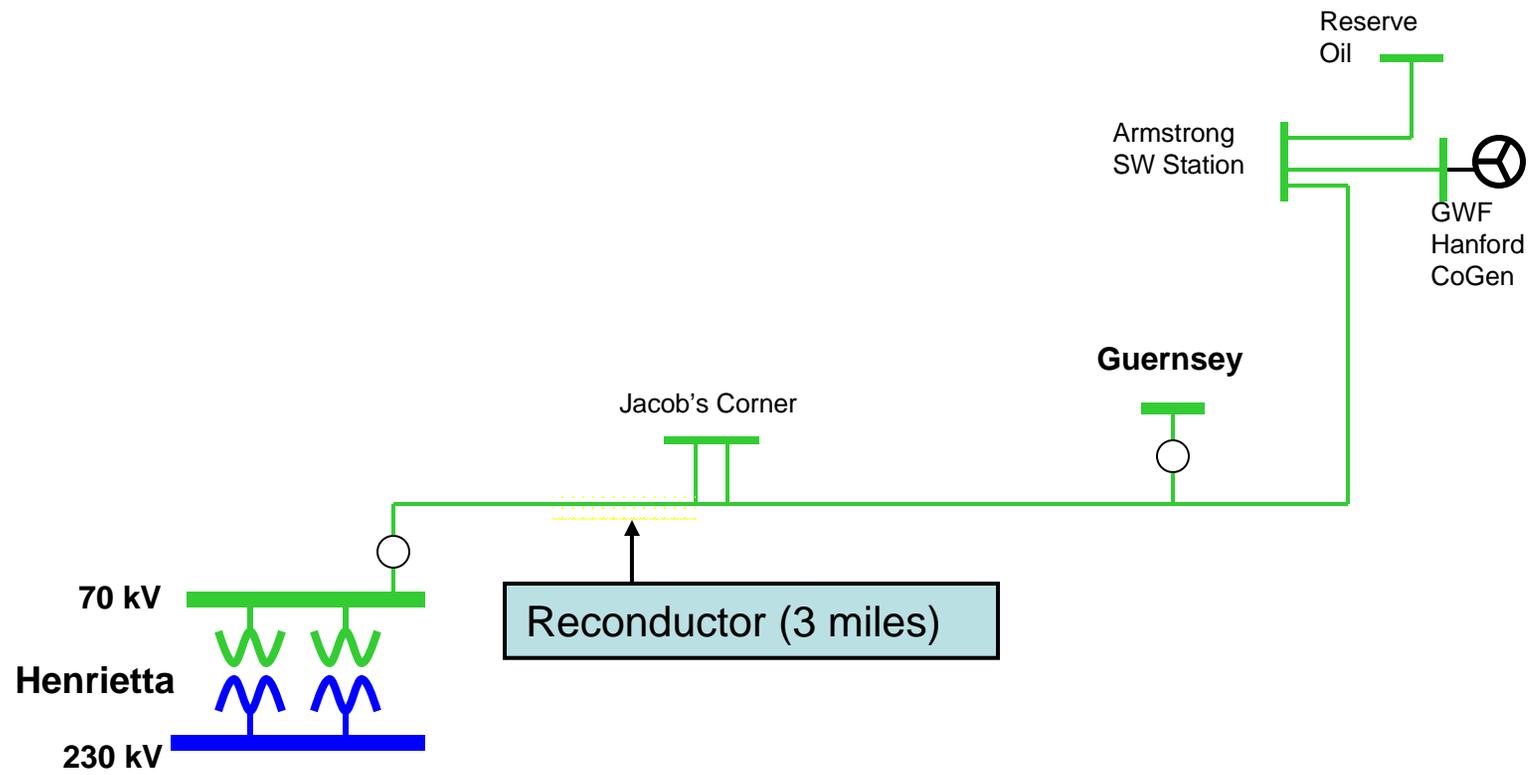
- Build new 70 kV line from Henrietta to Jacobs Corner Substation

■ In Service Date

- May 2011

■ Cost

- \$1M - \$5M



Herndon 230/115 kV Transformer Installation

■ Background

- Herndon Substation is located in Fresno County and serves over 100,000 electric customers in the Fresno metropolitan area.
- The total peak demand for this area is expected to grow at a rate of just under 3.0% per year
- There are currently two 420 MVA 230/115 kV Transformers at Herndon Substation

■ Assessment

- Loss of either Herndon 230/115 kV Transformer No. 1 or 2 (T-1)
 - Overloads parallel Herndon 230/115 kV transformer by 2013

■ Scope

- Install a third 420 MVA 230/115 kV Transformer Bank at Herndon
- Expand 230 and 115 kV buses for necessary terminals

■ Other Alternatives Considered

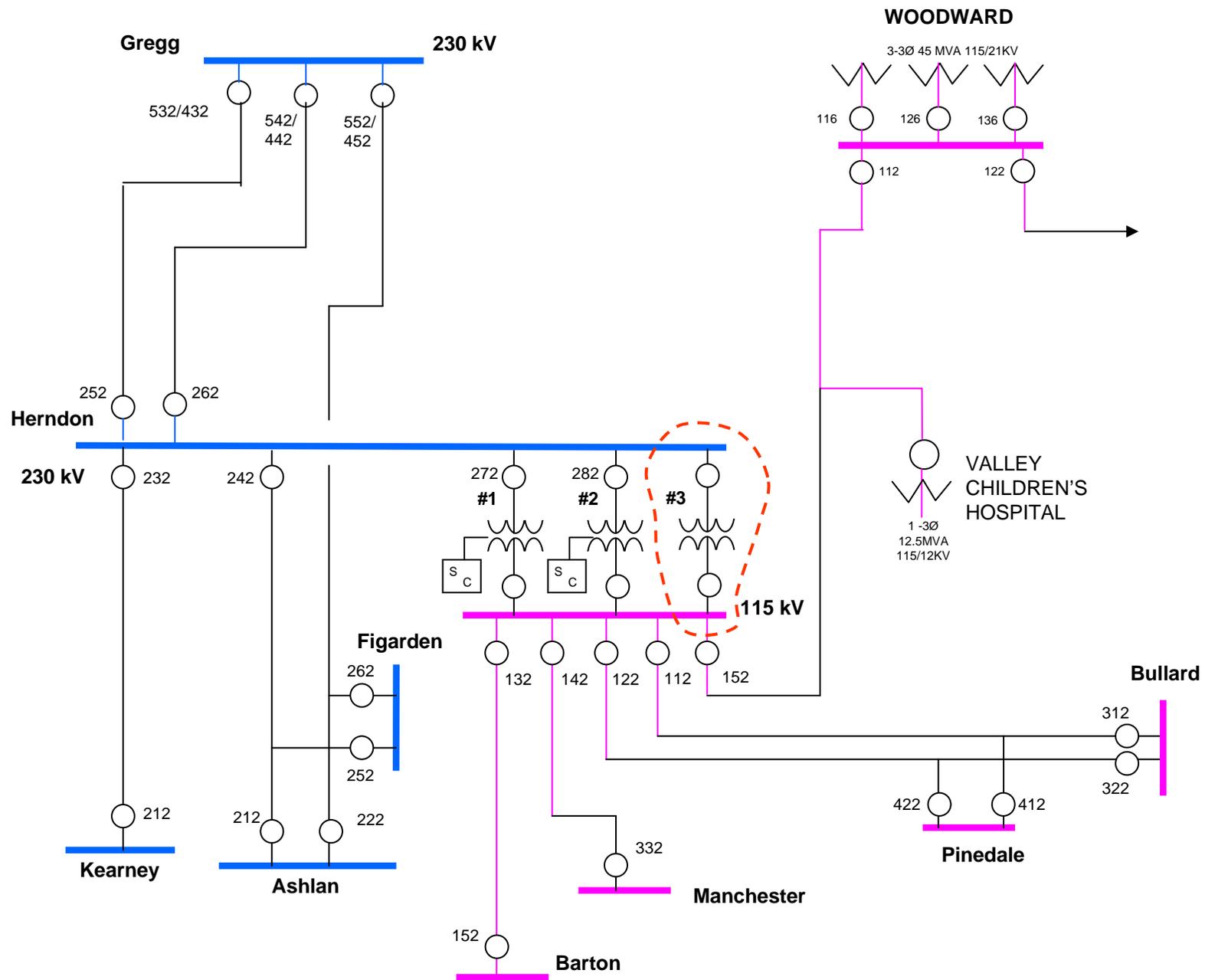
- Status Quo

■ In Service Date

- May 2011

■ Cost

- \$10M - \$15M



Kern-Old River 70 kV Line Reconductor

■ Background

- Kern Power Plant provides power to Panama and Old river substations via the Kern-Old River Nos.1 and 2 lines.

■ Assessment

- Loss of either Kern-Old River No. 1 or 2 line
 - Overloads parallel line
 - Voltage concerns during either outage at Panama and Old River substations

■ Scope

- Reconductor approximately 35 miles of the Kern-Old River 70 kV Nos. 1 and 2 lines with a conductor capable of carrying a minimum of 975 Amps emergency

■ Other Alternatives Considered

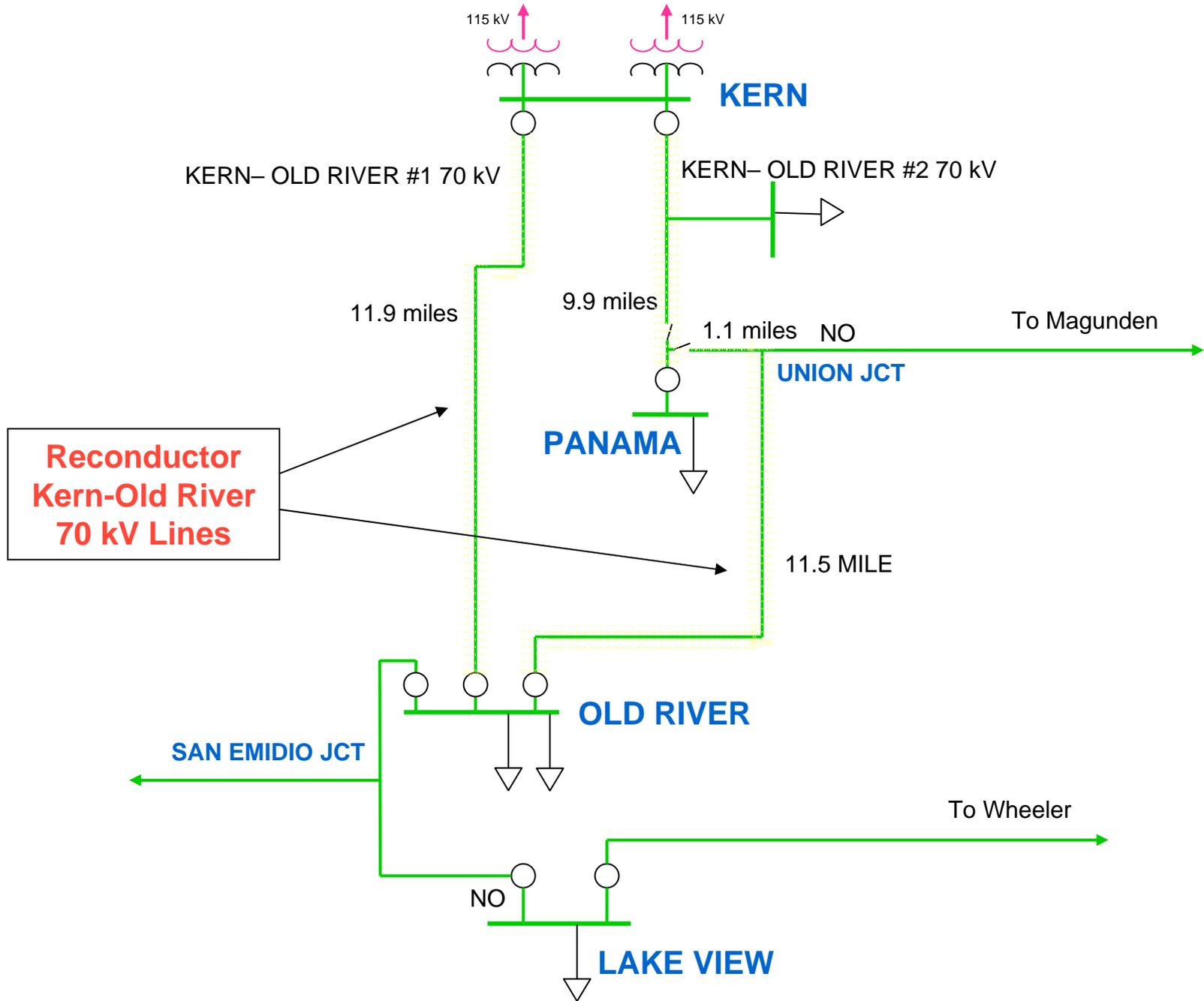
- Status Quo

■ In Service Date

- May 2011

■ Cost

- \$20M - \$25M



Midway-Renfro 115 kV Line Reconductoring

■ Background

- Midway-Renfro and Midway-Rio Bravo-Renfro 115 kV double circuit tower lines are located in Kern County.
- Significant load additions are anticipated in this area based on the large number of Agricultural Internal Combustion Engine Conversion (AG-ICE) electric service applications, and a new large load interconnection customer.

■ Assessment

- Loss of Midway-Renfro 115 kV Line (L-1)
 - Overloads Midway-Rio Bravo-Renfro 115 kV Line

■ Scope

- Reconductor the Midway-Renfro 115 kV Line (16 miles) and the Midway-Rio Bravo-Renfro 115 kV Line (16 miles) with a minimum current carrying capacity of 1,525 Amps emergency.

■ Other Alternatives Considered

- None

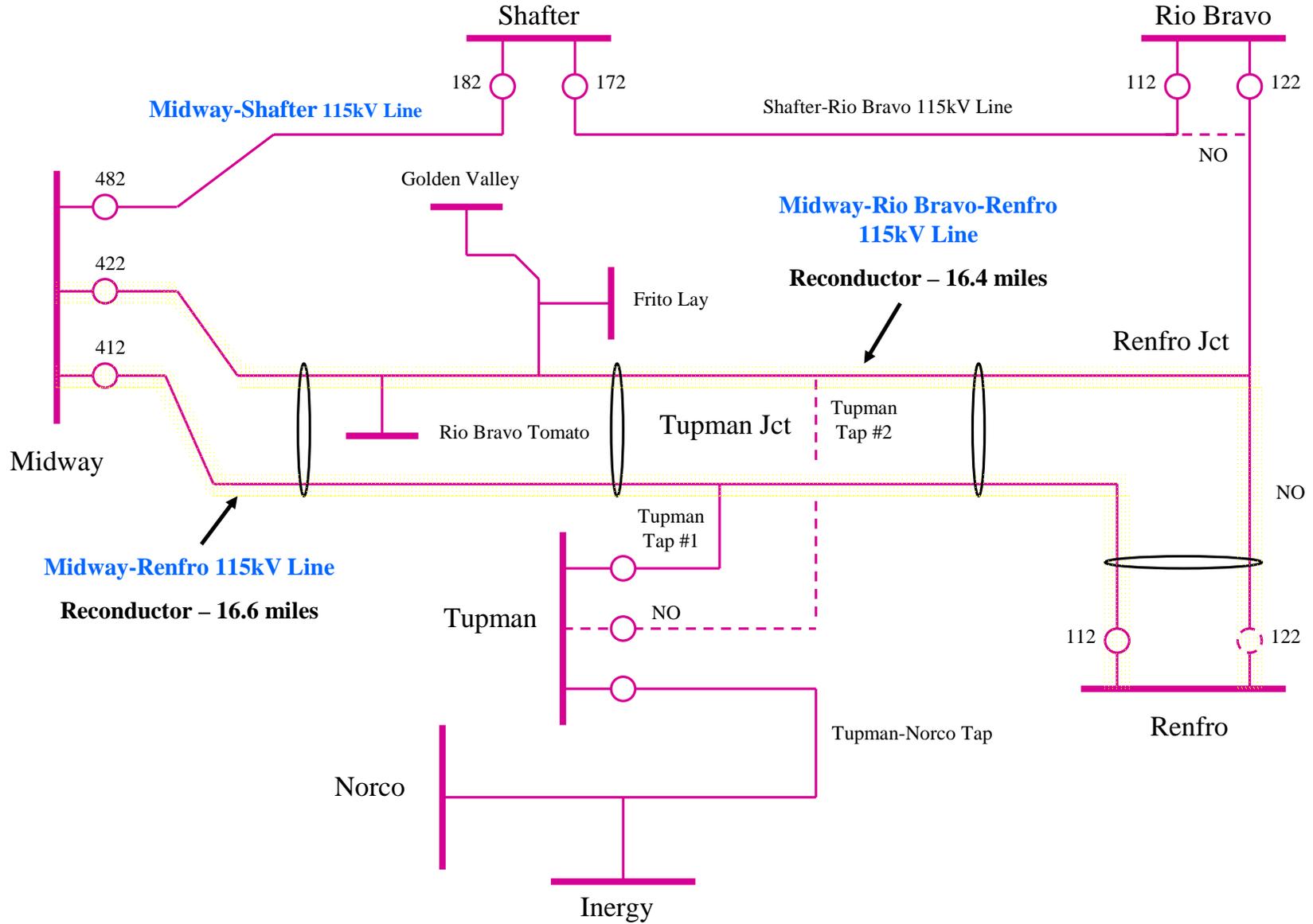
■ In Service Date

- May 2011

■ Cost

- \$15M - \$20M

Post-Project Scope Diagram



Shepherd Substation Interconnection

■ Background

- PG&E is proposing to construct a new distribution substation (Shepherd Substation) to serve electric customers in Fresno County
- This substation will be designed to serve up to 45 MVA of load.

■ Assessment

- Loss of Herndon-Woodward 115 kV Line overlapped with Kerckhoff Generator Offline (L-1/G-1)
 - Voltage concerns at Shepherd and Woodward substations

■ Scope

- Loop Shepherd Substation into the Kerckhoff-Clovis-Sanger #1 115 kV Line, between Woodward and Woodward Jct with a new 2 mile long DCTL with a minimum current carrying capacity of 1,360 Amps emergency
- Install 50 MVAr of shunt capacitors at Shepherd Substation

■ Other Alternatives Considered

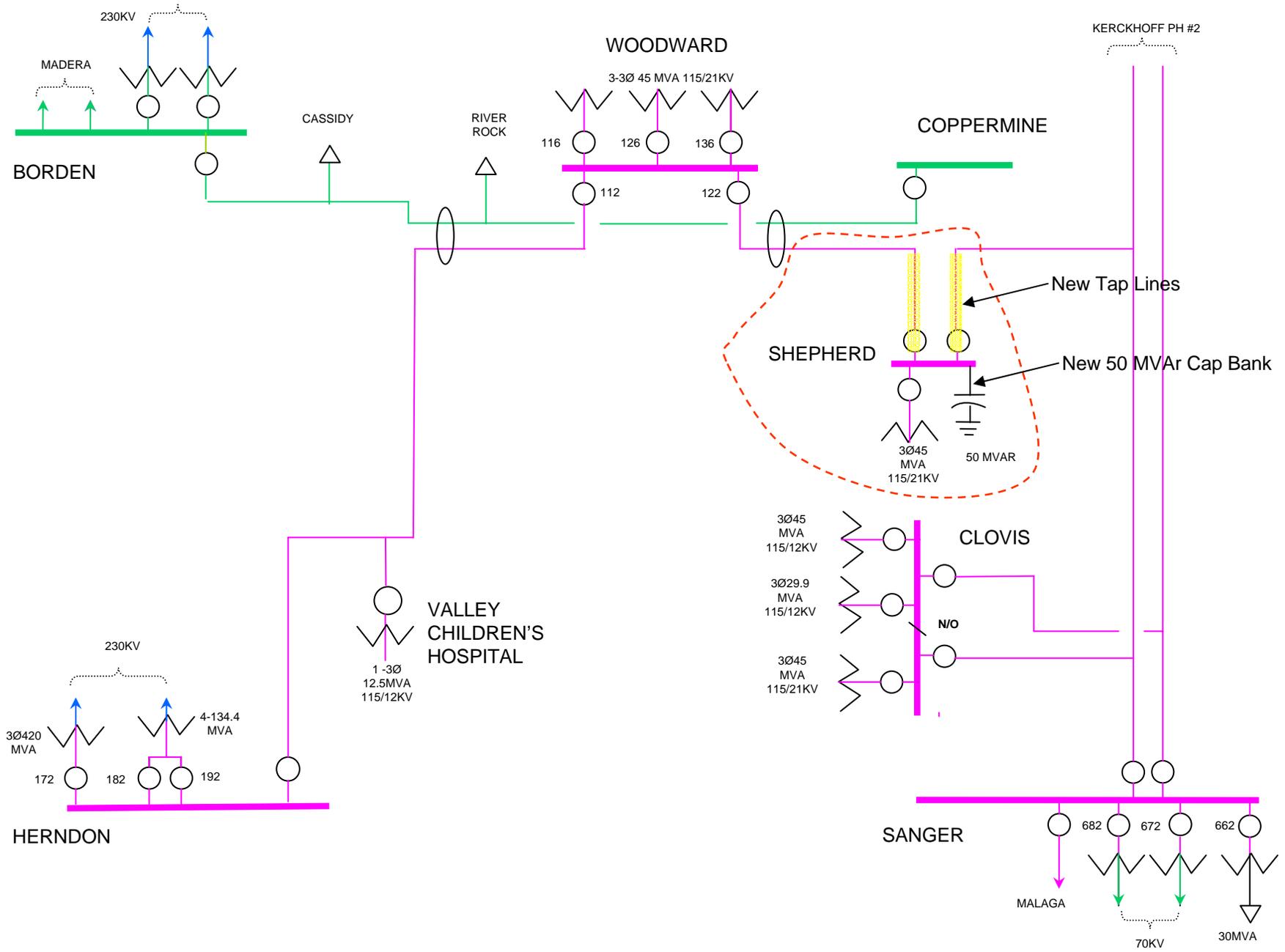
- Status Quo
- Connect Shepherd Substation via Flip-Flop scheme

■ In Service Date

- May 2011

■ Cost

- \$8M - \$10M



MADERA

230KV

BORDEN

CASSIDY

RIVER ROCK

WOODWARD

3-3Ø 45 MVA 115/21KV

116 126 136

112 122

COPPERMINE

KERCKHOFF PH #2

New Tap Lines

New 50 MVAr Cap Bank

SHEPHERD

3Ø45 MVA 115/21KV

50 MVAR

VALLEY CHILDREN'S HOSPITAL



1-3Ø 12.5MVA 115/12KV

3Ø45 MVA 115/12KV

3Ø29.9 MVA 115/12KV

3Ø45 MVA 115/21KV

CLOVIS

N/O

230KV

3Ø420 MVA

4-134.4 MVA

HERNDON

172 182 192

SANGER

MALAGA

682 672 662

70KV

30MVA

West Fresno 115 kV Bus Upgrade

■ Background

- West Fresno is a distribution substation located in Fresno County and supports the greater West Fresno area.
- West Fresno Substation is served via the West Fresno-California Ave. and McCall-West Fresno No. 2 kV transmission lines.
- West Fresno utilizes a main/aux 115 kV bus arrangement to interconnect three distribution banks and two transmission lines.

■ Assessment

- Loss of the West Fresno 115 kV main bus or West Fresno distribution transformer
 - Load at West Fresno would be dropped

■ Scope

- Convert the existing Main/Aux bus to a looped configuration at West Fresno Substation

■ Other Alternatives Considered

- Install 115 kV Ring Bus at West Fresno Substation

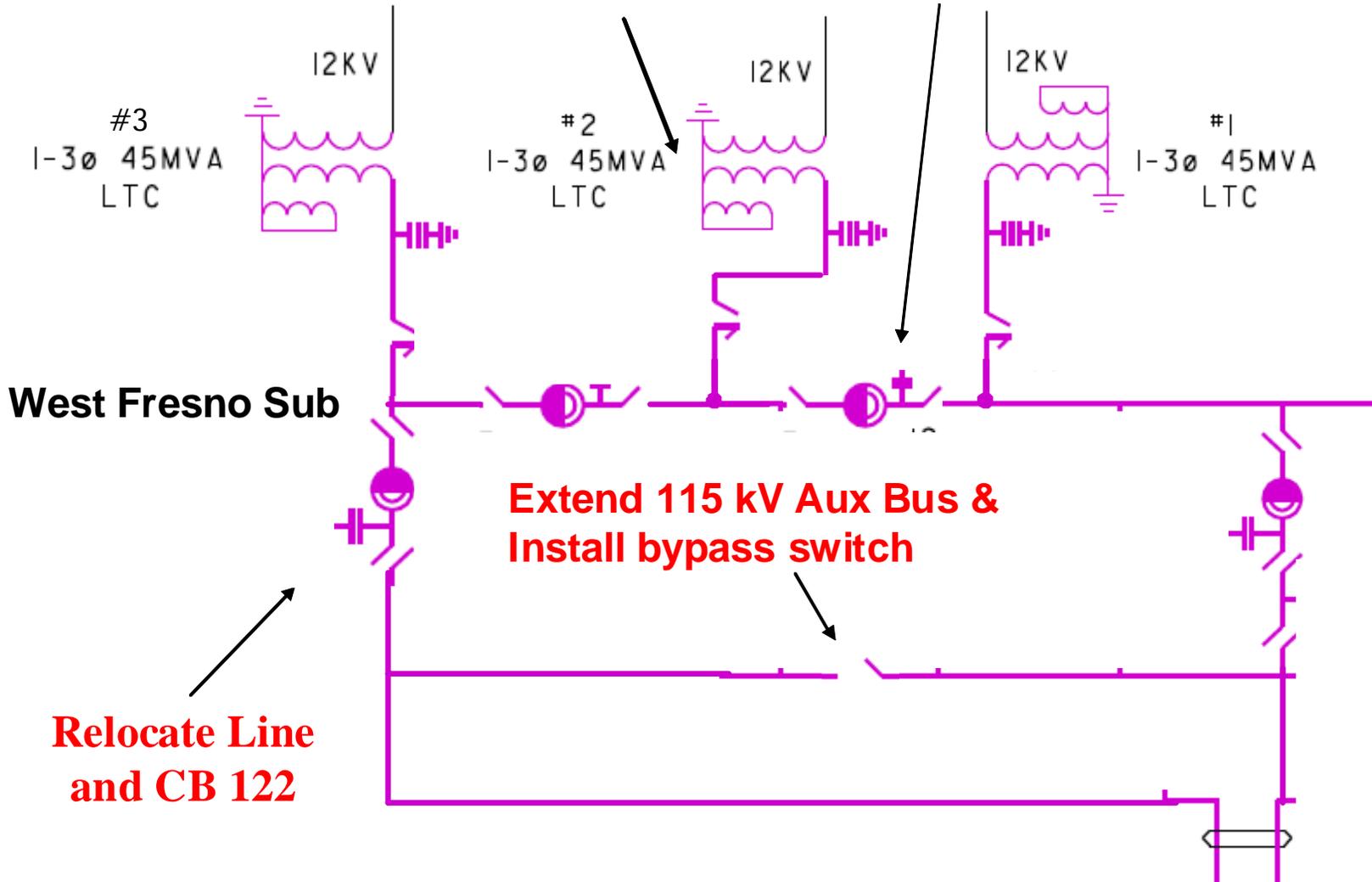
■ In Service Date

- May 2011

■ Cost

- \$3M-\$5M

**Reconnect
Banks 1 & 2 to
Main Bus** **Install Bus
Sectionalizing
Breaker**



West Fresno Sub

**Relocate Line
and CB 122**

**Extend 115 kV Aux Bus &
Install bypass switch**

Caruthers-Kingsburg 70 kV Line Reconductoring

■ Background

- The Caruthers-Kingsburg line is located in Fresno and includes Camden, Caruthers and Lemoore N.A.S. 70 kV distribution substations.
- These loads are set up as radial lines, each substation fed from one source (either Kearney 230 kV, Kingsburg 115 kV, or Henrietta 230 kV).

■ Assessment

- Loss of the Camden-Kingsburg 70 kV Line (L-1)
 - Radial load at Camden would be dropped
 - Overloads Camden Junction-Lemoore N.A.S. when SW 55 closed in to pickup Camden.

■ Scope

- Reconductor the Camden Junction-Lemoore N.A.S., Camden Junction-Camden, Camden Junction-Caruthers (~25 miles) with a conductor capable of carrying a minimum of 975 Amps emergency.
- Build a new, 1.7 mile line capable of carrying 975 Amps emergency, double circuited along the Henrietta-Lemoore N.A.S. 70 kV Line. Tap onto this line nearby the normally open SW 55.

■ Other Alternatives Considered

- Camden-Kingsburg 70 kV reconductor to 1113 Al.
- Kearney-Caruthers 70 kV reconductor to 1113 Al.

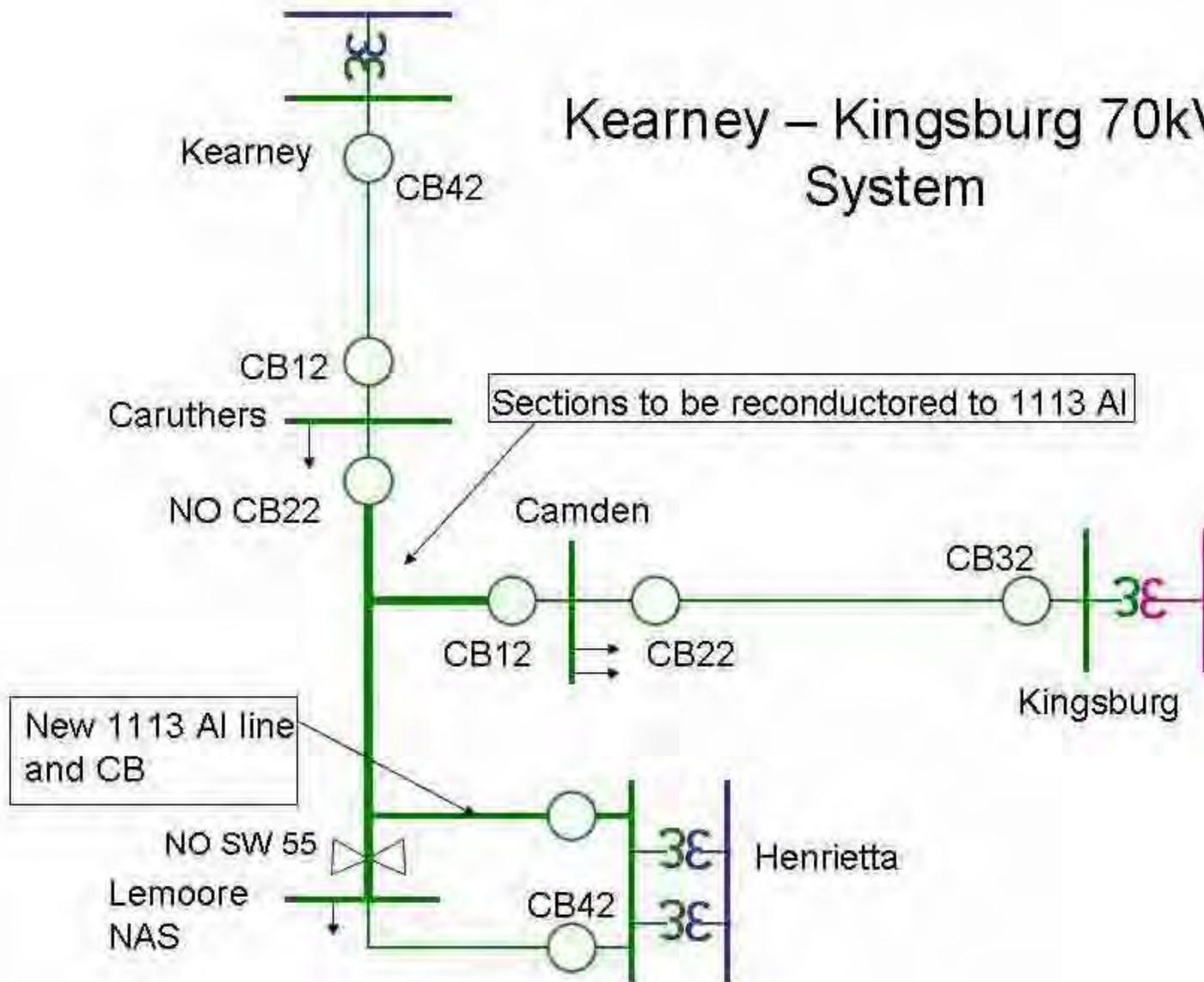
■ In Service Date

- May 2012

■ Cost

- \$10M-\$15M

Kearney – Kingsburg 70kV System



Cressey-Gallo 115 kV Line Installation

■ Background

- The Atwater-Merced 115 kV Line is located in Merced County and supports Livingston, Gallo, and Cressey Substations.
- These loads are served radially with each substation fed from one source (either Atwater 115 kV or Merced 115 kV).
- The Atwater-Merced 115 kV Line is comprised of 35 miles (including all tap lines) of various conductor sizes and is constructed mainly on wood poles.

■ Assessment

- Loss of the Atwater-Merced 115 kV Line (L-1)
 - Radial loads at Livingston, Gallo, and Cressey Substations would be dropped.

■ Scope

- Construct a new Gallo-Cressey 115 kV Line.
- Install 115 kV line breakers at Livingston, Gallo, and Cressey substations.

■ Other Alternatives Considered

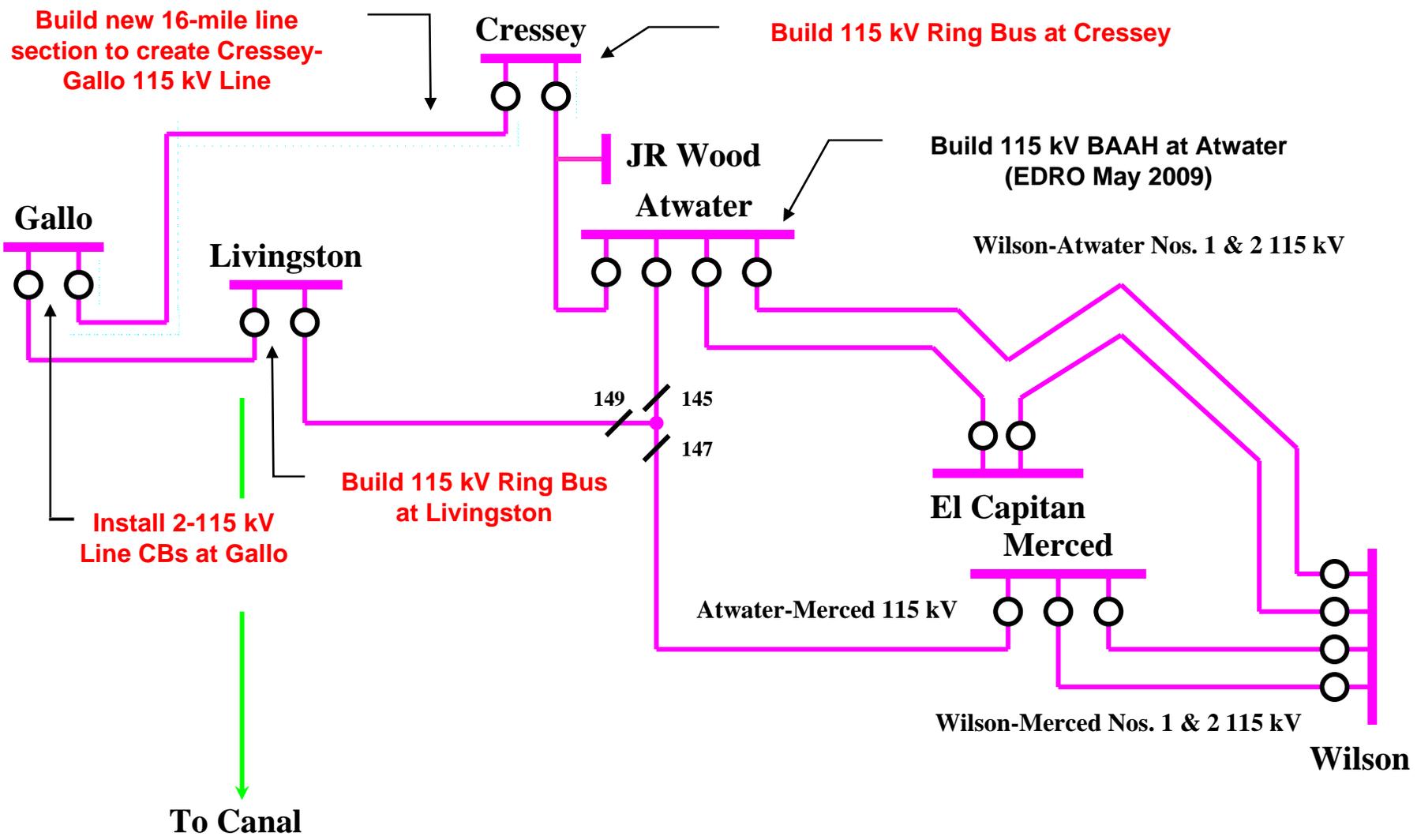
- Construct a new Atwater-Livingston 115 kV Line

■ In Service Date

- May 2012

■ Cost

- \$15M-\$25M



Los Padres Projects Recommended for Submittal into Request Window

San Luis Obispo 230 kV Solar Switching Station

■ Background

- Over the last few years, various solar power generation developers have approached PG&E regarding electric interconnections to the local transmission network in the Carrizo Plain area.
- Electric transmission facilities that are located near the development of these solar power facilities are the Morro Bay-Midway 230 kV Nos. 1 and 2 lines.

■ Assessment

- In order to reliably interconnect the planned generation facilities, a new switching station or expansion of the existing Carrizo Plains Substation would be required by May 2010

■ Scope

- This project scope is to construct a new 230 kV switching stations with a five bay, breaker and a half (BAAH) bus configuration and electrically “loop” the Morro Bay – Midway 230 kV Line Nos. 1 and 2. Currently a preferred site location for the new switching station has not been determined.

■ Other Alternatives Considered

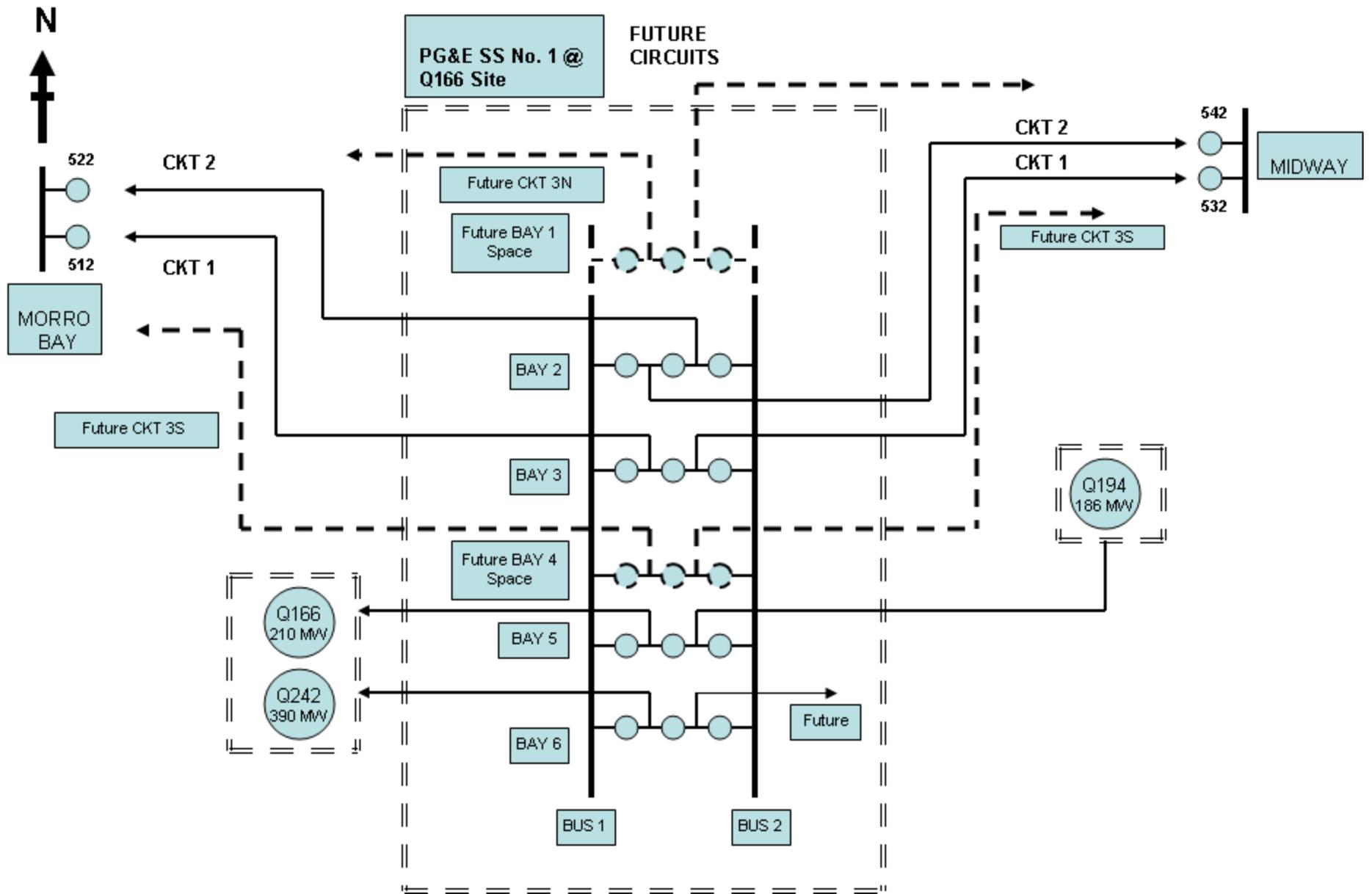
- Status Quo

■ In Service Date

- May 2010

■ Cost

- \$25M - \$35M



Morro Bay-Midway 230 kV Line Reconductor

■ Background

- Over the last few years, various solar power generation developers have approached PG&E regarding electric interconnections to the local transmission network in the Carrizo Plain area.
- Electric transmission facilities that are located near the development of these solar power facilities are the Morro Bay-Midway 230 kV Nos. 1 and 2 lines .

■ Assessment

- Morro Bay - Midway 230 kV line Nos. 1 and 2 do not have adequate capacity to allow the reliable full delivery of those solar power to the grid.

■ Scope

- Reconductor 34 miles of the Morro Bay - Midway 230 kV line Nos. 1 and 2 between new San Luis Obispo Solar Switching Station and Midway Substation with higher capacity conductors.

■ Other Alternatives Considered

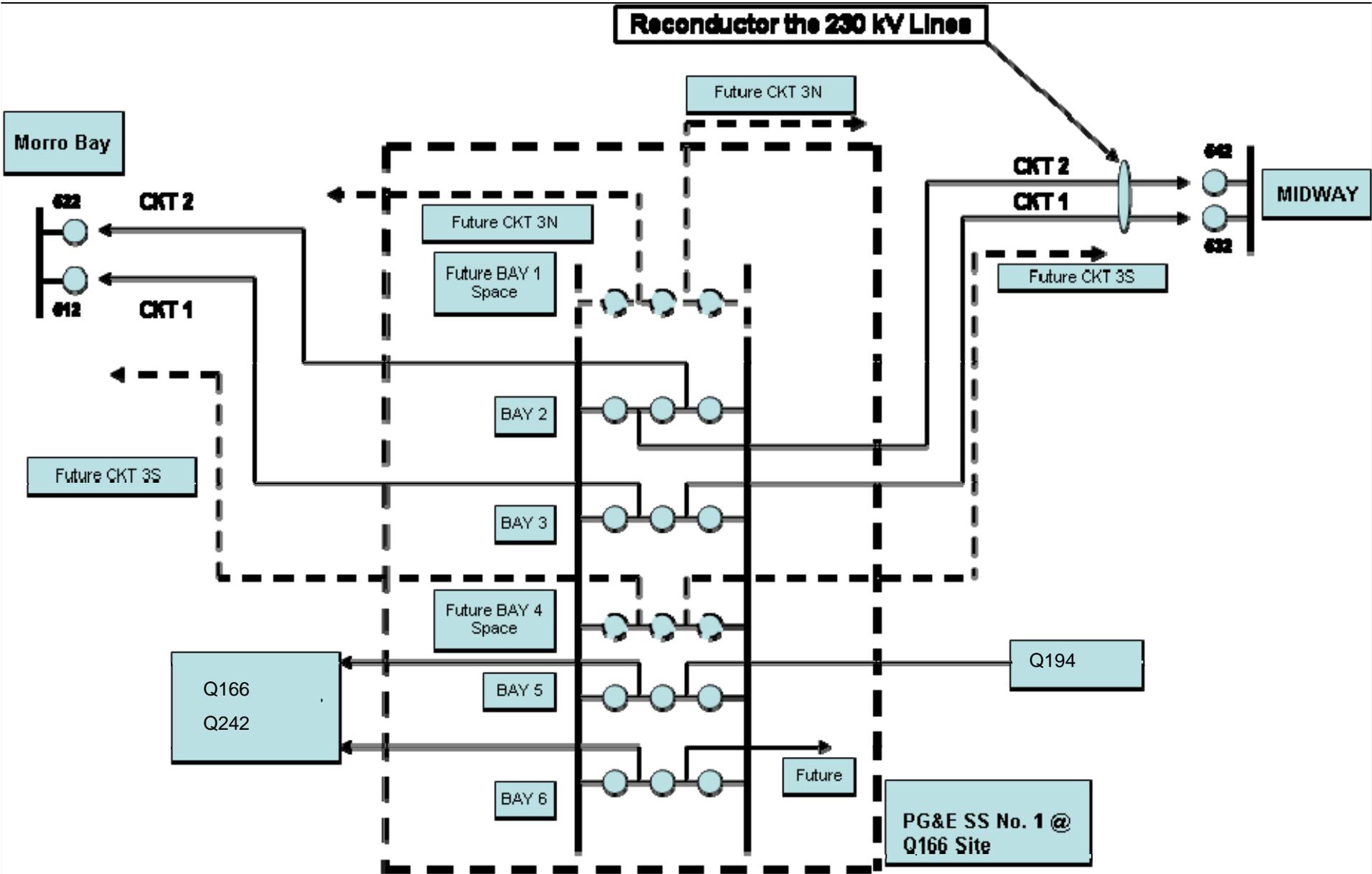
- Add a new 230 kV line between the last solar switching station and Morro Bay

■ In Service Date

- May 2011

■ Cost

- \$40M - \$50M



San Joaquin Valley and Los Padres Projects Requiring Further Evaluation

Projects Requiring Further Evaluation

- Central California Clean Energy Project (November 2013)
- E1 Substation (May 2013)
- Borden – Coppermine 70 kV Upgrade (May 2013)
- Paso Robles Area Reinforcement (May 2014)
- Ashlan – Gregg and Ashlan – Herndon 230 kV Reconductor (May 2015)
- Renfro Area Reinforcement (May 2016)
- Lemoore Area Reinforcement (May 2016)
- Corcoran – Guernsey Area Reinforcement (May 2016)
- Arco – Twisselman Area Reinforcement (May 2018)

Questions

Answers

Appendix RTC-B

Attachments to Samuel B. Johnston
Comment Letter

ATTACHMENT A: JOHNSTON COMMENT LETTER ON
THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE
TOPAZ SOLAR FARM PROJECT, DECEMBER 30, 2010

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

**Attachment A: Johnston Comment Letter on the Draft Environmental Impact Report
for the Topaz Solar Farm Project, December 30, 2010**

December 30, 2010

Steven McMasters, EIR Project manager
Department of Planning and Building
San Luis Obispo County
976 Osos St., Rm 300
San Luis Obispo, CA 93408-2040

via hand-delivery

**Re: Comments on the Draft Environmental impact Report (DEIR) for Topaz Solar
Farm (First Solar) Conditional Use Permit (CUP) (DRC 200800009)**

Dear Mr. McMasters:

These comments are submitted on behalf of Michael Strobridge, a resident of the Carrizo Plain area of eastern San Luis Obispo County. Mr. Strobridge is owner and farmer of the land identified as San Luis Obispo County parcel number 072-051-026. The Topaz project would, if constructed, completely surround Mr. Strobridge's property on all four sides. Mr. Strobridge and this office have commented extensively on the elements of the project as they have come to light. For the reasons that follow, we conclude that this DEIR is legally inadequate in a great many respects and should be rejected in its entirety.

Introduction

California has mandated a shift to renewable energy to be accomplished over a very short period of time. Thus, the number of solar projects proposed for development in California has increased sharply. The goal of attaining 1990 emissions levels by 2020, as set by California Assembly Bill 32 (AB 32), is laudatory and ambitious. However, as numerous environmental and community groups have long documented, solar power development should proceed with due caution, so as to ensure that we not place at risk those resources which are as critical as renewable energy. Solar energy generation at a large scale is relatively new and poses serious environmental and health risks, many of which have not been properly assessed. This is particularly true because of the many toxic chemicals used to manufacture solar panels. Additionally, large solar generating facilities like the proposed Topaz project take large amounts of land and resources, resulting in adverse impacts to wildlife, water resources, agricultural resources, and many other public and

community resources.

The key to wise development of large solar power facilities is careful and appropriate siting. Areas with sensitive habitats and productive farming communities should be avoided, even if they are areas with abundant sunshine. California contains abundant land that is both rich in sunlight and lacking in sensitive resources, and these are clearly the first areas to be considered for development of large-scale solar generation. Unfortunately, the Topaz project is fatally flawed in this regard. It would be sited in an agricultural community which happens also to be a critically important area for numerous rare and endangered animal and plant species. Moreover, the project site has numerous other characteristics which make it manifestly unsuitable for large-scale industrial solar generation.

The DEIR fails to adequately describe and encompass all aspects of the Topaz project. Similarly, the DEIR fails to properly describe the existing environmental setting and baseline. The Topaz project as described in the DEIR would result in adverse direct, indirect and cumulative impacts on the environment, as detailed below. The DEIR's analysis of these impacts in many instances erroneously understates the impacts. In other instances, the mitigation proposed do not achieve mitigation to a level of insignificance. This is especially true with respect to the impacts on agricultural resources, biological resources, hazards and hazardous materials, noise levels, valley fever, and in other areas. Moreover, the technical analysis of the risks of damage to both the environment and human health from exposure to the potentially toxic materials in the panels falls short. Moreover, in numerous respects, the DEIR fails to describe adequately the environmental baseline and thus fails as an informational document. For these reasons and for reasons that follow, the County of San Luis Obispo should revise the DEIR and re-circulate a legally adequate document. If the County decides not to release a revised DEIR, the County should reject the DEIR and deny the application for a CUP (DRC 200800009).

Overview of The Project

The proposed project is mammoth. The proposed site consists of about 4,000 to 4,100 acres, depending on whether Option A (4,100) or Option B (4,000) is chosen. (B-1). The project proposes to install as many as nine million photovoltaic (PV) solar modules. (B-1.) The project area serves as habitat for at least 40 special-status plant species (C.6-14) and at least 53 special-status animal species (C.6-21 to 22). Productive farming occurs throughout both of the proposed Option sites.

The project would cover a large area of more than 6.25 square miles of the Carrizo Plain, the largest single native grassland remaining in California.¹ The project would transform large areas of open grassland into industrial use, radically altering the visual character of the area. The quietness of the Carrizo Plain is another unusual characteristic of this special place. The project would

create significant noise disturbances for wildlife and nearby residents and students. The dark quality of the night sky would be altered by the project's lighting, affecting the value of the area to numerous species and the character of the area to people. In addition to the extensive solar arrays, the project would construct monitoring and maintenance facilities, a new switching station, a voltage collection system substation, two double-circuit lattice steel transmission towers, and interconnection facilities to connect the existing Morro Bay-Midway 230 kV line with the new switching station. These facilities will radically alter the current character of the Carrizo Plain.

¹The Carrizo Plain is referred to in some places as the "Carrizo Plains" or the "Carissa Plain." Because different sources use all these terms, they are used interchangeably in this comment letter.

The Topaz project is but one of two industrial solar generation projects planned for the Carrizo Plain. The other, the California Valley Solar Farm (CVSF), is planned for a short distance away from the Topaz project. The CVSF would be constructed on a 6.8 square-mile area of the California Valley subdivision within the Carrizo Plain. (CVSF Project Description, p. B-8) Together, these two industrial generating facilities would transform the landscape of the Carrizo Plain from a native grassland supporting California's largest concentration of endangered species into an industrial solar energy zone.

Regardless of which Option is chosen, the project would remove and convert significant amounts of prime agricultural land to non-agricultural uses. And the proposed nine million panels would generate electricity through the use of cadmium telluride, a component of which (cadmium) is highly toxic and a known human carcinogen. Additionally, the project will have adverse impacts in many other areas including severe impacts on, without limitation, aesthetics, noise, traffic, fire risk, environmental justice, and water resources. All these extensive and significant impacts on the environment and on human communities could be avoided without sacrificing potential power generation if the project were located elsewhere. The Topaz project proposal as described in the DEIR illustrates how an industrial solar generating facility should ***not*** be designed and sited.

CEQA Requirements

Project Description

CEQA requires that an EIR provide an accurate and consistent project description, encompassing the "whole of the action, which has a potential for resulting in a physical change in the environment, directly or ultimately." (CEQA Guidelines §15124.) A project description that omits integral components of the project may result in an EIR that fails to disclose the actual impacts of the project. "An accurate project description is necessary for an intelligent evaluation

of the potential environmental effects of a proposed activity.” (*McQueen v. Board of Directors* (1988) 202 Cal.App.3d 1136, 1143). Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal’s benefit against its environmental costs, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the “no project” alternative) and weigh other alternatives in the balance. An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR.” (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192-193.)

Identification of Significant Effects

In fulfilling its purpose as an informational document, an EIR must identify the “significant effects” that a proposed project will have on the environment. (Pub. Res. Code §21100, (b)(1); CEQA Guidelines , §15126 (a).) A “ ‘[s]ignificant. . .’ effect means a substantial, or potentially substantial, adverse change in the environment.” (Pub. Res. Code §21068.) The EIR must discuss “all significant effects on the environment.” (Pub. Res. Code §21100(b)(1).) Both direct and indirect effects “shall be clearly identified and described, giving due consideration to both the short-term and long-term effects,...including relevant specifics of the area, the resources involved, physical changes, and alterations to ecological systems.” (CEQA Guidelines § 15126.2; 15064 (d).) “If an EIR fails to include relevant information and precludes informed decisionmaking and public participation, the goals of CEQA are thwarted and a prejudicial abuse of discretion has occurred.. (Citations).” (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 128.)

The “purpose of an EIR is to provide ...detailed information about the effect a proposed project is likely to have on the environment. (Pub. Res. Code §21061.) “An EIR should be prepared with a sufficient degree of analysis to provide the decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences.” (Guideline 15151; *Laurel Heights Improvement Assn. v. Regents of the Univ. of California* (1988) 47 Cal.3d 376, 391.)

Cumulative Impacts

The County also has a duty to evaluate the cumulative impacts of the project. (CEQA Guidelines §15355; *Communities for a Better Environment v. California Resources Agency* (“CBE”) (2002) 103 Cal.App.4th 98, 114, modified at 103 Cal.App.4th 941A; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720-721.) “The guiding criterion on the subject of cumulative impacts is whether any additional effect caused by the proposed project should be considered given the existing cumulative effect.” (CBE, at 118.) “[T]he relevant question’ under the *Kings County/Los Angeles Unified* approach is not how the effect of the project at issue

compares to the preexisting cumulative effect, but whether ‘any additional amount’ of effect should be considered significant in the context of the existing cumulative effect.” (*Ibid.*) “In the end, the greater the existing environmental problems are, the lower the threshold should be for treating a project’s contribution to cumulative impacts as significant.” (*Id.*, at 120.)

Alternatives

CEQA requires government agencies “to consider alternatives to proposed actions affecting the environment.” (Pub. Res. Code §21001 (g).) “An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. . . the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.” (CEQA Guidelines §15126.6 (a), (b).) “A legally adequate EIR ‘must produce information sufficient to permit a reasonable choice of alternatives so far as environmental aspects are concerned.’ (*San Bernardino Valley Audubon Society, Inc. v. County of San Bernardino* (1984) 155 Cal.App.3d 738, 750-751.)

Informed Self-Government

And an EIR “must contain sufficient detail to help ensure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the run. (*Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal. 3d 929, 935; *People v. County of Kern* (1974) 39 Cal.App. 3d 830, 841.) It must reflect the analytical route the agency traveled from evidence to action. (Citation.) An EIR which does not produce adequate information regarding alternatives cannot achieve the dual purpose served by an EIR, which is to enable the reviewing agency to make an informed decision and to make the decisionmaker’s reasoning accessible to the public, thereby protecting informed self-government. (Citation.)” (*Kings County Farm Bureau, supra*, 221 Cal.App.3d at 733.)

Mitigation

A legally adequate EIR must describe mitigation measures that could feasibly substantially reduce or avoid each identified significant effect. “If a mitigation measure would cause one or more significant effects in addition that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as

proposed.” (CEQA Guidelines §15126.4 (a)(1)(D).) CEQA has a substantive policy by which agencies are forbidden to approve projects which have significant environmental impacts when feasible mitigation measures can substantially lessen or avoid such impacts. (Pub. Res. Code §21002.)

Responses to Comments

As it is unclear whether the County will provide an opportunity to submit comment on any final EIR, we also request that the County provide us with adequate written responses to all comments submitted. “In the course of preparing a final EIR, the lead agency must evaluate and respond to comments relating to significant environmental issues. [Citations.] In particular, the lead agency must explain in detail its reasons for rejecting suggestions and proceeding with the project despite its environmental effects. [Citation.] ‘There must be good faith, reasoned analysis in response [to the comments received]. Conclusory statements unsupported by factual information will not suffice.’ [Citation.]” (*Stanislaus Natural Heritage Project, supra, 48 Cal.App.4th at 191; see also, Gallegos v. State Bd. of Forestry* (1978) 76 Cal.App.3d 945, 954 [“must describe the disposition of each of the significant issues raised and must particularly set forth in detail the reasons why the particular comments and objections were rejected and why the [public agency] considered the development of the project to be of overriding importance.” (emphasis added).])

Findings

Additionally, if there are any significant environmental effects of a project, no public agency may approve it without making findings that those effects have been lessened or eliminated. (CEQA Guidelines § 15091(a)(1). We note the obligation that any findings the County intends to issue, including any Statement of Overriding Considerations, must be supported by substantial evidence, and must bridge the analytical gap between the evidence and the ultimate conclusion. (*Sierra Club v. Contra Costa County* (1992) 10 CalApp.4th 1212; *Topanga Ass’n for Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506.)

Monitoring

Finally, CEQA requires a public agency to “adopt a reporting or monitoring program for the change made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment.” (Pub. Res. Code §21081.6.) The requirement is both for mitigation reporting, to compel performance of mitigation, and monitoring reporting, to confirm that the mitigation is performed. (CEQA Guidelines §15097 (c).)

Detailed Comments

1. The DEIR Fails to Identify, Analyze and Provide Mitigation for Direct and Indirect Adverse Impacts to Biological Resources, in Violation of CEQA and CESA

A. San Joachin Kit Fox

1. San Joachin Kit Fox - Current Status

The San Joachin kit fox (kit fox) is listed under the federal Endangered Species Act (FESA) as endangered. (32 Fed. Reg. 4001, March 11, 1967, attached hereto as Exhibit 1.) It is listed under the California Endangered Species Act (CESA) as threatened. (Natural Resources Agency, July 2010, "State & Federally Listed Endangered & Threatened Animals of California", pertinent part attached hereto as Exhibit 2.)

Kit fox populations overall are currently declining. Both state and federal wildlife agencies confirm this decline. In 2005, the California Department of Fish and Game (DFG) published its report, "The Status of Rare, Threatened, and Endangered Plants and Animals of California, 2000-2004." (Pertinent part is attached hereto as Exhibit 3.) After noting several conservation efforts and studies, the report flatly states, "Despite these efforts, and other conservation efforts, San Joachin kit foxes continue to decline throughout their range and are close to extinction in the northern most part of the range..."

Furthermore, the U.S. Fish and Wildlife Service (FWS) completed its required five-year review, "San Joaquin Kit Fox (*Vulpes macrotis mutica*) 5-Year Review: Summary and Evaluation" ("Five-Year Review" attached hereto as Exhibit 4), on February 16, 2010. This study is considered the most comprehensive scientific study to date on the status of the kit fox and its ongoing threats and decline. This study contains this clear statement of ongoing kit fox decline:

Based on the continued loss of kit fox habitat to agricultural and urban development, the continued threats from pesticide exposure, competitive exclusion by other canids, the highly fluctuating population dynamic of most kit fox populations, and the isolation and loss of small subpopulations due to stochastic events and habitat fragmentation, and due to threats identified since listing, such as off-road vehicle use and loss of prey, the kit fox continues to meet the definition of endangered. Although substantial progress has been made in protecting habitat, it is not yet likely that all protected habitat parcels contain the requisite contiguous acreage, vegetative structure, and prey base to adequately sustain kit fox. (Five-Year Review, p. 70.)

Ms. Angela Colamaria

Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**

May 9, 2011

The Five-Year Review makes clear that habitat fragmentation is a principal concern. “Currently, the entire range of the kit fox appears to be similar to what it was at the time of the 1998 Recovery Plan; however, population structure has become more fragmented ... Spatial distribution of the kit fox has become increasingly fragmented since listing. ... Both loss of habitat and habitat fragmentation have continued throughout the range of the kit fox.” (*Id.* at p. 15.) DFG confirms that habitat fragmentation is the main threat to the survival of the kit fox: “[t]he principal threats to the species are habitat loss and fragmentation resulting from agricultural, residential, and commercial development ...” (DFG, California Wildlife: Conservation Challenges, 2007, p. 206, pertinent part attached hereto as Exhibit 5.) These studies reinforce and highlight the original conclusion of the FWS that “[c]ontinued habitat fragmentation is a serious threat to the survival of the kit fox population.” (FWS, Recovery Plan for Upland Species of the San Joaquin Valley, California, 1998, p. 130, pertinent part attached hereto as Exhibit 6.)

Moreover, scientists have clearly established that the Carrizo Plain subpopulation of kit fox must be preserved in order to avoid extirpation of the species. “The Carrizo Plain is thought to have the largest kit fox population remaining in California (B. Cypher pers. comm., as cited in Moonjian 2007).” (Five-Year Review, p. 18.) As the Five-Year Review notes, “...monitoring of kit fox subpopulations has indicated that the occupied range of the kit fox is contracting and increasingly fragmented, and that kit fox have likely disappeared from areas of extant habitat within the central and northern portions of their historic range.” (*Id.*, p. 17.) Thus, the Carrizo Plains subpopulation is designated a “Core Area” for the kit fox and the area is referred to as the “Carrizo Plains Core.” (*See, e.g.*, Five-Year Review, p. 12.) The Carrizo Plains Core supports one of the only remaining kit fox subpopulations not verging on a serious decline. (*Id.*, p. 16.)

Just as significantly, the Carrizo Plains Core provides a crucial link for the kit fox, connecting to other portions of the natural kit fox range such as the Carrizo Plains National Monument and the Kern County Core Area. Thus, a central issue presented by the Topaz project proposal is the extent to which the project will interfere in the migration of Kit fox to, from and within the Carrizo Plains Core.

The FWS Five-Year Review speaks directly to this issue as follows:

Kit fox subpopulations in the Western Kern County and Carrizo Plains core areas appear to be most robust, but even these populations have been shown to fluctuate greatly in abundance on an inter-annual basis, depending on climatic conditions. Population modeling using long-term monitoring data has indicated that *these subpopulations are at risk of extirpation in as little as 3 or 4 years under poor conditions*, such as the poor environmental conditions that reduce prey populations. In these core areas new development, including expanded oil and gas development *and the construction of solar farms*, threaten new areas of suitable habitat for the kit fox, which may further strain these source populations. (Five-Year Review, p. 70, italics added.)

Elsewhere in the Five-Year Review, the report states as follows:

“Habitat loss, modification, and fragmentation due to construction of solar facilities – A number of large-scale solar development projects that would threaten kit fox population clusters are currently proposed for construction in kit fox habitat. Within the Carrizo Core Area, two solar firms propose to install solar panels on 13 square miles of land on the valley floor of the Carrizo Plain, San Luis Obispo County, just north of the Carrizo Plain National Monument (DeBare 2008). Although this area of the Carrizo has a fair amount of dryland farming and is less likely to be optimal kit fox habitat than land within the National Monument (B. Cypher, pers. comm. 2008), these projects will create barriers to the linkage between the Carrizo Plain Core Area, the Western Kern core area, and core and satellite areas to the north and west, thereby impeding kit fox dispersal and increasing habitat fragmentation.” (Id., p. 34.)

It is important to emphasize the possibility of extirpation of the kit fox in the Carrizo Plains Core within a short time. As noted by FWS (above), the kit fox could become extinct in the Carrizo Plains Core in 3 to 4 years under “poor environmental conditions that reduce prey populations.” (*Id.*, p. 70.) This is a dire situation for the kit fox subpopulation of the Carrizo Plains Core. The County of San Luis Obispo thus bears a heavy burden of proving that any impacts to kit fox and its habitat have been mitigated to a level of insignificance under CEQA and fully mitigated under CESA. The County cannot rely on the DEIR or its supporting studies to carry this burden, because the DEIR falls well short of providing the substantial evidence necessary to carry this heavy burden.

2. San Joachin Kit Fox - environmental setting

The DEIR violates CEQA because it fails to provide adequate baseline information indicating the extent of kit fox presence in the project area. Without an accurate baseline, “comparisons utilized in the EIRs can only mislead the public as to the reality of the impacts and subvert full consideration of the actual environmental impacts which would result.” (*Environmental Planning & Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 357-58.) A DEIR “must present information in such a manner that the foreseeable impacts of pursuing the project can actually be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made.” (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449-450.) “If an EIR fails to include relevant information and precludes informed decisionmaking and public participation, the goals of CEQA are thwarted and a prejudicial abuse of discretion has occurred.. (Citations).” (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 128.)

The kit fox surveys failed to use the best available scientific methods and proper protocols. Because the flawed surveys were inadequate to accurately describe kit fox occurrence, the results likely understate the occurrence of kit fox in the project area. This in turn causes the DEIR to erroneously document the extent of impacts at a level well below what the actual impacts of the project will be on kit fox.

Kit fox survey methods are described in Appendix 9A of the DEIR. In that appendix there appears a document entitled, "Final Biological Report for the Topaz Solar Farm," dated July 2010 and prepared by the applicant's consultant, Althouse and Meade, Inc. ("Final Biological Report.") In that document, at p. 111 and following, are described the survey methods for the various species considered. Many of the surveys done are referred to variously as "protocol surveys," "visual detection surveys," "transect surveys," and the like. Notably, the surveys done for the kit fox are merely referred to as "surveys," although they are also at times referred to as "scat detection dog surveys." Furthermore, some kit fox surveys were conducted "concurrently with other biological surveys," although which surveys were so conducted as opposed to surveys for kit fox only is not disclosed.

In fact, nowhere in the very brief description of kit fox surveys found at pp. 111-112 is there described any reference as to what extent the entire project area was surveyed. By comparison, for example, in the section entitled "Small Mammal Survey Methods," Althouse and Meade state, "...[t]he trapping studies each focused on different areas of the PSA, resulting in a comprehensive sample of small mammals ... occurring across the 10,000 acre PSA." (*Id.*, p. 112.)

Appendix 9B contains a document concerning the kit fox, entitled, "Final Report to Althouse and Meade, Inc." by Dr. Jesus E. Maldonado and dated July 30, 2010. This document contains a brief description of the areas surveyed and a map indicating survey transects. The transects mostly occur on the boundaries of County sections, leaving large gaps in lands in between those boundaries. No justification is given for the location of the transects or why broader areas were not surveyed. Moreover, the discussion therein states that two sets of surveys were conducted, with partial duplication - but the transects that were surveyed more than once are not identified. This flawed method of surveying likely indicates a significantly lower incidence of kit fox on the project site than a robust survey would indicate.

These descriptions of survey methods fall short of the informational requirements of CEQA because the public is unable to determine whether the surveys provide a reasonably accurate and complete picture of the occurrence of kit fox in the proposed project area.

The DEIR does not explain why other, better survey methods were not employed, such as trapping, or capture and telemetry. (*See, e.g.*, Warrick, et. al., "Use of Agricultural Lands by San Joachin Kit foxes," 2007, *Western North American Naturalist* 67(2), pp. 270-277, attached hereto as Exhibit 7.) Nor does the DEIR identify a relevant survey protocol established by the FWS for

the northern range of the kit fox. (Attached hereto as Exhibit 8.) While this protocol was admittedly designed for the northern range where the kit fox population has declined severely, its provisions are nonetheless relevant because its techniques are readily adaptable for analysis of this subpopulation.

For example, this protocol requires identification of all known kit fox dens within a project site and the compilation of sighting records within a ten-mile radius of the boundaries of the project site. And, crucially, this protocol requires the detailed description of vegetation communities found on the site using California Natural Diversity Data Base (CNDDB) classification system. Further, the protocol requires a description of the continuity of the vegetative communities between the project site and the ten-mile radius. Habitat suitability of the site is to be evaluated by a set of walking transects, specifically to evaluate prey base.

The protocol used by Althouse & Meade, on the other hand, only requires scat collection and subsequent DNA analysis. There is no description or quantification of the baseline of vegetative kit fox prey base within the project area. This omission, of course, undermines the resulting impacts analysis as noted below under “Effects on Native Vegetation.” The document describing habitat enhancement [Topaz Solar Farm Mitigation and Monitoring Plan in Appendix 9B] contains no discussion of how the strategies employed will provide the vegetative support for kit fox prey. The focus is on fencing and artificial dens. Providing “space” for the animals is not enough; adequate prey base must also be provided. This was not done. This omission is egregious given the Five Year Review’s warning of potential kit fox extirpation in the Carrizo Plains Core within 3 to 4 years under “poor environmental conditions that reduce prey populations.” (Five-Year Review, p. 70.)

In summary, the baseline analysis falls short in two critical ways. First, there is no evidence in the DEIR of comprehensive scientific surveys adequate to reasonably determine kit fox occurrence on the project site. Second, there is no evidence of what type and degree of kit fox vegetative prey base exists on the project site. This skewed baseline biases the survey results and subsequent impacts analysis in favor of the applicant. The impacts appear less severe than they will actually be. The baseline analysis is insufficient to base a valid disclosure and analysis of impacts from the Topaz project on kit fox.

Finally, the DEIR states that additional surveys will occur prior to construction. (C.6-53.) Additional surveys after the completion of environmental review cannot legally act as a substitute for surveys that could and should have occurred prior to project approval. Pre-approval surveys must occur in order to inform the public of the environmental baseline of the project. This must occur so that the public can make an informed evaluation of the project’s environmental effects. Such pre-approval surveys have not been done. The public is thus deprived of a meaningful opportunity to review the project’s likely impacts on the environment in violation of CEQA.

3. San Joachin Kit Fox - Analysis of Impacts and Mitigation

The DEIR admits that there will be direct adverse impacts to the kit fox from mortality of individuals and loss of habitat. (C.6-52.) Therefore, incidental take authorization from both FWS and DFG is required. Note that mortality will occur in several ways: by trampling, the crushing of active dens, and collisions with vehicles and equipment. Kit fox that “flee the construction site may also be subject to greater predation risks.” (*Id.*) Because kit fox at the project site have high site fidelity, mortality is also expected to result from displacement due to construction. Furthermore, direct impacts will occur “from construction noise, vibration, fugitive dust, human presence, and the loss of habitat and disruption of prey base from vegetation clearing.” (*Id.*) The DEIR also admits that there will be direct impacts to kit fox movement. (*Id.*) These impacts will be severe. As the DEIR admits, “[b]ecause the project will likely constrict movement and will reduce the size of the existing movement corridor by approximately 50 percent impacts would be considered significant without mitigation.” (C.6-69.)

The DEIR further admits that the applicant’s Draft Mitigation and Monitoring Plan is inadequate to provide the required mitigation. (C.6-53.) Thus, the County proposes to incorporate some aspects of the applicant’s mitigation strategy while adopting additional measures. (C.6-53-54.) The County’s efforts in this regard fall well short of legal requirements. While the County has correctly determined that onsite mitigation proposed by the applicant is inadequate, the attempt to enhance onsite measures with offsite measures fails with a mitigation plan that does not mitigate the impacts to kit fox to a level of insignificance, in violation of CEQA. The DEIR also fails to fully mitigate impacts to kit fox in violation of the California Endangered Species Act (CESA).

A. Onsite Impacts and Mitigation

The DEIR proposes to mitigate for onsite impacts through a scheme to promote kit fox movement. This strategy utilizes mainly two aspects: perimeter fencing with kit fox passages every 100 yards, and the construction of artificial dens.

1. Fencing Scheme

The applicant has proposed the use of “perimeter fencing around solar arrays with kit fox passages ... every 100 yards so fox can move through the project site.” (Appendix 9B, Topaz Solar Farm Mitigation and Monitoring Plan, p. 9.) No rationale or evidence is provided to show why one passage every 100 yards is sufficient mitigation. The passages are claimed to “discourage larger animals from entering the project site.” (*Id.*, p. 28.) Significantly, coyotes, which are predators of the kit fox, can gain entry through the same fence passages. Indeed, the Topaz Mitigation and Monitoring plan readily admits this when it states, “[c]omplete exclusion of

coyotes from the solar array areas is not a necessary goal for kit fox protection. Human presence and activities may discourage coyotes from entering the solar array area, and kit fox would be likely to avoid them within the array area by utilizing natural and artificial dens.” (*Id.*)

This frank admission that coyotes will have access through the fence passages contrasts with the County’s erroneous assertion otherwise: “[T]he applicant has indicated that the perimeter fence will be constructed with kit fox passages (i.e., constructed to *prevent* access by coyotes)...” (C.6-69, italics added.) This language is misleading, and must be removed because coyotes will be capable of accessing the fenced-in arrays through the kit fox passages.

This onsite mitigation does not pass muster. So far as this writer has observed in the scientific literature, it has never been tested as a mitigation strategy, so there is no evidentiary basis at all for evaluating its efficacy. (*See, e.g.,* Warrick, et. al. (2007), attached hereto as Exhibit 7, p. 276, where there is no mention of holes in fences)

2. Artificial Dens

Likewise, artificial dens have a limited record of success and the same risks of kit fox predation as fencing passages. Coyotes and other predators can turn such dens into kit fox “death traps.” Furthermore, the FWS has reported that artificial dens have not been demonstrated to support kit fox movement. “Although there is some evidence that kit fox will use artificial dens placed within agricultural lands, work to date has not demonstrated that kit fox use the artificial dens to cross agricultural lands, even where such lands form a relatively narrow strip between areas of natural habitat (Cypher et al. 2005a).” (Five Year Review, p. 21.)

Coyote predation is a serious risk for kit fox, and this holds true in the Carrizo Plains Core. (*Id.*, pp. 46-48.) High coyote density has been correlated with reduced kit fox presence. (*Id.*) The DEIR contains no discussion of how the project as a whole will affect coyotes and the resulting effects on kit fox. This discussion is important to show whether the habitat enhancement strategies (fencing and artificial dens, among other strategies) will backfire by making kit foxes more vulnerable to coyotes and other predators such as bobcats, red foxes, domestic dogs, and large raptors. Furthermore, the DEIR admits that “... coyotes and grey foxes may use the solar arrays for cover.” (C.6-33.)

3. Effects on Native Vegetation

As noted above, the kit fox could become extinct in the Carrizo Plains Core in 3 to 4 years under “poor environmental conditions that reduce prey populations.” (Five-Year Review, p. 70.) The DEIR fails to provide an explanation of how the construction of nine million solar modules on

4,000 + acres of land will maintain adequate kit fox vegetation prey base. Reduction of prey populations is thus a foreseeable impact, with resulting extirpation of kit fox in the Carrizo Plains Core.

The avoidance measures described in Section MM BR-17.1 at page C.6-117 contain no analysis in this regard. Rather, the focus is on den protection. It is difficult to see how kit foxes will benefit from dens located on bare ground or without the vegetation needed to support its prey. The Five-Year Review contains a useful discussion of the small mammal species kit fox typically feed on. (*See* Five-Year Review, pp. 5-6.) The DEIR contains no significant discussion or analysis of how the project will affect the availability of these kinds of small mammal species for kit fox.

The DEIR does, however, admit that the project will adversely impact some of these types of small mammal species. Impact BR-26 describes some of these adverse impacts. (C.6-65.) A vague “Mitigation Strategy” describes general mitigation measures to be employed but there is no explanation of how these mitigation measures will enhance kit fox prey base. Additionally, the DEIR states that the County is “not required to mitigate impacts to these species” while ignoring that these and similar species are needed by kit fox. The DEIR fails to address and discuss how the project will protect these and similar species of small mammals on the project site in a manner that will benefit the kit fox.

Mitigation measure MM BR-1.3 is entitled “Develop a Habitat Restoration and Revegetation Plan.” (C.6-99.) This measure seeks to mitigate for Impact BR-3, “The project would cause the loss of foraging habitat for wildlife.” (C.6-33.) As the DEIR therein admits, “[d]irect impacts to foraging habitat would occur from construction and operation of the facility and the *permanent* conversion of open space from the placement of the solar arrays and related facilities.” (C.6-33, italics added.) Further, “[i]ndirect impacts to foraging habitat could include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weeds.” (C.6-33.) In sum, “[p]roject-related impacts to foraging habitat for wildlife are considered significant without mitigation.” (C.6-33.)

Then, in another damning admission, the DEIR states, “[t]he primary mechanism for reducing impacts from habitat loss is the acquisition and preservation of mitigation lands and the reduction of *indirect* impacts such as the spread of weeds or degradation of habitat by fugitive dust or erosion.” (C.6-34, italics added.) Thus, *direct* impacts are only mitigated through offsite measures. Moreover, there is no discussion or analysis of how the mitigation offered for indirect impacts will benefit kit fox prey base. The kit fox will suffer a diminution of its prey base, even with the mitigation as proposed.

A review of the language of MM BR-1.3 (pp. C.6-99 to 101) confirms this fact. That section describes the habitat restoration strategy. The lynchpin of the strategy is to restore disturbed areas

to pre-construction conditions. However, there is no indication that any kit fox prey will benefit from this plan. It is not disclosed to what extent re-vegetation will occur in disturbed areas underneath the solar arrays near kit fox dens. Nine million panels occupying some 4,000 acres represents a severe impact on vegetation that is largely unmitigable for the kit fox. The loss of vegetation over such a large area will result in severe adverse impacts to kit fox. Furthermore, there is simply no analysis of how the re-vegetation plan will specifically benefit kit fox prey. There is no discussion or analysis of what vegetation supports kit fox prey, much less any analysis of how the prey will be enhanced by the re-vegetation plan. These informational deficiencies, at a minimum, deprive the public of a meaningful opportunity to evaluate the project's effects on kit fox. More to the point, they form a reasonable basis to conclude that adverse impacts to kit fox and its prey base will remain unmitigated.

In a letter to John McKenzie dated October 15, 2008, DFG explicitly pointed out the kit fox prey base problem to the applicant. ("Notice of Preparation (NOP) for Topaz Solar Farm Conditional Use Permit," W.E. Loudermilk, Regional Manager, DFG, attached hereto as Exhibit 9.) The following language at p. 8 of that letter is relevant:

Smith et. al. (1987) demonstrated that shading from simulated solar panels increased the soil moisture underneath and between panels, reduced temperatures under panels, altered plant community composition, and reduced the total plant biomass. These effects would be expected to alter the potential kit fox prey base. The vegetation changes, mowing activities, and proposed dense ballast arrays would likely be conducive to mostly California ground squirrels ... which, being diurnal, are less than optimum for kit fox in this portion of their range. Diurnal prey bases are less likely to support stable kit fox populations and they expose kit foxes to additional hazards, including coyotes and golden eagles.

These considerations were omitted entirely from the DEIR.

A further problem exists with the re-vegetation plan. The plan proposes to identify areas for re-vegetation according to certain criteria: the presence of suitable topsoil that supports native vegetation, and that can be salvaged and stockpiled for replacement activities. (C.6-99.) Large portions of the project site, however, have recently been intensively disked in a manner that has removed much of this type of topsoil. (See letter dated March 16, 2010 from this office to Robert F. Lilley, Commissioner, San Luis Obispo County Department of Agriculture/Weights and Measures, attached hereto as Exhibit 10.) This disking was apparently conducted by one or more landowners under contract to sell their land to the applicant as part of the project. Thus, the project has already caused a significant degradation of the topsoil and diminution of the kit fox prey base, which has not been adequately disclosed or analysis as part of the project.

This disking must be considered part of the project. Yet, the DEIR makes no mention of the

disking nor provides any analysis of the environmental effects thereof. This disking activity may be reasonably viewed as an effort to manipulate the environmental baseline of the project in an attempt to under-report the project impacts to be analyzed and mitigation to be provided, resulting in a diminution of kit fox foraging habitat. This result flies in the face of the dire warning issued by the FWS that the Carrizo Plains Core subpopulation of the kit fox is “at risk of extirpation in as little as 3 or 4 years under poor conditions, such as the poor environmental conditions that reduce prey populations.” (Five-Year Review, p. 70.) The omission by the DEIR of this disking activity as part of the project also constitutes a failure to proceed according to law in violation of CEQA.

In another critical blow to kit fox prey base, MM HZ 5.1 (8) requires that “[v]egetation at the Project site shall be maintained at a height no greater than 4 inches to minimize fire risk.” No analysis is provided of how this measure will impact kit fox prey base. Is a mere four inches of vegetation enough to support the animals on which kit fox feed? This measure arguably eliminates kit fox prey base habitat altogether.

In addition to these glaring omissions and problems, it should be remembered that the determination of the baseline of kit fox prey base was flawed. As noted above, there is no description or quantification of the baseline of vegetative kit fox prey base within the project area. Thus, a flawed impacts analysis was erected upon an insufficient baseline analysis. This travesty renders the DEIR legally deficient in its informational function. It also renders the DEIR legally deficient in its operational function of ensuring that significant impacts are mitigated to a level of insignificance. In short, the County’s DEIR has blatantly ignored the warning of the FWS of an impending extirpation of kit fox within a short 3 to 4 years under “poor environmental conditions that reduce prey populations.” (Five-Year Review at p. 70.) Such a fundamentally flawed EIR cannot serve as a legal basis for an informed decision to approve a project.

B. Offsite Mitigation

Because the onsite mitigations for the impacts to kit fox proposed by the applicant are inadequate, offsite mitigations effectively become the lynchpin in an attempt to provide full protection of kit fox. On this score, too, the DEIR falls short. The County relies on offsite mitigation to make up for inadequate onsite mitigation: “Because the preservation and management of offsite habitats would functionally replace the lost habitat values and expected mortality associated with increased vehicle collisions coupled with the potential onsite residual value of the Proposed Project, the proposed mitigation is expected to fully mitigate project impacts to [kit fox].” (C.6-54.)

Offsite mitigation, however, is vaguely defined and largely deferred to future acquisitions of unidentified land. MM BR-17.2 (C.6-119) describes the plan to acquire kit fox compensation habitat. This description relies on numerous unfounded assumptions. Specifically, the DEIR

assumes that suitable compensation land of at least 8,999 acres will be available:

The acquired lands must be occupied by habitat of equal or greater habitat quality to the impacted areas in terms of soil features, extent of disturbance, vegetative structure and composition and will contain verified extent populations, of a similar size to those impacted. Land acquired as compensation for impacts to San Joachin kit fox shall provide large contiguous blocks of habitat, focusing in on areas that will sustain or increase connectivity and dispersal within the region. This may include, but is not limited to, areas northwest of the Proposed Project site that connect the southern core populations occurring at the National Monument with those to the north in the Palo Prieto area. (C.6-120.)

Unfortunately, evidence is lacking that such land is available. Much of the land bordering the project site to the west is of unsuitable slope gradient to support kit fox. Kit fox are subject to predation by larger predators in slopes greater than 6%. The DEIR contains no discussion of slope suitability for kit fox. In a study of kit fox behavior at the Naval Petroleum Reserves in California, kit fox were found to prefer more flat terrain to more rugged, hillier terrain. "Most kit fox locations at NPRC ... were in relatively gentle terrain with slopes < 6%. Although kit foxes occasionally can use more rugged terrain, they may be more vulnerable to predation by larger predators in such areas and thus either avoid these areas or are excluded from them (Warrick and Cypher 1998). Relatively flat terrain previously has been identified as optimal for kit foxes in the San Joachin Valley (Grinnell et. al. 1937, Morrell 1972) and elsewhere (Egoscue 1962, Zoellick et. al. 1989)." ("Factors Influencing Space and Prey Use by San Joachin Kit Foxes," Koopman et. al., 2001 Transactions of the Western Section of the Wildlife Society, 37:77-83, 2001, p. 81, attached hereto as Exhibit 11.)

The DEIR fails to discuss slope characteristics in the criteria listed for kit fox compensation land. Such a discussion is necessary because the nearby land that is in the proximity to provide a buffer to enhance the wildlife corridor does not contain the slope characteristics favorable to kit fox.

The DEIR's reliance on offsite mitigation to make up for its inadequate onsite mitigation for kit fox is especially misplaced given the weak scientific foundation of the compensation strategy. At least one study has called into serious question the effectiveness of the compensation strategy as follows:

Compensating for habitat loss is a mitigation strategy commonly implemented for kit foxes. This strategy involves protecting habitat of like or better quality in return for authorization to alter, disturb, or destroy habitat in another location. The amount of compensatory habitat required typically exceeds 1:1. This strategy has several shortcomings. First, new habitat is rarely created as a result of mitigation, so compensation results in a net loss of available lands. Second, there is an implicit

assumption that the carrying capacity on compensatory habitat can be increased through habitat management such that the total carrying capacity across all lands remains unaffected. This assumption has never been validated and is questionable.

(“Effects of roads on San Joaquin kit foxes: a review and synthesis of existing data,” Curtis D. Bjurlin, Road Ecology Center, John Muir Institute of the Environment, U.C. Davis, 2003, p. 401, attached hereto as Exhibit 12.)

C. Kit Fox Corridor Linkages

The DEIR admits, “[b]ecause the project will likely constrict movement and will reduce the size of the existing movement corridor by approximately 50 percent impacts would be considered significant without mitigation.” (C.6-69.) The DEIR then proposes mitigation as follows: “[t]he primary mechanism for reducing project impacts to movement is the preservation of open areas between the arrays, the avoidance of the 100 year floodplain, construction of artificial and escape dens, and the placement of [kit fox] passages through perimeter fencing.” (*Id.*)

Given that most of these strategies lack evidentiary support for their efficacy, as shown above, once again the addition of compensation lands becomes the lynchpin of kit fox mitigation. In this respect, the DEIR offers this assurance: “[i]n addition, the acquisition of mitigation lands will preserve large areas where the species can persist. It is likely that these areas would be acquired in areas that would help conserve existing corridors in the region.” (*Id.*) These conclusory statements have no support in the DEIR and are legally inadequate to justify the mitigation offered for the loss of movement corridors resulting from the project. Thus, the DEIR fails to provide any evidence that the mitigation for the loss of kit fox movement corridors will reduce the impact to a level of insignificance, in violation of CEQA.

D. “Take” of Kit Fox

Moreover, under CESA the lead agency must meet a yet higher standard: it must *fully* mitigate the impacts to listed species. On this score the DEIR fails as well. In a memo dated May 20, 2009 (attached hereto as Exhibit 13), DFG specified several legal requirements under CESA that would apply to a similarly situated project proposal located within what is now the Topaz project “Option A” site (*i.e.*, the project proposal known as the now-abandoned Carrizo Energy Solar Farm (CESF)). That memo pointed to several provisions of CESA which the applicant would be required to fulfill. Its demands apply equally to the Topaz project. In particular, as specified in the memo the following sections of CESA (Title 14, Section 783.2), among others, apply to the Topaz project:

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1. “783.2(a)(5), 783.2(a)(6): These Sections require ‘An analysis of whether and to what extent the project or activity for which the permit is sought could result in the taking of species to be covered by the permit’ and an analysis of the impacts of the proposed taking. *Identifying the extent and impacts of the ‘take’ is necessary to identify what constitutes full mitigation.*” (Italics added)
2. 783.2(a)(7): “This Section assists the permitting agency in determining whether incidental take authorization for the Project would jeopardize the continued existence of the species. ... *We did not find any analysis related to known population trends and the effect this Project and related projects may have on the species as a whole. Specifics about the mitigation proposal ... are required to make a jeopardy determination as well.*” (Italics added)
3. 783.2(a)(8): “This section requires a description of the measures to minimize and fully mitigate the impacts of the proposed taking. The Application proposes "the purchase of sufficient lands" within Sections 32 and 33, *The amount and location of lands proposed for conservation within those Sections is unspecified. The mitigation proposal should specify the amount of area within these Sections that is proposed for conservation. The application should also substantiate how conserving areas within these two Sections would fulfill two of the primary requirements for fully mitigating the Project impacts to kit fox: a) maintaining the existing level of habitat connectivity, and b) providing for at least the same number of individual kit foxes as the baseline conditions. ... Mitigation measures must first maintain existing levels of habitat connectivity given a reduced corridor width in order for us to concur that the Project's impacts are fully mitigated.* (Italics added.)
4. 783.2(a)(10): This Section requires a description of the funding source and the level of funding available for implementation of the minimization and mitigation measures. *The Application currently contains no discussion on funding assurances.* (Italics added.)

The failure of the DEIR to comply with CESA with respect to the language highlighted in italics above is dramatic. Until these deficiencies are cured, DFG cannot confer incidental take authorization to the Topaz project for the kit fox.

The DEIR states, “It should be noted that the take of [kit fox] would be authorized only through an Incidental Take Authorization from CDFG and the completion of a Biological Opinion from the USFWS.” (C.6-54.) Given the potentially grave impacts to the Carrizo Plains Core subpopulation, the DEIR would seem overly optimistic in its assertion that a mere Biological Opinion from FWS will suffice. As noted above, FWS’s own Five-Year Review document warned of an impending extirpation of the kit fox Carrizo Plains Core subpopulation if poor environmental conditions affecting its prey base arise. Nine million solar panels covering some

4,000 acres will likely have a dramatic impact on the vegetation supporting the kit fox's prey base. Significant amounts of vegetation have already been removed from the project site through agricultural disking. (See Exhibit 10.) The construction phase of the project alone will likely have severe, adverse impacts on kit fox prey base.

This conclusion is warranted not only because the DEIR fails to demonstrate otherwise, but also because the DEIR's "Habitat Restoration and Revegetation Plan" manifestly ignores the vegetative needs of kit fox prey base. Under these deficiencies, a Biological Opinion from FWS will not suffice. The FWS must require an Incidental Take Permit for the kit fox providing measures in a Habitat Conservation Plan that will actually mitigate these severe impacts. It is doubtful whether these impacts can be mitigated at all in light of the dire situation the subpopulation in the Carrizo Plains Core would face upon project approval. Likewise, it is doubtful whether these impacts can be fully mitigated to comply with CESA.

Therefore, the DEIR must be re-written and re-circulated with an adequate analysis of impacts to the kit fox and a valid mitigation plan. In the last analysis, the Topaz project will have to be re-configured so as to avoid any take of kit fox or its habitat. Most likely, the only way to do this will be to relocate the project entirely. Otherwise, the aforementioned deficiencies cannot be cured and project approval will be in violation of law.

B. Other Animal Species

1. California Condor, Golden Eagle, Bald Eagle, American Peregrine Falcon, White-tailed Kite, Migrating Birds, Raptors, Wintering Birds, and Songbirds

The California Condor, Golden eagle, Bald eagle, American peregrine falcon, and White-tailed kite are all California fully protected birds. (Fish and Game Code (FGC) Section 3511.) Impacts BR-12 and BR-13 state that these birds will be impacted by the project. Specifically, Impact BR-12 details that some of these species will lose foraging habitat. As mitigation for these impacts, the DEIR proposes "the acquisition of mitigation lands associated with San Joachin kit fox." (C.6-46.) The DEIR does not provide an analysis to establish that the proposed mitigation for the kit fox is proper or adequate mitigation for these other species. Moreover, given the deficiency of this mitigation measure as to the kit fox, it cannot stand as a mitigation measure for these birds. The value of the mitigation cannot be measured or estimated since the land has not yet been identified nor potential land adequately held to specific criteria designed to provide foraging habitat for these birds. The DEIR therefore relies entirely on mitigation onsite for impacts to these birds.

The California Condor is a fully protected species and is listed as endangered both federally and

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by the state. Impact BR-11 lists a number of potential impacts to the California condor, including possible mortality from vehicle collisions, ingestion of ethylene glycol, and electrocution from contact with electrical lines. (*See also* BR-13 and BR-14.) The DEIR attempts to downplay the importance of the project site to Condor foraging but admits that “California condors have the potential to overfly and forage in the project area. Over time it is expected that this species will more routinely frequent the Carrizo Plain as populations expand.” (C.6-44.) The mitigation strategy includes “avoidance measures should condors be observed on the site.” (C.6-45.) However, this strategy does not account for the possibility that condors will be present though not observed, an occurrence for which there is no exemption in FGC Section 3511.

Furthermore, since condors are attracted to animal carcasses, “the applicant would remove animal carcasses (should they occur) from the project site within 24 hours and manage the water storage ponds used for dust suppression during construction.” (*Id.*) Removing carcasses, however, is not allowed under these circumstances because the carcasses are condor habitat. The condor is listed under both state and federal endangered species laws. (*See* Exhibits 1 and 2.) While removing animal carcasses may serve the purpose of avoiding take of condors in order to comply with FGC Section 3511, such removal may constitute a violation of state and federal law. State and federal endangered species laws protect the foraging habitat of listed species. Since the project as described in the DEIR will reduce the range of the California condor, the applicant must obtain an Incidental Take Permit from DFG and FWS authorizing take of California condor. Of course, such an ITP may not authorize physical take of the condor in violation of FGC Section 3511. Only habitat modification would be permitted. Absent express authorization, the applicant will have to leave any animal carcasses on the site alone for the condor. This same problem exists for any species that is both fully protected under FGC 3511 or 3503.5 and listed under state or federal endangered species law.

As for the electrocution of birds, the DEIR seems to rely on the applicant receiving a waiver from the County rule requiring underground electric lines (County Land Use Ordinance Section 22.32.060). Should this waiver not occur, foraging condors and other special status birds will be at the mercy of the mitigation measures provided. While an undergrounding of electrical lines may decrease the likelihood of take, they do not assure that there will be no take, in violation of FGC Section 3511's prohibition of take of fully protected birds. Moreover, they do not assure that any take of fully protected or listed birds will be fully mitigated, in violation of FGC Section 2081.

To the extent that the DEIR relies on offsite mitigation for migrating birds, raptors, songbirds, and wintering birds, the DEIR fails simply because there does not exist the requisite land for such mitigation.

2. Blunt-nosed Leopard Lizard, Nelson's Antelope Squirrel and Giant

Kangaroo Rat

The Blunt-nosed leopard lizard (BNLL) is a fully protected species under California law (FGC Section 5050). As such, take cannot be authorized for this species and no take of the BNLL is allowed. Therefore, any project in suitable BNLL habitat must be certain that there is no occurrence of BNLL in order to comply with the law. The DEIR fails to establish this.

The DEIR states, “Protocol surveys for the blunt-nosed leopard lizard (BNLL) were conducted throughout the PSA (URS 2007, URS 2008, Althouse and Meade, Inc. 2009a, Althouse and Meade, Inc. 2010a.) One additional full protocol survey for 2010 is in progress. ... Methods of the BNLL protocol surveys were consistent with published protocol (*CDFG 1994*).” (DEIR, Appendix 9A, Final Biological Report, p. 114, italics added.) However, the wrong protocol was used, as DFG had previously updated the BNLL survey protocol in May of 2004. (“Approved Survey Methodology for the Blunt-nosed Leopard Lizard,” Department of Fish and Game, May 2004, including letter dated May 2004 addressed to “Blunt-nosed Leopard Lizard Surveyor” dated May 2004, attached hereto as Exhibit 14.) Apparently, the consultants ignored the updated protocol and used an outdated version. Thus, the DEIR fails to use the best available science to assess the project site for BNLL presence. As a result, the project may well take BNLL in violation of FGC Section 5050.

In a letter dated March 26, 2008, DFG expressed its concern for BNLL surveys done in connection with the now-abandoned Carrizo Energy Solar Farm. (Memo from W. E. Loudermilk, Regional Manager, California Department of Fish and Game, to Mary Dyas, California Energy Commission, March 26, 2008, attached hereto as Exhibit 15.) Apparently, this letter addresses one of the URS surveys cited by the Althouse and Meade report referenced above. The URS survey is grouped in the Althouse and Meade report together with all the other surveys done for the BNLL. Thus, it is reasonable to conclude that all of the BNLL surveys done in connection with the Topaz project were done using that flawed methodology.

Specifically:

Based on the limited survey effort, poor survey conditions, and deviation from Department survey protocol, the Department does not concur that the survey effort was adequate to detect presence of this species within the Project area for the previously stated reasons. Because the BNLL is Fully Protected and therefore no “take,” incidental or otherwise, can be authorized by the Department (or any other entity), protocol-level surveys must be conducted prior to any ground-disturbing activities, in all areas of suitable habitat. Suitable habitat includes all grassland and shrub scrub habitat that contains required habitat elements, such as small mammal burrows. These surveys, the parameters of which were designed to optimize detectability, must be conducted to reasonably assure the Department that “take” of this Fully Protected species will not occur as a result of disturbance

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associated with Project implementation. In the event that this species is detected during protocol-level surveys or during incidental observations, consultation with the Department is warranted to discuss how to implement the Project and avoid “take.” Ground-disturbing activities must be avoided in all areas occupied by BNLL. (Memo from W. E. Loudermilk, Regional Manager, California Department of Fish and Game, to Mary Dyas, California Energy Commission, March 26, 2008, p. 5.)

Thus, the DEIR relied on a legally deficient survey methodology for detection of the BNLL, a fully protected species under FGC Section 5050. Protocol-level surveys reflecting the most recent DFG protocols must now be initiated and performed to see whether BNLL are present on the project site. This must be done before the project can be evaluated by the public for its effects on BNLL. Therefore, the DEIR will have to be revised and recirculated to reflect this legal requirement. Impact BR-10 and MM BR-10 must be revised to reflect the appropriate resulting analysis. Impact BR-10, for example, is manifestly unreliable as it relies on the flawed survey methodology to reach its conclusion that “it is likely that BNLL do not occur on the proposed project site or occur in very low densities.” (C.6-42.) Of course, even if BNLL only occurs in very low densities, such occurrence is enough to likely result in prohibited take.

The letter cited above regarding the BNLL survey protocol contains a useful summary at page 3 of CESA’s requirements. (Memo from W. E. Loudermilk, Regional Manager, California Department of Fish and Game, to Mary Dyas, California Energy Commission, March 26, 2008 incorporated herein by reference as Exhibit 15.) This summary of CESA requirements should be consulted and followed in the recirculated DEIR as to every state-listed species that will be impacted by the Topaz project.

The DEIR fails also to provide adequate information as to the presence of Nelson’s antelope squirrel on the project site. The DEIR admits that suitable habitat exists for this species on the site. (C.6-54.) Mitigation for adverse impacts to this species depends entirely on the happenstance of someone noticing an individual squirrel. The DEIR’s conclusion that impacts to this species will be fully mitigated is without foundation.

The DEIR asserts that the project site “does not support” the giant kangaroo rat (GKR). This assertion is not supported by any evidence in the DEIR. In fact, the DEIR elsewhere states, “GKR is known to occur in the project region and has been recently documented approximately 4.5 miles east of the site ... Construction of the proposed project would result in permanent impacts to approximately 1,734 acres and temporary impacts to approximately 1,719 acres of suitable GKR habitat...” (C.6-50.)

Furthermore, the DEIR fails to demonstrate that the GKR does not occur on the site. The DEIR’s text itself carefully avoids stating that the GKR definitively does not occur on the project site, adopting instead the looser language, “Focused surveys of the project site including

extensive use of trap lines and visual searches for burrow complexes or precincts, did not document Giant kangaroo rat (GKR) within the proposed project.” (C.6-50.)

However, an inspection of the survey results reveals a different picture. In the Althouse and Meade, Inc.’s Final Biological Report, appearing in Appendix 9A, a report of a GKR survey performed in June of 2010 on page 130, at Table 18 provides “Topaz Kangaroo Rat Morphometric Data.” Following that table is Table 19, “Williams GIKR Burrow and Scat Morphometrics.” Comparing the two tables enables the reader to evaluate whether the results shown in Table 18 demonstrate the presence of the GKR or, instead, of another kangaroo rat named “Heerman’s Kangaroo Rat.”

On the bottom line of Table 18, reflecting results from USGS Section 33, appear horizontal burrow dimension results consistent with the presence of GKR. The burrow dimensions are 70 width and 75 height, clearly closer to the values for GKR given in Table 19. However, this line identifies the result as demonstrating the presence of Heerman’s kangaroo rat. The given justification is “based on scat dimensions.” Yet, the scat dimensions are just as likely to prove the presence of GKR (6.1 length, closer to Table 19’s value of 6.9 for GKR) than Table 19’s value of 5.2 for Heerman’s kangaroo rat. These results do not justify the study’s conclusion that “... [t]he federally listed endangered kangaroo rat does not occur within the PSA.” (Final Biological Report, p. 127.)

Importantly from a CEQA perspective, there is no discussion or analysis of how the conclusion of no GKR was reached based on these results. All that is stated, in essence, is that a study was conducted and conclusions were reached. “The kangaroo rat borrow and scat measurement study conducted in June 2010 determined all kangaroo rat precincts within the PSA were created and inhabited by the common and widespread Heerman’s kangaroo rat ...” (Final Biological Report, p. 127.) The only evidence in support of this proposition consists of the aforementioned Tables 18 and 19. Those Tables do not demonstrate the conclusion reached. Moreover, there is no *analysis of how* the given results lead to the conclusion reached. This analysis is required under the law. A lead agency “must set forth findings to bridge the analytic gap between the raw evidence and ultimate decision or order.” (*Topanga Association for a Scenic Community v. City of Los Angeles*, 11 Cal.3d 506, 515 (1974))

3. Pronghorn Antelope

Pronghorn antelope require long stretches of land for movement, and have similar corridor requirements as the kit fox. The impacts of the project on pronghorn will be severe. As the DEIR admits, “... [c]onstruction of the project would result in the elimination of approximately 4,104 acres medium high to high permeable areas and result in a significant reduction of the width of the identified highly permeable corridor to the east by 50 percent and reduce the width

of the corridor to the west, *a known choke point*, by approximately 1.2 miles.” (C.6-70, italics added.) Direct impacts include

physical structures ... that block or impede movement. Ground-disturbing activity could interfere with pronghorn movement during construction. Construction could also affect pronghorn in adjacent habitats by interfering with movement patterns and/or causing individuals to temporarily avoid areas adjacent to the construction zone. As construction of the project is anticipated to take place over a minimum of a three year period there is a high likelihood that wildlife use within the project site and adjacent areas would be adversely affected. (C.6-70 to 71.)

Indirect impacts include human disturbance, reduction of visibility, expansion of invasive weeds, and the general obstruction of open terrain. (C.6-71.) “Operational impacts include potential conflicts with grazing management activities, night time lighting that increases predation risk, and increased mortality due to collisions with vehicles.” (*Id.*)

The mitigation provided in the DEIR is entirely inadequate. In disregard of the requirements of the species, the DEIR proposes a “Pronghorn Friendly Fencing Plan” to facilitate pronghorn movement within and through the project site. However, this “plan” amounts to nothing more than good intentions. The pronghorn will not utilize this “Friendly Fencing.” As the October 15, 2008 NOP response letter from DFG makes clear, pronghorn will avoid human activity. As a result, the pronghorn will lose a very significant amount of their foraging habitat because they will simply avoid the project area. DFG states, “[l]oss of foraging area and habitat connectivity would extend well beyond the project footprint. Pronghorn are inherently wary of human activity and structures. Lights, noise, buildings, reflections, and human activity (such as mowing) would cause the pronghorn to avoid the Project area during and after construction by a wide margin, degrading the habitat value of surrounding areas.” (“Notice of Preparation (NOP) for Topaz Solar Farm Conditional Use Permit,” W.E. Loudermilk, Regional Manager, DFG, p. 5.)

The DEIR thus fails to mitigate for impacts to pronghorn antelope in violation of CEQA.

4. Kern Primrose Sphinx Moth

The Kern primrose sphinx moth is federally listed as threatened, as admitted by the DEIR on p. C.6-41. However, only a very limited survey was done for this species. The DEIR fails to provide adequate evidence that this species does not occur on the project site. The DEIR fails to show that any of the many potential impacts listed will be mitigated to a level of insignificance.

C. Plant Species

At the outset, the DEIR contains a significant contradiction with regard to the occurrence of rare plants on the project site. On the one hand, the DEIR states, “Although rare plants were not detected on the project site, irregular plant life histories, and ongoing farming activities can limit the ability to detect rare plants.” (C.6-39.) On the other hand, the DEIR elsewhere states, “Nine species of rare plants were detected on the project site however, [sic.] many occur in areas not subject to direct impacts. In addition several large populations of rare plants were detected.” (C.6-55.) The DEIR goes on at that point to identify some of the rare plant populations found on the project site. It appears that the statement at C.6-39 is inaccurate. This inaccuracy and inconsistency must be corrected if the DEIR is to fulfill its informational function. A reader of Section C.6 could be misled into believing that no rare plants were found on the project site.

The DEIR also fails to mention that “an individual of pale-yellow layia was found” on the project site. This species is listed as “very endangered in California.” (Preliminary Staff Assessment Staff Report for the Carrizo Energy Solar Farm, California Energy Commission, November 21, 2008, p. 4.2-8 and 4.2-10, pertinent part attached hereto as Exhibit 16.) A record of this sighting occurs in Appendix 9A in the document titled “Carrizo Energy Solar Farm (08-AFC-8) 2008 Biological Surveys Letter Report” by URS Corporation, the environmental consultant for the CESF project, at . p. 5. However, also in Appendix 9A, the document titled “Topaz Bio - Memorandum 3 - Botanical Data” lists special status plants in Table 3 without including the pale-yellow layia. This table should be corrected to include this endangered plant. Table 1 in that same memo should also be corrected to include the plant. Impacts of the project to this plant must be mitigated to a level of insignificance. The DEIR makes no such demonstration.

2. The DEIR Fails to Identify, Analyze and Provide Mitigation for Direct and Indirect Adverse Impacts to Human Health and the Environment from Hazards and Hazardous Materials, in Violation of CEQA

A. Valley Fever

The DEIR’s treatment of the disease known as Valley Fever (coccidioidomycosis) is grossly insufficient in numerous respects. Primarily, the DEIR exhibits a serious deficiency of information with which the public may make a reasonable evaluation of the risks of the spread of Valley Fever resulting from implementation of the project. The DEIR fails to adequately describe the disease, its effects on human health, recent trends of concern, and the likelihood that workers and nearby residents will suffer from this serious and sometimes fatal disease. Given recent trends of increased incidence of Valley Fever in the region, and the known tendency of the disease to infect construction workers and anyone who comes into contact with dust containing Valley Fever spores, these deficiencies are nothing short of shocking.

1. Characteristics of Valley Fever

The DEIR gives only the most brief description of the disease, and in so doing seeks to downplay its seriousness. The DEIR states:

Construction of the Proposed Project would occur in an area favorable to the growth of the Valley Fever vector, the fungus *Coccidioides immitis*, which grows in soils in areas of low rainfall, high summer temperatures, and moderate winter temperatures. Project construction would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever. However, most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. In addition, mitigation for dust control—Mitigation Measure AQ-1.3 (Reduce fugitive dust), as described in Section C.4 (Air Quality)—would minimize airborne fungal spores. (C.9-30)

That is the extent of Section C.9's analysis of the risks of Valley Fever resulting from the project.

The DEIR fails to present any studies or scientific evidence describing Valley Fever. Such studies are abundant and have increased in number in recent years along with the increase in incidence of the disease. Moreover, public health officials have long known of the possibility of sudden outbreaks of the disease. In 1992, for example, a sudden outbreak in neighboring Kern County resulted in more than 4,000 human infections and 34 human deaths within a 16-month period. That outbreak affected San Luis Obispo County as well. (“Epidemic of Valley Fever Ravaging Kern County,” *Los Angeles Times*, December 23, 1992, attached hereto as Exhibit 17)

The DEIR attempts to downplay the seriousness of the disease by asserting, “... most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu like symptoms and never seek medical attention.” (C.9-30) This statement appears cavalier given the seriousness of the disease to some people. The DEIR fails to mention, for example, that higher risk factors for Valley Fever include African-American race, middle and older age, pregnancy, and immuno-deficiency. In a recent study reported by the Centers for Disease Control, these risk factors were confirmed, with death rates markedly higher for persons with AIDS. (“Estimating Severe Coccidioidomycosis in California,” Flaherman, et. al., *Emerging Infectious Diseases*, Vol. 13, No. 7, July 2007, pp. 1087-1090, attached hereto as Exhibit 18) The same study states, “...[p]regnant women were more likely than nonpregnant women to be hospitalized” for the disease. (*Id.* At p. 1087)

The incidence of Valley Fever has been steadily rising in California. According to a recent study of a Valley Fever outbreak among construction workers at Camp Roberts, “From 2000 to 2006, incidence rates for coccidioidomycosis more than tripled in California, increasing from 2.4 to 8 .

0/100 000 statewide [2]. From 2000 to 2007, rates increased from 14.7 to 53 . 9/100 000 in the highly endemic San Joaquin Valley region [2].” (“Point-source Outbreak of Coccidioidomycosis in Construction Workers,” K.C. Cummings, et. al., Epidemiol. Infect. (2010), 138, 507–511, October 22, 2009, attached hereto as Exhibit 19)

The symptoms reported by this study were anything but the routine flu-like symptoms which the DEIR ascribes to most cases. “This current outbreak was notable for the rapid onset and high proportion of symptomatic infections, significant morbidity including one case of disseminated infection, and lengthy periods of disability.” (*Id.* At p. 508) Pneumonia was also reported. (*Id.*)

Valley Fever is known to be a frequent cause of community-acquired pneumonia (CAP). (*See*, e.g., the CDC research paper, “Coccidioidomycosis as a Common Cause of Community-acquired Pneumonia,” Valdivia, et. al., Emerging Infectious Diseases, Vol. 12, No. 6, June 2006, attached hereto as Exhibit 20)

A recent article dated November 15, 2010 reports that “[a]ccording to the Public Health Department, so far this year, there have been 945 cases of valley fever. That’s twice as many compared to last year, and 300 more than the average for the past five years. Most of the cases were reported in the past two months.” (“Cases Of Valley Fever Skyrocket,” KERO23ABC, East Bakersfield, November 15, 2010, attached hereto as Exhibit 21)

Valley fever spores have been documented to travel as many as 500 miles. (Valley Fever Epidemic, David and Sharon Filip, Golden Phoenix Books, 2008, p. 24, excerpt attached hereto as Exhibit 22 and cited with permission) Moreover, “[a]nything that can disturb dust or soil can also release Coccidioides into the air. However, those who are closer to the soil disturbances may inhale many more spores, and consequently may increase the risk of a more severe infection.” (*Id.*) Thus, valley fever carries with it a serious occupational hazard for workers involved in construction, agriculture, and other outdoor activities, especially in an endemic area where movement of dirt occurs. (*Id.*)

Pregnancy is a high risk factor for valley fever. “Disseminated Valley Fever occurs up to 100 times as often in pregnant women than in the general population. [citation] Another study shows pregnant women were ten times more likely to suffer the most severe Valley Fever symptoms than non-pregnant women who also had the disease. [citation]” (*Id.*, p. 28) The results can be devastating, including abortion, premature birth, and death of the fetus *in utero*. (*Id.*) Pregnancy is associated with a degree of suppression of the immune system, so that the immune system does not attack the fetus as a foreign body.

Race is another risk factor. “Hispanics, Asians, and Native Americans are often considered to suffer from Valley Fever with the worst symptoms more often than Caucasians. [citations] People of Filipino and black heritage, however, are widely known to have the most severe cases more

often than other races.” (*Id.*, p. 29) The DEIR makes no mention of these high risk factors. Environmental justice requires that this omission be cured, especially since members of some of these races live in proximity to the Topaz project site. Members of these races also attend the Carrisa Plains Elementary School. (*See* Executive Summary, “School Accountability Report Card Reported for School Year 2008-09 Published During 2009-10,” Carrisa Plains Elementary School, attached hereto as Exhibit 23)

Valley fever can lead to other fatal diseases and re-infection can occur long after symptoms have disappeared. “Valley Fever can even kill its victims through pneumonia, meningitis, and other horrors in its worst cases, or activate decades after the initial infection.” (*Valley Fever Epidemic*, p. 38) Valley fever can cause arthritis. (*Id.*, p. 36) “Depending on where Valley Fever causes inflammation within the body, a patient may experience arthritis, conjunctivitis, endocarditis, meningitis, myocarditis, osteomyelitis, pleuritis, tenosynovitis, vasculitis or a variety of other painful or life-threatening conditions.” (*Id.*, p. 21)

Other risk factors include diabetes, malnutrition and socioeconomic status. (*Id.*, pp. 33, 37) “Even the risk of ‘socioeconomic status’ with an annual income below \$15,000 was seen to be a risk factor for the most serious Valley Fever conditions.[citation] This finding may be due to any number of reasons, from increased likelihood to work in dusty environments where high doses of spores could be inhaled, to a lack of ability to pay for medical care and thus only visiting doctors when symptoms are at their worst.” (*Id.*, p. 37) Recently it was reported that ninety-two percent of the students at the Carrisa Plains Elementary School were “socioeconomically disadvantaged.” (*See* “School Accountability Report Card Reported for School Year 2008-09 Published During 2009-10,” attached hereto as Exhibit 23)

Youth has been shown to be a heightened risk factor as well. This makes sense, since children do not have fully developed immune systems.

Valley Fever is also common in the very young. [citation] Meningitis and other forms of dissemination were even more common in children than adults in a study in Mexico. This study also reported the occurrence of “epidemics of infantile coccidioidomycosis.” [citation] An American retrospective report found that [U.S.] nationwide Valley Fever hospitalizations in children during 2002 led to an 8.5% death rate, which was higher than the 5.7% adult death rate. [citation] (*Valley Fever Epidemic.*, p. 33)

The DEIR omits all of this technical information completely. The DEIR also fails to mention two salient, well established facts: Valley Fever can be fatal, and there is no known cure.

2. Valley Fever Impacts and Mitigation

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On top of these manifold informational deficiencies, the DEIR fails to mitigate for the admitted impacts that project activities will have in promoting Valley Fever. As noted above, the DEIR states, "Project construction would disturb the soil and cause the fungal spores to become airborne, potentially putting construction personnel and wildlife at risk of contracting Valley Fever." (C.9-30) For mitigation, the DEIR relies upon mitigation measure AQ-1.3 (Reduce fugitive dust). But that measure was designed to comply with the standards set forth by the San Luis Obispo County Air Pollution Control District for control of vehicle emissions and the like. These measures are woefully insufficient to prevent the spread of Valley Fever Spores.

For example, MM AQ-1.3 measure number 2 provides: "Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site." (C.4-14) No explanation is given as to why a speed of, say, 13 MPH will not produce dust in quantities to spread Valley Fever spores. On dry land, offroad a speed of 13 MPH could produce significant dust in the air. If spores are present in that dust, infection to workers inhaling the dust is likely. If wind conditions are present, the dust could be blown to neighboring lands and infect persons in the vicinity of the project. No mitigation is provided for this foreseeable impact, nor any adequate avoidance measures to prevent it.

Furthermore, MM AQ-1.3 number 2 provides, "Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible." This measure falls short on a number of counts. First, use of water for dust suppression depends on the availability of water. Water resources are limited in the Carrizo Plain. There is no certainty that water will be available for this purpose, particularly during periods of drought, when dust control is both more needed and more challenging. Second, increased frequency of watering does not necessarily prevent fugitive dust. By what quantity of time interval is the watering to be increased? How quickly will the watering trucks be deployed in the event of a sudden outbreak of wind gusts? These questions are not answered. The Carrizo Plains area is well known for significant dust storms and high wind conditions such as parabolic troughs that carry dust over long distances. Neither avoidance measures nor mitigation is provided for the effects of the project on foreseeable valley fever spore distribution and infection.

Those (vehicle speed limits and watering) are just two examples. MM AQ-1.3 is deficient, is not designed with Valley Fever in mind, and does not mitigate the effects of the project that will cause Valley Fever.

Workers at the site, as noted above, will be especially vulnerable to Valley Fever. For some reason, the DEIR ignores the County's own guidance on protecting workers from Valley Fever. This guidance is located on the County's website. ("Recommendations for workers to prevent infection by Valley Fever in SLO County," attached hereto as Exhibit 24) Those recommendations go well beyond the measures presented in MM AQ-1.3.

For example, the County recommends:

5. that workers “wear respirators when working near earth moving machinery.”
6. Operators should provide “HEP-filtered air-conditioned enclosed cabs on heavy equipment.”
7. Operators should “provide National Institute for Occupational Safety and Health (NIOSH)-approved respirators for workers without a prior history of Valley Fever.”
8. “Employees should be medically evaluated, fit-tested, and properly trained on the use of the respirators, and a full respiratory protection program in accordance with the applicable Cal/OSHA Respiratory Protection Standard (8 CCR 5144) should be in place.”
9. that “half-face respirators equipped with N-100 or P-100 filters should be used during digging.”

among many other measures.

None of these measures are provided for in the DEIR. All of the measures in the County Guidance on Valley Fever avoidance should have been included in this DEIR.

Even with these additional measures, however, the DEIR has a serious problem: preventing the fugitive dust from reaching neighboring lands and spreading Valley Fever spores to nearby residents. MM AQ-1.3 is inadequate to this task. For example, MM AQ-1.3 measure number 2 provides that highly windy conditions will merely require increased water use for dust suppression. The County guidance, on the other hand, recommends that operators altogether “*avoid* outdoor construction operations during unusually windy conditions.” (Italics added) Indeed, avoidance of operations during windy conditions would seem the only possible way to avoid the spread of fugitive dust onto neighboring properties.

Sensitive receptors exist within close proximity to the project site. These sensitive receptors include the Carrisa Plains Elementary School, where young children will be present and vulnerable to infection from spores. As the DEIR admits,

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill and the chronically ill, especially those with cardio respiratory diseases. As shown in Section B (Project Description) Figures B 2 and B 3, the Option A Study Area contains 15 occupied residences within 0.25 miles (1,320 feet) and the Option B Study Area contains 6 occupied residences within 0.25 miles (1,320 feet). The Carrisa

Plains School building is within 0.33 miles (1,760 feet) of the project boundary. (C.4-7)

No provision is made in the DEIR for avoiding the impacts of Valley Fever-laden fugitive dust to these sensitive receptors. The DEIR provides no information or evidence to justify its conclusion that MM AQ-1.3 “would minimize airborne fungal spores.”

And in contrast to the DEIR’s cavalier assertion, even if true, that “most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention,” the disease has been known to cause death in young children like the children who attend the Carrisa Plains Elementary School. On November 1, 2010, Ashton Maxwell Hamilton, a six-year old boy, died of Valley Fever and meningitis. His obituary appears below.

Ashton Maxwell Hamilton (2004 - 2010)

Ashton Maxwell Hamilton, 6, of Soledad, passed away peacefully surrounded by family and close friends at Lucile Packard Children's Hospital on Monday, Nov. 1, 2010. He was born June 24, 2004, in Salinas. Ashton had been battling with "Valley Fever" and meningitis for over nine months. Ashton will be forever remembered by his loving family as the little boy who was always extremely caring and generous to any person he met.

A Celebration of Ashton's life will be held Saturday, Nov. 13, from 12 p.m. to 5 p.m. at the Echoes From Calvary Church, 1025 Post Dr., Salinas, Calif. 93907.

A foundation is being established in his name, ashtonmhamiltonfoundation@yahoo.com, as well as a Facebook page, Ashton M. Hamilton Foundation. Ashton's parents are requesting donations of children's toys instead of flowers for a holiday toy drive in his honor.

Funeral arrangements by Struve and Laporte Funeral Home.

Online condolences to www.struveandlaporte.com

Published in The Salinas Californian on November 10, 2010

(Found at

<http://www.legacy.com/obituaries/thecalifornian/obituary.aspx?n=ashton-maxwell-hamilton&pid=146530777&fhid=2351>)

Thus, the implementation of the Topaz project could pose the following foreseeable scenario. Construction crews begin excavating large quantities of dirt in an area containing Valley Fever spores. A large wind gust takes hold. Crews attempt to suppress the dust with water. The wind is too strong to allow for dust suppression. The dust blows to neighboring residences or the

Carrissa Plains Elementary School. One or more children acquire the disease, with potentially deadly consequences.

Given this possibility, would the County not be wise to seriously consider rejecting the project in this vicinity and adopting a preferred alternative locating the project where these severe health risks are not present?

B. Cadmium

The DEIR fails to provide adequate mitigation for potential exposure to cadmium in a number of respects. Furthermore, the DEIR's treatment of the risks of cadmium exposure is flawed both with respect to occupational and residential hazards of cadmium and cadmium compounds and end-of-life recycling of cadmium and cadmium compounds.

The DEIR expects approximately 100 panels to break each year, and 2,500 panels to break during the 25-year panel life. No evidence is provided for these figures or to explain why the figures should not be greater. Even with that rate of panel breakage, there is a significant chance that cadmium will leach into the environment. Specifically, "[i]t is possible that very small amounts of cadmium could leach out of a broken panel if the cadmium were exposed to natural precipitation that has a low pH. ... CdTe film that is exposed to natural precipitation in the environment that has a low pH (pH<6) could exhibit *substantial* leaching of Cd and Te." (C.9-18, italics added) The DEIR adds, "the impact of any leaching due to the low depth to ground water could be significant to area residents." (C.9-19)

The DEIR goes on to state, "Additionally, there is a small risk that panels broken during installation or operation (as a result of accidents, vandalism, or earthquakes) would release CdTe particles or flakes into the environment during panel removal and off site transport. Removal and off site transport of broken panels would therefore pose a significant risk to on site personnel and members of the public at the Visitor Center and in residences surrounded by the project." (*Id.*)

For these potential impacts the DEIR offers Mitigation measure MM HZ-1.7, which, according to the DEIR, "would ensure that the methods used to inspect, gather, and contain broken panels would *minimize* the release of CdTe through leaching or direct CdTe release and *reduce* exposures to the public and project employees." (C.9-19, italics added)

No evidence is provided that such "minimization" and "reduction" would result in levels of cadmium exposure that are safe. With regard to broken panels among the arrays, MM HZ-1.7 provides that "the Applicant shall inspect the solar field daily for broken panels, either by visual inspection or electronic inspection if such inspection techniques can be demonstrated to be as effective or more effective than visual inspections ..." (C.9-23) This measure assumes that it is

feasible for workers to visually inspect nine million panels *each day*, a highly questionable proposition. It is likely that a broken panel could be ignored and could leach cadmium into the ground during a rainstorm. Reliance on visual inspection does not provide adequate assurance that panel breakage will be noticed, for example, during a strong rainstorm which might present challenges to the daily inspection of nine million panels.

As for the transport and handling of broken panels, MM HZ-1.7 falls short as well. The DEIR should incorporate the measures listed in the document, "Occupational Exposure to Cadmium in the Construction Industry," promulgated by the Occupational and Safety Health Administration (OSHA) ("Occupational Exposure to Cadmium in the Construction Industry," OSHA Office of Training and Education, May 1996, attached hereto as Exhibit 25). Such measures are absent from this DEIR and include, *inter alia*, procedures for wearing respirators, emergency preparedness, measures for employees exposed to cadmium, measures to clean up cadmium contamination, and other measures.

As for the recycling of cadmium, the DEIR provides a vague plan (MM HZ-1.6) that defers the method of recycling panels to the future. Under this measure, the applicant will submit a plan to the County detailing "how these project components will be disposed of in a manner that will not pose a risk to human health or the environment, how the recycling and disposal shall comply with applicable federal and state law, and their costs." (C.9-23)

The County should be aware that the applicant may not be able to provide such a plan with respect to cadmium. In a recent report apparently prepared for First Solar, it was determined that First Solar will not pursue a market for the recycling of cadmium but will pursue a market for the recycling of tellurium. ("Final Technical Report, Environmentally Responsible Recycling of Thin-Film Cadmium Telluride Photovoltaic Modules," DOE Project Number DEFG02-95ER82068, John Bohland, Principal Investigator, DOE Patent Clearance Granted by Daniel D. Park, November 6, 2010, attached hereto as Exhibit 26) As stated in the report, "As mentioned above, an economically viable recovery pathway for cadmium was not achieved and was consciously abandoned because of the low intrinsic value of cadmium and the low percentage of cadmium in the recycled materials stream. On the other hand, a potentially economic pathway of selectively reclaiming tellurium from the mixed metal sludge resulting from the precipitation of the etched elements was defined." (*Id.*, p. 3) As a consequence, it appears that the applicant will recycle the tellurium from the panels but not the cadmium. No information is disclosed in the DEIR as to how the applicant will recycle the cadmium.

In this regard, it should be noted that the applicant has withheld information relevant to the evaluation of the project. On December 8, 2010, the applicant obtained a Preliminary Injunction in a California Superior Court against the California Department of Toxic Substances Control (DTSC) preventing the disclosure of trade secret information relating to DTSC's prospective rulemaking concerning the waste classification of solar panels. The applicant is apparently

attempting to achieve the exclusion of solar panels from their current hazardous waste classification under state law. Apparently, DTSC was obligated to respond to certain Public Records Act (PRA) requests for documents relating to the prospective rulemaking. The applicant moved for and received a protective order to prevent such PRA disclosures.

This DEIR does not disclose whether the County has any information concerning the relevant proceedings of DTSC or indicating whether the applicant intends to treat broken or decommissioned panels as hazardous waste. To the extent that disclosing such information will not reveal trade secrets, the County should disclose such information in the DEIR. The County has an obligation to do so in order to satisfy the informational requirements of CEQA; failure to do so constitutes a failure to proceed according to law. “If an EIR fails to include relevant information and precludes informed decisionmaking and public participation, the goals of CEQA are thwarted and a prejudicial abuse of discretion has occurred.. (Citations).” (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 128.)

Moreover, if broken or decommissioned solar panels are not classified as hazardous waste, they could end up in one or more landfills. The DEIR must state this and evaluate the environmental effects thereof.

The DEIR contains a broad discussion of cadmium telluride but barely mentions cadmium sulfide, another component in the solar panels. The DEIR contains no discussion at all of the potential of cadmium sulfide or the cadmium from cadmium sulfide to pollute the environment. As the DEIR admits, the issue of toxic exposure from cadmium sulfide was included in the Scoping phase for the project. (C.9-2) Failure to evaluate the potential for adverse impacts from cadmium sulfide thus constitutes a failure to proceed according to law.

An independent review of the Hazards section of the DEIR was undertaken by a scientist at the University of California, Berkeley Department of Environmental Science, Policy and Management. That review is attached hereto as Exhibit 27 and is incorporated herein by reference. The DEIR should be revised to reflect the analysis and recommendations contained therein.

3. The DEIR Fails to Provide Mitigation for Direct and Indirect Adverse Impacts to Agricultural Resources, in violation of CEQA
 - A. Conversion of Important Farmland to Non-agricultural Use

Impact AG-2 discloses that “[o]peration would permanently interfere with active agricultural operations and would permanently convert Important Farmland to non-agricultural use.” (C.3-

15) Moreover, “implementation of Option A would permanently convert approximately 4,100 acres of Important Farmland to a non agricultural use.” (*Id.*)

The DEIR states, “approximately 7,620 acres of the project site are classified as Prime Farmland (if irrigated) or Farmland of Statewide Importance.” (*Id.*) Additionally, Figures C.3-1 and C.3-2 (Farmland Classifications for Option A and B, respectively) identify certain land as “prime farmland if irrigated.” The designation “prime farmland if irrigated” is inaccurate and misleading and must be removed from the DEIR. Prime farmland need not be irrigated.

Table C.3-3, Applicable Regulations, Plans, and Standards, offers a definition of prime farmland as follows: “Farmland that has the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.” (C.3-6) Moreover, the discussion under “Soil types and Definitions” contains this definition of prime farmland:

land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban built up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply *from precipitation or irrigation*, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. ...” (C.3-4, italics added)

There is no requirement for irrigation in these definitions. Because of the substantial confusion over this issue accompanying the proceedings of the County’s revision of its General Plan in the spring of 2010, the DEIR should acknowledge that irrigation is not required for prime farmland classification. (For further discussion of the definition of prime farmland, see Attachment 2 to letter dated December 9, 2010, from this office to Terry Wahler, Senior Planner, Land Conservation Program, San Luis Obispo County Department of Planning and Building, attached hereto as Exhibit 28.)

Mitigation measure MM AG-2.1 proposes to mitigate for the loss of farmland “through permanent preservation of off-site farmlands.” (C.3-17) However, the extensive conversion of Important Farmland to non-agricultural use will not be mitigated by this measure to a level of insignificance. The DEIR admits this flaw when it states, “even with the implementation of Mitigation Measure AG 2.1, the Proposed Project’s impacts to agriculture would remain significant and unavoidable.” This conclusion holds for both Options A and B. (C.3-18)

B. Impact on Williamson Act Lands (Option B)

Should Option B be chosen, the applicant would rely on the cancellation of several Williamson Act contracts currently occurring within the project site. However, these cancellations cannot be accomplished as requested by the applicant. This office has set out in detail reasons why the Williamson Act cancellations cannot be granted by the County consistent with California Government Code Sections 51282(a)(2) and 51282(c). (*See* letter dated December 9, 2010, to Terry Wahler, Senior Planner, Land Conservation Program, San Luis Obispo County Department of Planning and Building, attached hereto as Exhibit 28). As that letter concludes, in order to comply with the Williamson Act, the applicant must either avoid all lands subject to Williamson Act contracts or wait until the contracts expire in 2018 to develop those lands. This conclusion would appear to eliminate Option B from consideration as a potential location for this project, unless the project is revised so as to avoid development of Williamson Act lands until 2018.

4. The DEIR Fails to Accurately Describe the Risk of Fire at the Project Site and the Impacts Thereof, and Fails to Mitigate for the Effects of Fires

The DEIR states at C.9-26, “[t]he characteristics of the site present only a moderate fire hazard...” This statement appears to be inaccurate; in fact, the area of the proposed project is rated by the California Department of Forestry and Fire Protection as a “High” Fire Severity zone (*See* CAL FIRE map attached hereto as Exhibit 29) The DEIR must correct this inaccuracy to reflect the proper Hazard rating for the area. The DEIR must also adjust the impact analysis and mitigation provided to account for the High rating.

Additionally, MM HZ-5.1 “would ensure that vegetation at the project site is maintained at a height no greater than 4 inches” to ensure against a fire hazard. This measure may be well to address the risk of fire, but no analysis is provided of what effect this measure will have on kit fox prey that relies on vegetation. This analysis must be provided in light of the supreme importance of the availability of kit fox prey and its vegetative base as discussed above. Once again, the DEIR falls flat with respect to its informational obligations.

5. The DEIR Fails to Mitigate Impacts to Aesthetic Resources, in violation of CEQA

As mentioned at the outset of this comment letter, the Carrizo Plain is a visually stunning area that has no equivalent in the state of California. The project would radically alter this unique character. This means the DEIR must meet a very high standard. As the DEIR admits, “visual impacts are a function of the existing visual quality of the project landscape setting. Impacts to landscapes of high visual quality are more likely than impacts to settings of poor quality.”

(C.2-10)

The impacts of the project on aesthetics include impacts from construction activities ranging from the erection of structures to the use of night lights, and a laydown site presenting “an industrial, visually disordered view of equipment and stored material for a period of up to three years. This would represent an immediate contrast with the existing open expanse of open grassland and dry farming, and an aesthetically incompatible site open to public view for the duration of construction, a potentially significant impact (Class II). Mitigation Measure AE 1.1, opaque fencing of Section 35 laydown area, is recommended to address this impact.” (C.2-11)

However, opaque fencing hardly serves to cure an impacted viewshed; it merely substitutes one unsightly scene for another. If opaque fencing actually did mitigate the impact to a level of insignificance, the applicant could simply leave the opaque fence for the duration of the operational phase as well. This prospect is of course manifestly absurd. It brings the mind, literally, the concept of a “Potemkin village.” The DEIR here is attempting to mitigate the unmitigable.

Likewise with night lighting, the DEIR, in its very brief discussion of the topic, proposes that “Night lighting of construction and parking areas shall be minimized in both brightness and extent to the maximum extent possible, and consistent with the safety needs of the facility.” (C.2-12) There is no evidence provided of how this limited measure will address “substantial headlight glare and ambient off-site night lighting (‘light pollution’).” (C.2-11) It is of no comfort that this impact is referred to as “temporary” (*Id.*); the construction phase will take place over some three years (B-30), during which time the monstrosity will dominate the landscape, fundamentally altering the experience of this area by both human and wildlife residents.

The use of the night sky by wildlife such as kit fox, western spadefoot toad, Kern primrose sphinx moth, bats, birds that require migratory corridors, and species such as kit fox, pronghorn and tule elk that require permeable corridors, among others, could all be adversely affected by the night lighting of the project, both in its operational and construction phases. The mitigation provided is inadequate to address these impacts. For example, no evidence is provided that the measures will mitigate the increased kit fox predation from night lighting. (C.6-53)

As for operational impacts, the consequences to the natural character of the area will be no less radical and scene-altering. Visibility from major public vantages will be high and the natural character of the extraordinary vistas will be ruined. As the DEIR admits, “motorists on Highway 58 would see prominent views of the project from elevated viewpoints as they descended into the Carrizo Plain from the west or east respectively.” (C.2-13) There is simply no possibility of mitigating for this impact.

The problem of glare also looms large. The Topaz Solar Farm Reflection Study reached

conclusions that not only would the glare from the panels seriously affect the viewshed as drivers approached the area, but would also pose a safety hazard to drivers. (C.2-23) As a mitigation measure, opaque fences are proposed to block light from the panels. (C.2-25) As with the fences proposed for the construction phase, this mitigation measure is wholly inadequate to address the loss of the basic character of the viewshed. While it may be effective as a safety measure, it is not effective as a mitigation for the loss of the visual character of the area.

Moreover, an opaque fence as a mitigation measure for glare does not address potential effects of glare on aviation. In fact, this issue is not addressed at all in this DEIR. An airport exists in the vicinity of the project. As this issue was raised in the scoping process in a letter from Tim and Mary Strobridge dated June 18, 2010 (See Appendix 1A), failure to address this issue constitutes a failure to proceed according to law.

The maps depicting simulated site conditions appear unreliable in that there is no way of knowing to what extent they accurately depict the brightness of the project components in relation to the natural landscape. Even so, a brief look at Figures C.2-4 and C.2-5 reveal a substantial interference with the natural landscape from the transmission towers and project structures, as well as the arrays themselves. These impacts are unmitigable.

Since all these problems are essentially unmitigable by nature, perhaps it is no surprise that the DEIR admits that the cumulative impacts to visual resources from this project combined with other reasonably foreseeable future projects such as the CVSR project and the transmission line reconductoring and switchyard construction would “be considered significant and unavoidable.” (C.2-34)

On top of all these problems, as the DEIR admits, “[b]ecause of the rural nature of the project area, there is no public lighting in or near the project vicinity. Consequently, night skies are very intact and dark, and vulnerable to impact from ambient night lighting of any kind.” (C.2-23) This character of the area means that essentially any impacts from night lighting of the project are unmitigable. As with so many other issues arising from this project, the site location is simply unsuitable for the Topaz project.

6. The DEIR Fails to Identify, Analyze and Mitigate for Impacts to Water Resources, in Violation of CEQA

The DEIR’s description of the environmental setting with respect to water resources is incomplete and must be corrected to reflect the current “overdraft” state of the groundwater in the area.

The DEIR states, “[w]ater supply conditions for San Luis Obispo County are described in the County’s Water Master Plan.” This statement misses the mark, as an important document titled “Master Water Plan *Update*” (italics added) also contains relevant information not found elsewhere. For example, that Update shows that demand for water exceeds availability by 660-705 acre-feet. (San Luis Obispo County Master Plan Water Update, Water Planning Area #8 - California Valley, WRAC March 30, 2001, attached hereto as Exhibit 30a) This figure representing water deficiency for the Carrizo Plain should be included in the DEIR.

A more fundamental problem with the water analysis, however, is that more study needs to be done in order to accurately evaluate the availability of ground water. The County has not done what would have been a feasible study. The County’s Master Water Plan reflects that such a study is needed, and that the information to perform the study is available.

Published hydrogeologic information for this basin is compiled from older reports old and may not be representative of current conditions. If the District requires more current or detailed information for this basin, new studies would be necessary. Information currently compiled by County departments (such as well logs for private wells or water quality for shared well systems) would be useful to these studies. Additional information may be available from the DWR and private sources. (Technical Memorandum No. 2, from Steve Tanaka, Wallace Group, to Jose Gutierrez, Carollo Engineers, March 29, 2010, attached hereto as Exhibit 30b)

The DEIR should be updated to reflect the most recent information. The County should perform the needed basin study to ascertain the amount of groundwater in the Carrizo Plain. “If an EIR fails to include relevant information and precludes informed decisionmaking and public participation, the goals of CEQA are thwarted and a prejudicial abuse of discretion has occurred.. (Citations).” (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 128.) This information is crucial in order for the County to demonstrate that there will be the available water for the project’s construction and operation, and for use by nearby residents and farmers who rely on the area’s groundwater. For construction alone, the DEIR states that the Option A project will use 191 acre-feet per year in the first two years (or 273 acre-feet per year if Option B). In the first three years the project is estimated to use 430 acre-feet per year (Option A) or 615 acre-feet per year (Option B). (Table B-5, p. B-35) The DEIR does not provide any reliable evidence that water in these quantities will be available.

The DEIR concludes at C.15-16 that the groundwater basin is not in an overdraft condition. This conclusion is based on a modeling study done by a consultant to the applicant. (*See Appendix 17B*) Modeling generally provides a rough estimate only as valuable as the data and methods used to reach the results of the modeling, and cannot be a substitute for actual data, robust methodology, and scientifically justified conclusions. Actual data, as noted above, was available to reach a definitive conclusion about water availability but the study needed to reach this

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conclusion was not performed. The applicant's study is a self-serving effort to justify the applicant's claimed levels of water use and is an extremely weak legal foundation for any conclusion about groundwater availability. The study basically examines historical water use by residents' wells to reach the unfounded conclusion that the groundwater in the area is not in an overdraft state. Technical memorandum No. 2 does not reach this conclusion; rather, it reaches the obvious conclusion that more study is needed to assess current conditions. (*See Exhibit 30*)

Moreover, the study's conclusion relies upon the prospect of groundwater recharge to restore groundwater levels. This reliance is misplaced, as drought years are common and, as the study itself admits, "there is little to no basin recharge at the center of the study area during years with precipitation below 9 inches ..." (Appendix 17B, p. 8) Furthermore, the County's Department of Agriculture made the following official comment to the California Energy Commission on the CESF project, the area of which the Topaz project now occupies:

The PSA also reaches the conclusion that increased runoff and reduced evapotranspiration will occur on the project site, resulting in increased groundwater recharge. The site's soil, Yeguas-Pinspring complex, has a water holding capacity of 9.2 inches in the top 80 inches of soil (see attached map unit description from the NRCS). This means the site's average annual rainfall (8 inches, according to PSA page 4.9-29) may be entirely "captured" by the site's topsoil, and little or no recharge of the groundwater basin occurs. The project, with its proposed retention/detention basins, may provide some recharge. Without site-specific study of the soil, *any* recharge associated with the project appears speculative. (Letter from Michael Isensee, SLO Dept. Of Agriculture, to John Kessler, CEC, December 30, 2008, italics added, excerpt attached hereto as Exhibit 31)

From this perspective, it would seem foreseeable that if rainfall declines over the next few years, there will be no recharge to groundwater at all. Moreover, this comment points to, once again, the fundamental problem here: the lack of an adequate study evaluating current conditions. Even with the uncertainties surrounding the availability of groundwater, the DEIR admits that "[t]he estimated safe yield, or water available for development, in the Carrizo Plain Groundwater Basin is approximately 8,000 to 11,000 afy, which is less than the projected demand on this groundwater basin of approximately 10,290 to 13,360 afy." (C.15-20) Thus, even the speculative and optimistic estimate of groundwater availability presented by the DEIR will not suffice to meet the demands of the area. No mitigation is offered for the effects thereof to nearby residents and farmers who rely for their livelihood on adequate supplies of water and who have legal rights to that water.

As to the extent of water usage by the applicant, the DEIR states:

The Proposed Project would not use water for electricity generation or for cleaning the solar modules. According to the Applicant, the First Solar PV technology does not require

panel washing. However to address a worst case scenario, the volume of water that would be required for occasional panel washing has been estimated. A reasonable estimate of the amount of water needed to wash each panel is approximately one gallon per panel. With up to 9,000,000 panels included in project design, panel washing equates to approximately 27.6 acre feet per wash event. If washing were to be required, such an event would likely occur once every three to five years. The operational demand of 4.5 afy, plus the potential washing demand of 27.6 afy every three to five years, is a small percentage of the construction demand, and is considered comparable or less than what has been used historically in Study Areas A or B, and significantly less than field and crop irrigation from 1950s to 1970s (CHGI, 2010).

No basis is given for these estimates. The figure of one gallon per panel, for example, is plucked from the sky. Moreover, “[i]f washing were to be required, such an event would likely occur once every three to five years.” The reader is left dumbfounded. Foreseeable droughts and dust storms could require daily washing of panels in the hot summer. The amount of water required could be geometrically greater than estimated in the above cavalier, arbitrary and capricious analysis.

These fundamental deficiencies necessitate that the County discard the entire water resources section of this DEIR and re-write it. But first the County must provide evidence of groundwater availability beyond unreliable models. A full basin study must be conducted to reach a reliable evaluation of water availability, and the County must then justify a realistic level of water use by the applicant without resorting to speculative future recharge. Anything short of these measures will leave the water resources section of this DEIR legally deficient.

7. The DEIR Fails to Consider the Issue of Environmental Justice in Connection with the Topaz Project

Another glaring omission is the lack of consideration in this DEIR for environmental justice. CEQA Guidelines Section 15065 provides as follows:

(a) A lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur:

(4) The environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly.

(14 CCR § 15065(a)(4))

Further, the issue of environmental justice was amply scoped during the scoping process. For

example, a letter from North County Watch dated June 18, 2010 pointed to the issue in no uncertain terms. (*See* Appendix 1A) That letter quotes California law AB 1553, which directs local governments to address the need to provide “for the location of industrial facilities and uses that pose a significant hazard to human health and safety in a manner that seeks to avoid overconcentrating these uses in proximity to schools or residential dwellings...” Nothing in this DEIR addresses this issue.

As noted above, several residential dwellings and an elementary school are in close proximity to the project. And as shown above, there is a substantial population of minority and socioeconomically disadvantaged children at the school. There are Hispanic residents in close proximity to the project. Yet the DEIR makes no effort to address the problems these minority and disadvantaged individuals will face from the project. The lack of any discussion at all is particularly troubling in light of the increased risk factor which certain minorities face with respect to Valley Fever. Moreover, since the issue was scoped by several commenters, the failure to address the issue constitutes a failure to proceed according to law.

This problem must be corrected and a revised DEIR must reflect the required analysis and treatment of the issue of environmental justice. But again, it seems the only way to truly fulfill the requirements in this regard is to relocate the project in a manner that will avoid any disproportionate or unjust impact on minority or socioeconomic communities.

8. The DEIR Fails to Evaluate and Mitigate Cumulative Impacts of the project, in violation of CEQA

Reasonably foreseeable projects that could contribute to the cumulative effects of the project are listed in Table D-1 (page D-2 of the DEIR). This list fails to include 23 Habitat Conservation Plans (HCPs) for the kit fox. HCPs are plans that provide the scientific foundation for Incidental Take Permits, under which habitat by definition will be compromised. The DEIR must consider these HCPs in its cumulative impacts analysis and to what extent this project will combine with those other projects to impact the kit fox. This is especially important given the Five Year Review’s warning that kit fox could become extirpated in the Carrizo Plains Core within 3 to 4 years if its habitat is further compromised (*See* Five Year Review, p. 70, attached hereto as Exhibit 4).

This list of 23 kit fox HCPs appears at the website of the FWS at <http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=A006>

- 09/02/2005 70 FR 52434 52436 Notice of Availability of a Draft Environmental Impact Statement/Environmental Impact Report and Receipt of an Application for an Incidental Take Permit for the East Contra Costa County Habitat Conservation Plan and

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- Natural Community Conservation Plan, Contra Costa County, CA
- 07/21/2005 70 FR 42088 42088 Availability of an Environmental Assessment and Receipt of an Application for an Incidental Take Permit for the Hillcrest Travel Plaza in Fresno County, CA
- 03/30/2005 70 FR 16300 16301 Availability of an Environmental Assessment and Receipt of Applications for Incidental Take Permits for the Arnaudo Brothers, Wathen-Castanos, and River East Holding Sites in Merced County, CA
- 01/25/2005 70 FR 3546 3548 Availability of an Environmental Assessment and Receipt of an Application for an Incidental Take Permit for the Lamont Public Utility District in Kern County, CA
- ARCO Coles Levvee (ARCO Western Energy)
- Cal. Dept. of Corrections Delano Prison
- Cal. Dept. of Corrections Statewide Electrified Fence Project
- Chevron Pipeline
- Coalinga Cogeneration
- EnviroCycle, Inc.
- Granite Construction, Phase 1
- Hillcrest Travel Plaza
- Kern County Waste Facilities
- Kern Water Bank
- Metropolitan Bakersfield
- Nuevo-Torch
- PG&E San Joaquin Valley Operations & Maintenance HCP
- San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
- Seneca and Enron Oil and Gas
- Teichert Vernalis Project, Phases 1&2
- Tulare Irrigation District Main Intake Canal Lining Project
- Warmington Homes Assumption of The Bluffs HCP
- Woodville Solid Waste Disposal Site Expansion

The DEIR admits that cumulative effects will remain significant for a number of issues even after mitigation. These issues include:

- Aesthetics
- Agriculture
- Noise
- Traffic

(The DEIR should clarify whether the list of significant impacts at page E-53 is meant to denote impacts that are significant *after* mitigation. The language “they would *remain* Class I” (italics added) indicates that this list applies to the project as evaluated, as well as to the environmentally

superior alternatives.)

However, as this comment letter demonstrates, direct and indirect impacts to biological resources and hazards remain quite significant even after mitigation. In particular, the conclusion by the DEIR that cumulative impacts to biological resources will be insignificant after mitigation is unjustified for numerous reasons. The lack of inclusion of kit fox HCPs is one problem among many others. The effects of the Topaz project in conjunction with the effects of the CVSR on wildlife migration will be severe and fundamentally unmitigable.

This problem relates back, once again, to the problem posed by the ill-suited nature of this location for the Topaz Solar Farm. The DEIR admits as much in its discussion under "Mitigation for Impact BR-35." (C.6-92) There is simply no way to mitigate for the loss of a critical movement corridor by as much as 50%. Many of the mitigation measures listed at C.6-93 to 95 are either inadequate, as shown above, or defer mitigation to future surveys and other speculative and undefined measures. The cumulative impacts to pronghorn antelope, tule elk, kit fox, migratory and wintering birds and raptors, and numerous other species, many of which are special status species, remain, and will not be mitigated to a level that is less than significant. The DEIR's conclusion otherwise at the bottom of page C.6-92 is without foundation.

Ordinarily the solution to this kind of problem would be to re-write the DEIR with adequate mitigation measures. Unfortunately, because of the manifest unsuitability of the project area to the Topaz project, the only solution appears to be to choose an alternative site for the project that does not raise such a plethora of serious issues leading to inevitably unmitigable impacts.

9. The DEIR fails to Consider and Analyze a Reasonable Range of Alternatives, in Violation of CEQA

A. Westlands CREZ

Given the extensive unavoidable and unmitigable impacts to the environment and on human communities inherent in this design and siting of the proposed Topaz project, the County has no choice but to seriously consider adopting an Alternative site for the project. The Alternatives section of the DEIR contains several sites that were considered but rejected. One such site is the Westlands CREZ (Competitive Renewable Energy Zone. The CREZ designation refers to a zone selected by the Renewable Energy Transmission Initiative (RETI) as an area favorable for the development of industrial solar energy. The Carrizo Plain contains no areas designated as CREZ.

As the DEIR points out, "[n]o sensitive plants or wildlife species have been recorded in the California Natural Diversity Database (CNDDDB) records for Alternative 6 Westlands CREZ

site...” (E-33)

In the discussion of the Westlands CREZ site, the DEIR states that locating the project in the Westlands CREZ “may potentially create equal *or greater* adverse impacts related to agriculture, land use and noise.” (C.34, italics added) However, there is no evidence to justify any indication that impacts would be greater in any of these areas at Westlands CREZ than in the Carrizo Plain. In fact, this statement contradicts the noise discussion which states, “noise-related impacts could be either equal to, *or less than* those of the Proposed project.” (E-34, italics added) Furthermore, the impacts to agriculture and land use would actually be considerably less than would the impacts of the proposed project in the Carrizo Plain.

The Westlands CREZ consists of 30,000 acres and, as the DEIR admits, “the total acreage of this area would be much greater than what would be needed for an alternative to the Proposed Project, but details regarding the construction and planning of the Westlands solar park project have yet to be released. As such, the Westlands region has been considered generally rather than by a specific project design.” (E-31) Thus, the Topaz project could be located within the Westlands CREZ in such a manner that it would not have any, or would have only a negligible, impact on current land use in comparison with the current proposal. In fact, the current proposal proposes to surround one residential property on all four sides, surround one residential property on three sides, and occur very near an elementary school. These sensitive receptors could be avoided altogether if the project were located appropriately in the Westlands CREZ.

The DEIR’s statement that the “Westlands CREZ has the potential to temporarily and permanently preclude, disrupt or displace existing land uses and divide established communities in a significant and unavoidable manner” ignores the likelihood that such a potential is only slight and, if the project were appropriately sited, such disruptions or displacements could be avoided altogether. The 30,000 Westlands CREZ could accommodate a project of 4,500 without nearly the same level of impacts to land use and agriculture as the current proposal to site the project in the sensitive and unique Carrizo Plains. Even if impacts to agriculture would be significant, those impacts would be part of a very short list of impacts compared with the long list of grave and unmitigable impacts described above.

The County should seriously consider selecting the Westlands CREZ alternative.

B. Distributed Solar

Or, of course, the County is free to select the No Project Alternative and pursue what is an increasingly popular and promising avenue toward sustainable energy production: distributed power. The DEIR gives a brief discussion of distributed power that is moderately reasonable but could spend considerably more energy discussing the relative merits of distributed power.

Specifically, there are advantages to pursuing distributed power not acknowledged in the DEIR.

First, distributed power will contribute jobs to the economy on a much more sustained basis over the long term than a three-year construction project that has no guarantee that local workers will be hired (although the applicant would be well advised to hire local workers who have some level of immunity to valley fever; importing Hispanic workers from distant places, for example, would be very risky in that regard.) And distributed power will contribute jobs to the local economy and re-direct wealth locally, a strategy considered increasingly important by advocates of sustainable communities.

Distributed power, moreover, is flexible and adaptable to changing conditions, as opposed to the potentially obsolete technology the County would be married to if it were to adopt the Topaz plan for power generation. That is because technology in this area quickly advances, much like computer technology. Distributed power will be able to absorb these changes quickly, whereas the County could find itself weighed down by obsolete technology within a few short years. And that obsolete technology could prove toxic to the environment in ways that newer panels would not. Meantime, First Solar could sell the Topaz project to a third party, leaving the County with the responsibility for its remaining implementation and decommissioning. This would include, of course, responsibility for any toxic cleanup that would be required.

There are many types of new and more efficient solar panels in the pipeline that will come online in the next few years. Distributed power will be able to adopt that new technology more efficiently than large industrial solar plants. Relevant in this regard is that First Solar manufactures the panels that will be used in the proposed project. Thus, First Solar has a deep self-interest in the promotion of this project and in the use of these particular panels. Why would First Solar change over to other more efficient panels by other manufacturers? First Solar's CdTe panels are not the most efficient on the market - they are used because they are cheap to produce. That cheapness comes with a cost, but a cost that will be borne not by First Solar, but by the public and the County. While the County may be receiving various letters of support from individuals and entities who have a vested interest in the promotion of this project, the County should take a hard, careful look at the *long range* costs and benefits of the project to the people who are the citizens of San Luis Obispo County.

The County should consider the work and writings of Bill Powers, an engineer in San Diego and a longtime advocate of distributed power. The North County Watch June 18, 2010 Scoping comment (Appendix 1A) attaches a useful letter from Mr. Powers, and his work is available online.

As stated earlier, an EIR which does not produce adequate information regarding alternatives cannot achieve the dual purpose served by an EIR, which is to enable the reviewing agency to make an informed decision and to make the decisionmaker's reasoning accessible to the public,

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thereby protecting informed self-government. (Citation.)” (*Kings County Farm Bureau, supra*, 221 Cal.App.3d at 733.)

C. Environmentally Superior Alternatives

Neither Alternative 4 nor Alternative 5 would reduce impacts to a level acceptable to justify the project. While the County is to be commended for its attempt at reducing the project’s footprint, there are simply too many unmitigable impacts regardless of these reductions to justify the project. Moreover, reducing the footprint of the project does not change the fundamental truth that this location is simply ill-suited for an industrial solar energy facility.

Conclusion

We believe that the only reasonable conclusion to be reached, particularly when this flawed and deficient DEIR is closely studied, is that this project is ill-suited for the Carrizo Plain, as are all projects of this kind. There are simply too many valuable public resources at stake - public resources which it is the responsibility of the County as Trustee of the public interest to protect. Therefore, we urge the County to consider the public interest *first*, before considering the benefits that will flow to private interests from the project.

For the reasons discussed above, at a minimum the County should re-write this DEIR to comply with the law and recirculate it for public comment. Ideally, the County will see the “big picture” and direct this mammoth project elsewhere. There is no reason to destroy the last, best area of biological diversity in California when better locations exist. Those locations are likely to be developed anyway, particularly the Westlands CREZ, which has been designated as land that is suitable for solar energy generation facilities just like the one proposed. Further, there is no reason to subject the citizens of the County to increased health risks from toxic substances and the serious disease of Valley Fever. The County should put its citizens first.

Thank you for your consideration of these comments and for including this comment letter and its exhibits in the administrative record for this project.

Sincerely,

Samuel B. Johnston
Attorney for Michael Strobridge

**ATTACHMENT B: JOHNSTON COMMENT LETTER (I) ON
THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE
TOPAZ SOLAR FARM PROJECT, MARCH 28, 2011**

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Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Attachment B: Johnston Comment letter (I) on the Final Environmental Impact Report for the Topaz Solar Farm Project, March 28, 2011

March 28, 2011

Steven McMasters, Project Manager
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via US mail and email: smcmasters@co.slo.ca.us, mefisher@co.slo.ca.us

Re: Comment letter on the Final Environmental Impact Report (FEIR) for the Topaz Solar Farm Conditional Use Permit, DRC2008-00009

Introduction

The FEIR responded to the comments of this office in detail. We appreciate the County's responses. In some respects the County has achieved a marked improvement over the provisions of the DEIR. In other ways, the FEIR still falls short. This letter serves to point out our principal objections to the FEIR. While we raise certain issues in this letter, the omission of other issues does not constitute a waiver of those issues or any concession that other issues have been adequately dispensed with in the FEIR. Our scoping comments and comments on the DEIR for this project are hereby incorporated herein by reference. This project presents a great many complexities, many of which are not given to adequate review in the limited amount of time available between the public release of the FEIR on March 21, 2011 and the Planning Commission hearing on the project scheduled for March 31, 2011. We reserve the right to object to other aspects not herein discussed consistent with our rights under the law. For reasons that follow, we urge the denial of approval for this CUP application. We urge that this project be relocated outside the Carrizo Plain.

Duration of the Project

A fundamental problem not addressed by the DEIR or the FEIR is the indeterminate duration of the project. The Project Description offers this language describing the duration of the project in the context of the decommissioning provisions:

The Solar Project Decommissioning described in this Section applies to Option A and

Option B. The Proposed Project has a minimum expected lifetime of 30 years or more, with an opportunity for a lifetime of 50 years or more with equipment replacement and repowering. If the Proposed Project concludes operations, much of the wire, steel, and modules of which the system is comprised are recyclable materials, and would be recycled to the extent feasible. The Proposed Project components would be deconstructed and recycled or disposed of, and the Proposed Project site could be converted to other uses in accordance with applicable land use regulations. (FEIR, p. B-45)

Use of the conditional and/or subjunctive mode throughout this passage reveals the possibility that this project, in theory, could exist and remain in perpetuity. This means that any mitigation measure that relies on the restoration of land to anything approximating original conditions would be inapplicable and thus ineffective. So, for example, impacts to aesthetic resources would be literally permanent. This extent of this impact is literally incalculable. The same can be said of impacts in the areas of, without limitation, geological resources, biological resources, air quality, agricultural resources, land use, noise, traffic, hazards, water resources, and cumulative impacts.

For example, mitigation for impacts to agricultural resources includes measures to be implemented at decommissioning (*see* FEIR pp. C.3-21 and C.3-24). The same problem exists for mitigation measures related to hazardous materials (*see* FEIR, p. C.9-23). Any mitigation measures in this FEIR that are only applicable to a project of limited duration cannot stand as adequate mitigation if the project is extended beyond the stated duration of those measures.

An EIR must account for reasonably foreseeable future phases of projects. This has not been done.

The indeterminacy of the duration of the project, for these and other reasons, renders the FEIR deficient.

Biological Resources

The FEIR fails to mitigate the proposed project's impacts to biological resources to a level of less than significant. This failure applies to both direct and cumulative impacts. The following are illustrations only and do not constitute the entire range of biological resources adversely and significantly impacted even after the mitigation measures to be applied.

Kit Fox

As pointed out in our comment letter on the DEIR, the population of the endangered San Joachin

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kit fox is declining, habitat fragmentation is a principal concern, and scientists believe that the Carrizo Plain kit fox population must be preserved in order to avoid extirpation of the species.

The adverse impacts under the FEIR's measures to San Joachin Kit Fox remain significant even after the mitigation provided. The mitigation measures fail to cure the loss of habitat due to the imposition of the solar arrays. The applicant's genetic study (Maldonado, July 2010) demonstrates that the project site is currently valuable kit fox habitat. Contrary to the many assertions of First Solar over time, the Topaz project area provides good habitat for kit fox residence and not merely "pass-through" habitat. The study found that there exists on the Topaz site a complex network of close kit fox relationships. As a consequence, the study concluded "the population in the Topaz Solar Farm project study area, at the time of the surveys, is composed of individuals that are closely related to each other and the population may be finely structured into family groups at the time of the surveys." (Maldonado, p. 25)

Moreover, the mitigation measures provided fail to cure the loss of grassland habitat for kit fox and its prey base. As we observed in our comment on the DEIR, the US Fish and Wildlife Service has stated that retaining kit fox prey base is key to the survival of the kit fox. This FEIR fails to preserve adequate kit fox prey base habitat.

Under Option A, grassland habitat would be reduced by 1,721 acres; under Option B, by 1,133 acres. (FEIR, p. E-25) These reductions will result in significant adverse impacts to kit fox, even after the mitigation provided. "Vegetation types within the 10,000 acre Project Site include cropland (6,163 acres), [and] California annual grassland (3,769 acres)..." (Althouse and Meade, San Joachin Kit Fox Conservation and Monitoring Plan, p. 9) Thus, Option A grassland would be reduced by 45% and Option B by 30%. Loss of grassland habitat is more damaging to kit fox than is loss of cropland habitat. "Agricultural and grazing operations appear to have reduced habitat value for SJKF within the Project Site. ... Cropland on the Project Site provides usable habitat for kit fox movement and some prey (e.g. ground squirrels), but is not equivalent to natural grassland with respect to prey diversity and abundance, denning opportunities, or protection from predators and disturbance. (*Id.*) Moreover, the FEIR appears to understate the amount of grassland habitat in the baseline compared with cropland, resulting in an analysis that asserts a lesser impact to kit fox than will actually be the case.

Under Alternative 3B.1, the FEIR claims that grassland habitat will only be reduced by 833 acres. (*Id.*) However, this figure is not supported by substantial evidence. The baseline amount of grassland and cropland is presented in Figure C.6-1. The FEIR contains no evidence to justify the values presented in Figure C.6-1. Evidence indicates that the amount of grassland on the project site has been underestimated. See, e.g., the attached documents from the prior proceeding related to the AUSRA project proposal before the California Energy Commission, attached hereto as Attachments A and B. Even the amount of 833 acres constitutes quite a significant loss of grassland habitat considering the special need of the kit fox for its prey base. An 833 acre loss

represents a 22% loss of annual grassland habitat, which is significant even after the mitigation provided.

As the FEIR admits, “Restoration of temporarily disturbed areas and acquisition of off-site habitat are the primary mechanisms for reducing impacts to California Annual Grassland.” (FEIR at C.6-30) Temporarily disturbed areas are not precisely defined and there is no assurance that kit fox will be capable of returning to these areas after disturbance. For these reasons, the impacts of Alternative 3B.1 on California Annual Grassland remain significant even after the mitigation provided.

Additionally, acquisition of off-site habitat by definition means that the loss of habitat in the kit fox corridor will not be mitigated, notwithstanding the FEIR’s claim to the contrary. Under Alternative 3B.1, kit fox movement corridors remain adversely impacted to a significant level. As the FEIR admits, “for the Carrizo plain and other core populations to persist, *unrestricted* access to movement corridors is essential.” (FEIR at C.6-23, italics added.) The project footprint under Alternative 3B.1 does not provide this needed unrestricted access but significantly blocks the movement corridor. At a minimum, arrays on Sections 4, 5, 21, 27, 28, 32 and 34 still obstruct kit fox movement in the eastern portion of the project area notwithstanding the minimal changes made to sections 4, 5, 27 and 34. As the FEIR itself admits, “[i]t is unknown to what degree SJKF would use the solar arrays for movement or foraging.” (F-8) Thus, the FEIR is incorrect in its assertion at p. E-25 that “[t]hese changes would reduce cumulative impacts to San Joachin kit fox movement corridors ... to a level of less than significant with mitigation incorporated ...”.

Furthermore, there are obstructions to the wildlife corridor not taken into account by the FEIR. We have discovered that the FEIR fails to account for numerous homes on properties within the project site. These homes obstruct wildlife movement and must be considered but were not. Please see the attached map for the location of these homes, attached hereto as Attachment C.

The FEIR essentially admits that impacts to kit fox movement corridors will not be fully mitigated. As we pointed out in our comment on the DEIR, DFG pressed the County for more mitigation in this regard. The FEIR falls short thereof because it does not “maintain existing levels of habitat connectivity,” which DFG insisted would be necessary. The FEIR contains a response to our comment acknowledging the comment without any claim that the problem has been cured. DFG also insisted that the final plan provide for as many kit fox individuals as the baseline conditions. The mitigation provided in the FEIR fails to do this as well.

The FEIR provides no assurance that mitigation lands offsite will be available at the sufficient mitigation ratios or site characteristics needed. As such, the offsite mitigation provisions constitute an impermissible deferral of mitigation in violation of CEQA. There simply does not exist available offsite mitigation land to compensate for this project’s impacts to kit fox.

On top of these deficiencies, there are further insurmountable problems with the kit fox mitigation strategy.

Another problem with the offsite mitigation plan for kit fox becomes apparent when one reviews the maps appearing at pp. 51 and 55 of the Kit Fox Conservation and Monitoring Plan (located in Appendix RTC-3 to Volume II). The map on p. 55 depicts Percent Slopes in and around the project area. Scientific studies indicate that kit fox need gently sloping to flat terrain. Any slopes beyond 15% are unsuitable as kit fox habitat, and indeed slopes larger than 6% have been found to be detrimental (*See* our comment letter on the DEIR at p. 15). *See, e.g.,* “Habitat Connectivity Planning for Selected Focal Species in the Carrizo Plain,” draft Outline of Final Report, CEC docket 07-AFC-8, Received June 22, 2009:

“The literature suggests that slopes of 0-5% are ideal, slopes of 5-15% provide fair habitat, and areas with slopes >15% are largely unsuitable (B. Cypher, personal communication). Warrick and Cypher (1998) found a negative relationship between topographic ruggedness and capture rates of kit foxes in Elk Hills and Buena Vista Hills of the Temblor Range.” (p. 6)

Comparing the map at p. 55 with the map at p. 51, the applicant appears to rely on unsuitable habitat for kit fox mitigation. Specifically, the area depicted in the map at p. 51 under the letter “I” (the large blue rectangle in the eastern portion of the project area) is shown in the map at p. 55 to contain abundant areas of sloping terrain unsuitable for kit fox (the light green and yellow areas, indicating slopes of between 20 and 40 percent). These areas traverse the entirety of the rectangle marked in the map at p. 51 as section “I.” Hence, the kit fox will be mostly unable to use any of the eastern portion of the mitigation lands provided.

Similarly, the areas in Sections 17 and 18 and further to the north and west, which are slated as offsite mitigation habitat in the map at p. 51 of the Kit Fox Conservation and Monitoring Plan, do not constitute suitable kit fox habitat. Those areas have recently been extensively disked and have also, in part, been treated with extensive herbicide applications from helicopters. These activities render the areas essentially useless for kit fox.

This office has previously raised with the County the issues created by recent and intensive disking of substantial amounts of land within the project area. Disking of land renders it unsuitable for kit fox. A recent study by CIPHER, et. al. Shows that agricultural disking adversely impacts potential kit fox habitat:

“Such disking would severely inhibit the establishment of rodent burrows, particularly for kangaroo rats, the preferred prey for kit foxes. This disking also would inhibit or even preclude den establishment by kit foxes, which in turn would preclude successful colonization by kit foxes. Disking also could collapse occupied dens resulting in kit fox

mortalities."

("Habitat Suitability and Potential Corridors for San Joaquin Kit Fox in the San Luis Unit," Brian Cipher et. al., California State University, Stanislaus Endangered Species Recovery Program, May 22, 2007, page 18. Attached hereto as Attachment D.)

Evidence indicates that extensive herbicide applications of chemicals including DuPont "Glean" and Loveland Products "Rifle" were recently conducted on sections 5, 7, 9, 18, 19, 20, and 21 of Township 29S. (See Attachment E, San Luis Obispo County Agricultural Commissioner, Restricted Materials Permit # 40-11-4020202, effective date January 1, 2011, attached hereto.) Thus, chemical herbicide applications took place over vast areas of the project site. These applications have effectively wiped out the applied areas as kit fox habitat. The precautionary statement on the label for DuPont Glean includes the following: "This product should be applied only when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, *known habitat for threatened or endangered species, non-target crops*) is minimal." (Italics added, see Attachment F, copy of Glean label)

The applicant's own studies show, as noted above, that the Topaz project site contains extensive suitable kit fox habitat with families of kit fox present. Moreover, the efforts to disk and in some cases (subsequent to the applicant's kit fox studies) to apply herbicide to the lands render those lands unsuitable as mitigation lands. If these activities are deliberately being undertaken to reduce kit fox presence on the project site, they are project activities occurring prior to authorization. Regardless of the intent, however, they are altering the baseline environmental condition of the project site. This increases actual impacts to kit fox while creating the appearance of decreased impacts to kit fox, since the "project" will consequently take place against a baseline of reduced kit fox presence and vegetative habitat.

Much of the areas so applied with herbicide are included in the FEIR's kit fox habitat mitigation lands, particularly with respect to Alternative 3B.1. Many of the aforementioned sections recently treated with chemical herbicides comprise portions of the area marked "A" and "B" in blue on the mitigation map at p. 51 of the Kit Fox Conservation and Monitoring Plan. The inclusion of these areas as mitigation makes no sense given the extensive disking and chemical herbicide application that occurred recently. These areas cannot serve as mitigation habitat for kit fox or, for that matter, other species that would be harmed by the disking or chemical applications.

In its discussion of Impact BR-17 ("The project would result in the loss of San Joachin Kit Fox," at p. C.6-53, *et. seq.*) the FEIR admits to a number of significant impacts to kit fox, including the loss of annual grassland habitat, loss of cropland habitat, removal of "several" kit fox dens, mortality from collisions with vehicles or equipment, construction noise and vibrations, fugitive dust, human presence, the loss of prey base from vegetation clearing, increased mortality from vehicle collisions on Highway 58, increased predation risks, the loss of denning and foraging

habitat, mortality resulting from displacement or dispersal due to construction, and direct impacts to kit fox movement. A number of indirect impacts are also listed, including increased predation by coyotes or red foxes as a result of several factors.

The FEIR acknowledges that the applicant's draft Mitigation and Monitoring Plan for the kit fox will not fully mitigate for these impacts. To reduce these impacts to a level less than significant, the FEIR proposes Mitigation Measure BR-17.2. This measure, however, relies almost exclusively on the acquisition of offsite habitat. This reliance, as noted above, fails to mitigate for the onsite impacts to kit fox movement corridors. Further, the mitigation ratio to be imposed, 4:1, is inadequate. The ratio should be at least 5:1 given that the 4:1 ratio is intended for projects less than 40 acres. Moreover, the availability of mitigation habitat that would satisfy the criteria given in MM BR-17.2 is speculative. The FEIR does not demonstrate that the Williamson Act lands in the northwest portion of the project area satisfy the criteria given in MM BR-17.2 for occupied or restored habitat. Significant parts of those lands, as shown above, moreover, have been extensively disked and/or treated with chemical herbicides. If adequate offsite mitigation land is not acquired, a distinct likelihood given the lack of suitable land available, the impacts to kit fox will remain significant. This is especially true given that the mitigation lands provided, both to the east (see above) and to the west, are either unsuitable or unavailable.

The fencing scheme designed to provide for kit fox movement through the project site is flawed because it will be ineffective to prevent entry onto the project site by coyotes.

For all these impacts, both direct and cumulative, CEQA requires mitigation to a level of less than significant. The FEIR fails to provide this. Further, for all these impacts, the California Endangered Species Act (CESA) requires full mitigation. The FEIR fails to provide this as well. These considerations demand relocating the project outside the Carrizo Plain.

Pronghorn Antelope

The mitigation provided for pronghorn appear to ignore the fundamental problem that pronghorn tend to avoid human activity and might simply flee the areas around the project site, losing significant amounts of habitat. The mitigation measures offered in the FEIR are designed to enhance pronghorn habitat, and so do not address this problem. Again, as with a great many other issues, the basic problem is the location of the project in sensitive habitat whose destruction or modification cannot be mitigated. As such, this remaining significant impact to pronghorn antelope serves as another reason to relocate the project outside the Carrizo Plain.

Other special-status species

As explained above, the adverse impacts of Alternative 3B.1 on California Annual Grassland remain significant even after the mitigation provided. For the same reasons, the adverse impacts of Alternative 3B.1 would remain significant as to other special-status species that rely on grassland habitat including, without limitation, American badger, burrowing owl, and golden eagle.

Agricultural Resources

The FEIR provides Response to Comment C43-41 regarding a comment we submitted regarding agricultural resources. We appreciate the FEIR's acknowledgment that impacts to agricultural resources are significant and unavoidable, even after mitigation. However, this statement leaves a remaining problem. The language "prime farmland if irrigated" is still misleading and should be removed from the FEIR. Otherwise, the reader could easily be misled into believing the false proposition that irrigation is a requirement for prime farmland. This problem violates CEQA's requirement that an EIR accurately inform the public. This issue is convoluted and complex. Even though the FEIR does present an explanation of the definition of "prime farmland," it contributes to further confusion by insisting on labeling parts of the project area "prime farmland if irrigated." This label appears, for example, in Tables C.3-1 and C.3-2, and in maps at C.3-19 and C.3-23.

As for Williamson Act contracts within the project area, response C43-42 states that the FEIR "provides the findings that would need to be made in order to grant a contract cancellation" under Impact AG-3. These findings appear at p. C.3-25. For the reasons outlined in our comment on the DEIR, not all of the required findings are available. Therefore the Williamson Act contracted-land will not be available for the project until 2018. Decision makers should be apprised of this. To save time and resources, the EIR arguably should state why the findings are not all available rather than present a set of required findings that cannot be made in entirety. Moreover, the Williamson Act lands that are a part of Option B will not be available for any of the project alternatives, either as land for arrays or as mitigation land, until the contracts expire in 2018. To the extent that the FEIR allows for the utilization of these lands as mitigation for biological resources, the FEIR violates CEQA and CESA.

Hazards

Valley Fever

We acknowledge the additional measures to protect the workers from the risks of valley fever. These measures do not, however, address our concerns relating to the spread of valley fever from the project to neighboring homes and communities, including the Carissa Plains Elementary School. Children are more vulnerable to the effects of valley fever. Moreover, most of the

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measures are designed to minimize the effects from fugitive dust. These measures are inadequate for two reasons. First, they fail to consider the risks of spreading valley fever spores over large distances through heavy wind conditions. Second, they fail to account for the spreading of spores that occurs without any dust. Spores can be spread by wind alone. Winds reach very high speeds and travel great distances in and from the Carrizo Plain. As we pointed out in our comment on the DEIR, the EIR could have included basic information about valley fever such as the foregoing considerations but chose not to. As a result, the impacts analysis is flawed, as is the mitigation provided. For example, without limitation, no amount of water set aside for dust suppression will cure the spread of spores through wind containing no dust. Therefore, the statement "...[t]he water demand requirements ... allow for sufficient water supply in order to minimize the impact of dust on the surrounding community *and eliminate the potential risk* of exposure to Valley Fever" (Appendix 17B, p. 14, italics added) is false.

The FEIR fails to mitigate the impacts of project on the risks of valley fever to a level of less than significant.

Cadmium

Our comment that the DEIR probably underestimates breakage rates of the modules has been confirmed as dramatically correct by the applicant. Now, rather than 2,500, the number of modules estimated to break over the life of the project is a whopping 108,000. Alongside this statistic, the FEIR has *weakened* the already weak protocols for inspection of modules (through the deletion of MM HZ 1.7), without any justification besides presumably the burden of daily inspections. This substantially increases the risk of environmental contamination from cadmium because it is now likely that broken panels will sit in the fields undetected and vulnerable to extreme conditions that could result in exposure through leaching or other mechanisms.

The applicant's arguments at RTC D1-101 (D1-226) that "rainwater is unlikely to cause leaching of CdTe from the panels into soil" is inadequate to address this concern because 1) it does not address the possibility and consequences of acid rain, and 2) other conditions besides ordinary rain could cause leaching including, without limitation, fire or earthquakes. Even if it is "unlikely" that cadmium will leach into the soil, that leaves the possibility. Because cadmium is so toxic, the "severity" of the risk factor must be taken into account alongside the "likelihood" factor. In the analysis by the applicant, as well as in the FEIR, only the likelihood factor was taken into account. The applicants and regulators who approved the Deep Horizon drilling rig in the Gulf of Mexico and the Fukushima nuclear reactors in Japan undoubtedly made the same assertions about the "likelihood" of an accident. What they failed to do in those cases is put in place effective procedures in case the "unlikely" occurred. The same omission glares at the reader of this FEIR.

The FEIR must provide requirements of the applicant should there be contamination of toxic

materials from the modules; the applicant must be held responsible for cleanup and abatement, no matter how “unlikely” a contamination event might be. Furthermore, the applicant must be held responsible for the costs thereof. If the applicant is so sure of the unlikelihood of contamination, then the applicant should be willing to be held to the full measure of responsibility in every respect in the event that the “unlikely” actually occurs.

Noise and Vibration

The FEIR admits that the project will create significant unmitigable impacts in the area of construction noise. The construction of the project will generate various types of noise and vibration, as admitted in the FEIR, including but not limited to: site preparation, construction of solar modules, construction of electrical components, construction of the substation, and connection to the existing transmission line. Construction would involve the use of an estimated 238 vehicles. Construction equipment would include: auger drill rigs, backhoes, ground compactors, dozers, fork lifts, dump trucks, excavators, flat bed trucks, front end loaders, generators, graders, impact pile drivers, pickup trucks, pneumatic tools, rollers, scrapers, warning horns, and welder/torches. Several activities would be expected to occur simultaneously. Construction would also cause noise offsite, from commuting workers and from haul trucks bringing materials to the project site.

A review of Appendix 14 reveals that the impacts of construction noise on the Strobridge residence will unquestionably be extreme. The Strobridge property borders on the Topaz project site. The Strobridge property was measured for ambient noise in connection with the review for the since-abandoned California Energy Solar Farm project (AUSRA). (Appendix 14, p. 14-3.) The average values measured were 33 dBA (Leq) in daytime and 24 dBA (Leq) at night. These numbers indicate an extremely quiet baseline. “Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the Ldn noise levels can be below 35 dBA.” (*Id*, p. 14-1)

Consider, against this extraordinarily quiet baseline averaging 33 dBA in daytime, the predicted decibel levels given in Section C.11.3.4 of the FEIR. There is little doubt that during construction the Strobridge residents will be deprived of their use and enjoyment of their property. Simultaneous heavy equipment use will generate intolerable amounts of noise. Even if the less noisy truck-mounted or track-mounted post drivers are used, the FEIR still admits that “the Lmax noise level at 50 feet from each post driver would be approximately 72 dBA (louder than a gas lawn mower 100 feet away). This figure exceeds the limits set by County Noise Element according to Table C.11-5. (FEIR, p. C.11-9)

The FEIR does not require the use of the less noisy pile drivers. If, as the FEIR claims, the applicant has committed to using them, the FEIR should require it. Because the FEIR does not

require it, it is reasonable to assume that the applicant may well use the louder pile drivers, particularly if it is less expensive to do so. The FEIR admits this would result in a “combined maximum noise level during system installation ... of up to approximately 95 dBA Leq at 80 feet” from the construction activities. (FEIR, p. C.11-12) Mitigation measures provided are inadequate to reduce these impacts to a level less than significant, as the FEIR admits. (FEIR, p. C.11-16 to 11-17) “[E]ven with the implementation of these measures, construction activities would intermittently result in an increase in the ambient noise level of more than 10 dBA at noise-sensitive receptor locations at various times during the construction period resulting in a significant and unavoidable impact.” (C.11-25)

On top of all that are the impacts on rural residents of the added noise from construction traffic.

For sensitive receptors near the project site, such as Mr. Strobridge, these impacts constitute a significant deprivation of the use and enjoyment of private property. As such, the County may be permitting a private nuisance or trespass by approving the Topaz CUP. Accordingly, Mr. Strobridge reserves the right to seek legal redress for such nuisance or trespass.

Transportation and Circulation

If the nuisance noise conditions weren't enough for nearby residents, construction impacts include unmitigable impacts to traffic conditions. Driven from their homes by construction noise, residents could face hours in traffic trying to get out of the area during construction. This could severely impact the ability of residents to get to work or bring their children to school, not to mention what would happen in an emergency if traffic hampered the passage of emergency vehicles. The FEIR admits in Section C.14.5 that the adverse impact to traffic conditions, even after mitigation, “would remain significant.” (FEIR, p. C.14-30) This conclusion reinforces and serves as yet another in a long list of justifications for why this project should simply be located elsewhere.

Air Quality

The FEIR only gives the most cursory treatment of the effects of the project on ambient air temperatures. The issue of effects on air temperature from the heating of the solar modules was amply scoped. (See FEIR, p. C.4-1 and C.5-2.) Unfortunately, the only analysis performed in the FEIR appears in two short paragraphs on p. C.5-11 under “Module Heat.” These two paragraphs are wholly inadequate to serve as a robust analysis of impacts and mitigation required by CEQA. Temperatures collected at solar plants in locations outside the Carrizo Plains have little or no relevance to a determination of the local effects. Besides, the evidence offered is entirely anecdotal. Given that the Carrizo Plain is subject to extreme temperatures and static climatic

conditions because of its position between mountain ranges, this dearth of information and analysis is in violation of CEQA and must be corrected before this FEIR can be certified.

The potential impact of temperature rises in hot summer months on top of noise and traffic impacts will make life completely different for the residents of the Carrizo Plain. This cumulative impact will be severe and unmitigable and yet was completely omitted from the FEIR.

Add this consideration to the very long list of reasons why this project should be located elsewhere.

Aesthetics

Because of the stunning and unique natural vistas offered by the Carrizo Plain, any project of the nature of an industrial solar generation facility will inevitably result in significant and unavoidable impacts to aesthetic resources. This project is no different, as admitted by the FEIR. This project will radically alter the character of the Carrizo Plain. This unavoidable radical impact is yet another excellent reason to relocate the project outside of the Carrizo Plain.

Switching Stations

The FEIR must address the impacts of the PG&E Solar Switching Station on aesthetic and other resources, as it is clearly part of the proposed project. The fact that it will be permitted by the CPUC does not remove the necessity of the consideration by this FEIR of the impacts of the Solar Switching Station on the environment. The project description notes the central role of the switching station to this project as follows:

PG&E Switching Station (Solar Switching Station). The Proposed Project would be interconnected with PG&E transmission lines using a three-bay, six-position breaker and a half configuration switching station. Two positions of this switching station would be used to connect the Proposed Project output to the switching station and the remaining four positions would be used to loop the PG&E line through the switching station. (P. B-31)

The switching station is necessary in order to achieve Project Objectives including “help[ing] meet state and federal energy policies” and “[l]ocat[ing] the facility on a site that has local access to utility grade electrical transmission lines...” Without a switching station, it is difficult to imagine how the project will contribute to the renewable energy goals of the state.

The switching station is included in the project description as a project component. It is listed at page B-31 under “B.4.1.8 Transmission Facilities” as one of “the transmission facilities that

would interconnect the Proposed Project with the PG&E transmission system.” It is also included in Table B-1 under the column “Proposed Project Components.” (p. B-3) Because it is a project component, the FEIR must evaluate its environmental impact and provide mitigation therefor. This has not been done.

The impact analysis of the Solar Switching Station appearing at Ap.4-46 to 4-47 is vague and does not clearly indicate whether the impacts will be less than significant after mitigation. And it is clear from a reading of this cursory analysis that the impacts will indeed be significant and unavoidable.

First, the description of the Solar Switching Station appears to be inaccurate in a manner that understates potential impacts. At Ap. 4-45, the text states that “Switching station equipment would range in height from approximately 16 feet to 55 feet, with a microwave tower at 60 feet.” Furthermore, at Ap. 4-4 the text states, “Two new double-circuit lattice steel transmission towers and four tubular steel poles would be installed to accommodate the looping of PG&E’s 230 kV line into the Solar Switching Station.” However, in the Public Notice for First Solar’s application to the U.S. Army Corps of Engineers (USACE) for a Clean Water Act Section 404 permit, this equipment is described as follows: “[t]wo new 100- to 125-foot-high double-circuit lattice steel transmission towers and four steel poles...” (Public Notice, p.4) This discrepancy (16 feet to 55 feet, as opposed to 100 to 125 feet) is significant and must be cured in the FEIR. The impacts of such high towers are nowhere evaluated in the FEIR.

Moreover, the impacts during operation of the Solar Switching Station on aesthetics (Impact AE-2) are not found to be less than significant after mitigation, presumably because they are not. It should be added that Appendix 4 erroneously asserts that construction impacts on aesthetics from the Solar Switching Station (Impact AE-1) will be less than significant. Finally, the night lighting that will obstruct the nighttime character of the area is not mitigated to less than significant. Appendix 4 both fails to provide required mitigation for this impact and impermissibly defers mitigation thereof. The asserted need for additional lights at night, which would result in an unmitigable impact considering the unique character of the Carrizo Plain, is yet another reason to relocate the project elsewhere.

Glare

The FEIR conducts an analysis of potential impacts from glare reflecting off the panels. The FEIR does not, however, address the potential impacts of glare from other project components, such as the steel components, posts, housing units, towers, or other components that could produce significant glare. This omission means the FEIR does not consider a potentially significant environmental impact, which here, as elsewhere, is a failure to proceed according to law.

Reconductoring and Transmission Upgrades

Appendix 4 is confusing and its mitigation measures are unclear. For example, several alternatives are offered with regard to the Caliente switching stations, leaving the reader wondering what the ultimate impacts will be and unable to discern whether those impacts will be adequately mitigated. Appendix 4 fails to adequately inform the public of the impacts of reconductoring and upgrading of the electrical grid in numerous respects.

The changes to the project regarding the Caliente Switching Station alternatives and the Solar Switching Station components will result in significant and unmitigated impacts to a number of resource areas that are more adverse and severe than those which appeared in the DEIR. As a consequence, the FEIR should be recirculated for public comment and review. Otherwise, the FEIR (as well as, certainly, the DEIR) fails to accomplish, among other things, its function of informing the public and decision-makers about the environmental effects of the project.

Water Resources

The unsupported assertion that the groundwater basin of the Carrizo Plain is not in an overdraft state persists. Wildly differing estimates of groundwater availability, depending on which study is consulted, also persist. According to a memorandum dated July 20, 2010 from Geotechnical Consultants, Inc., estimates of annual safe yield range from 7,000 to 18,000 acre-feet. This wide range of estimates could be narrowed with certainty of only a full basin study were conducted. Arguably, such a study is required by CEQA in order to evaluate the environmental setting of the project - the baseline against which impacts to water resources are to be measured. Without such a study, any estimates are just that: estimates.

The resulting uncertainty of impacts is admitted by the FEIR:

It is important to note that while water modeling can provide general characteristics and averages of a groundwater basin, it does not take into account area-specific variations of soil and/or geologic characteristics that can influence area specific elements such as drawdown. For example, the local groundwater level drawdown at nearby private wells resulting from project pumping cannot be accurately predicted by the groundwater flow model, which assumes uniform transmissivity over most of the model area, rather than the variable nature of the aquifer (clay-dominant alluvial fan deposits). (FEIR, p. C.15-36)

An attempt at mitigation for these potential impacts is offered:

Therefore, mitigation is appropriate to develop and implement a Groundwater Monitoring

and Reporting Plan which would more accurately assess the Proposed Project's pumping impacts from changes in background conditions, and include actions to ensure that potential effects associated with the Proposed Project pumping remain less than significant. Substantial changes to groundwater levels caused by the Proposed Project and other pumping in the basin would be documented, and would require that the Applicant immediately reduce groundwater pumping until water levels stabilize, or provide compensation to the well owner, including reimbursement of increased energy costs, or deepening the well or pump setting (Class II).

(*Id.*)

"Compensation" in the event of water failure is not enough. The applicant should be required to provide water for neighboring uses where the applicant has interfered with those uses. The FEIR should include a specific provision requiring that the applicant bring in water from outside the area if necessary. As with other areas in which the County has received assurances of results from the applicant, such as hazardous contamination, the applicant should be held fully responsible for the consequences if those results do not happen as predicted.

The FEIR's assertion that a "basin-wide safe yield analysis ... is beyond the scope of the groundwater analysis for this project" is arbitrary and capricious. There is considerable uncertainty about the actual availability of groundwater in the Carrizo Plain, notwithstanding the best estimates that have been made. There is also considerable ongoing use of groundwater by landowners of the Carrizo who rely on their wells to produce water for their homes and farms, as the FEIR admits. Therefore, the scope of the groundwater analysis for this FEIR should have included a "basin-wide safe yield analysis."

There appears to be an inaccuracy depicted on Figure C.15-1 at page C.15-9 of the FEIR. In that map, toward the center, near the depiction "ED-11," there appears a depiction of an ephemeral drainage that stops right at the northwest corner of Mr. Strobridge's property. This representation inaccurately gives the impression that this drainage does not cross through Mr. Strobridge's property. In fact, it does. This drainage is subject to the jurisdiction of the US Army Corps of Engineers (USACE). Alteration of this drainage would impact Mr. Strobridge's property. Mr. Strobridge has yet to be consulted by either the County or the USACE regarding this drainage. The same problem appears to occur on Figure C.15-1 with respect to a jurisdictional drainage which crosses the Reyes property to the east-southeast of the Strobridge property.

Alternative 3B.1 would impact federal and/or state jurisdictional waters as discussed on page E-26 of the FEIR. Numerous impacts would occur that have not been analyzed and about which the public has not had an opportunity to review and comment. Inadequate evidence has been presented to support the conclusion that the mitigation measures provided will reduce these

impacts to levels less than significant. Moreover, mitigation measures APM WQ-1 and WQ-2 constitute deferral of mitigation without adequate performance standards to assure reduction of impacts to levels less than significant.

Impacts to water resources will occur from the reconductoring and upgrading of transmission lines. As Appendix 4 states, "PG&E will acquire water from a local irrigation district, landowner well, or water utility for dust control purposes. PG&E anticipates using up to four 4,000 gallon truck trips per day for the duration of reconductoring construction." (Appendix 4, Attachment 4G, p. 2) The impacts must be analyzed and mitigated of PG&E acquiring water from a local well, because that impact will add to the impacts from the construction and operation of the project. Both direct and cumulative impacts of this water use have been omitted from the FEIR. Curing this deficiency will require recirculation.

Cumulative Impacts

The FEIR admits that numerous cumulative impacts are significant and unavoidable. These impacts will radically alter the fundamental character of the Carrizo Plain and include impacts in the areas of aesthetics, agriculture, biological resources, land use, noise, and transportation and circulation. Alternative 3B.1 does not cure any of these problems. As we point out above, for example, Alternative 3B.1 does not cure the loss of kit fox (or other species') movement corridors (Impact BR-35). The FEIR, moreover, asserts in a conclusory fashion that Alternative 3B.1 will reduce the cumulative impact to special-status species (Impact BR-34). To support this conclusion, no analysis is offered why a mere 833 (compared with Option A) or 300 (compared with Option B) acres saved of vegetation will reduce the impact of the loss of "thousands of acres of vegetation known to support special status plants and wildlife including San Joachin kit fox, American badger, burrowing owl, and golden eagle" to a level less than significant.

Nor does the cumulative impacts analysis analyze the cumulative loss of habitat for kit fox and other special status species as between the two Carrizo projects and the Panoche Valley Solar Farm project. As noted above, offsite mitigation lands are not available to provide mitigation for cumulative impacts to kit fox. Thus, this mitigation measure constitutes impermissible deferral; all the required performance standards guarantees in the world cannot cure this deficiency. As the FEIR admits, "The habitat value of potential mitigation lands has not yet been determined, so it is difficult to determine the [sic.] how much off-site preservation would offset cumulative impacts to special status species." (FEIR, p. C.6-92) The FEIR simply omits consideration of the possibility that adequate mitigation lands might not be available. That possibility, as we assert above, is in fact the reality. Performance standards are one way of attempting to gain some assurance that future-developed mitigation measures have a realistic chance of success, but they are not necessarily sufficient to accomplish success if they are not capable of successful implementation, as is the case here.

In addition to the significant and unavoidable impacts identified by the FEIR are other potentially

significant cumulative impacts which the FEIR erroneously does not address including, without limitation, the following.

- the impact on water resources considering that the California Valley Solar Ranch (CVSR), if approved, is scheduled to be constructed and operate at approximately the same time as the Topaz solar generation project. The construction of both projects together could significantly deplete the groundwater aquifer, but the reader has no idea of the likelihood or severity of this because there is no analysis presented of the combined projected use of both projects and the combined impacts on the aquifer. This oversight fails to provide substantial evidence that cumulative impacts to water resources will be less than significant, in violation of law. It also fails to inform the public about the likely environmental effects of the project, in violation of CEQA.
- the cumulative impact of water use as between the two projects and the reconductoring and transmission line upgrades to be performed.
- as noted above under “Air Quality,” the potential impact of temperature rises from the modules in hot summer months on top of noise and traffic impacts. Large areas of the Carrizo could become essentially unliveable as well as inescapable, a veritable “hell on Earth.”

Alternatives

This comment letter lists reason after reason why the Topaz solar generation project should be relocated outside the Carrizo Plain. Ordinarily, such a large complex project would not readily lend itself to relocation. In this case, however, as has been widely discussed, there is a feasible and environmentally preferable alternative: the Westlands California Renewable Energy Zone (CREZ). Since the public release of the DEIR for Topaz, moreover, the Westlands CREZ has been reclassified as a high solar resource area, and the Alternatives Section of the FEIR now acknowledges the result that the Westlands alternative now fully meets the project objective of locating the project in a high solar resource area. (FEIR, p. E-38)

The critical aspect of the Westlands alternative is that it lessens most of the adverse environmental impacts so substantially in comparison with all the other alternatives that it truly stands in its own category. The Westlands alternative is economically and legally feasible, and feasible from a regulatory perspective. The Westlands alternative eliminates or would mitigate to insignificance many significant (some of which are unavoidable) impacts of all the Carrizo alternatives, including without limitation aesthetics, air quality, agricultural resources, biological resources, noise, traffic, and valley fever. The Westlands CREZ meets all applicable project objectives (with the possible exception of the objective to reach operative capacity by 2014; but

see below about the lesser importance of this project objective).

The conclusion is inescapable: The Westlands alternative is by far the best alternative and is the one that should be selected. All the alternatives in the Carrizo Plain should be rejected.

Policy Considerations

Costs to Ratepayers

How will implementation of the project affect the rates that ratepayers will pay for energy? How will implementation of the project affect rates paid by residents of San Luis Obispo County? Will ratepayers be forced to pay for any disposal of toxic materials or other costs resulting from the project? While these questions would seem to be central to a discussion of the merits of this project, there has been little or no discussion of how the project will concretely affect energy rates. A full exploration of these questions should be conducted for the public.

Relevant to this inquiry is a report just released by the California Public Utilities Commission's Division of Ratepayer Advocates (DRA). The report is entitled, *Green Rush: Investor-Owned Utilities' Compliance with the Renewables Portfolio Standard* and dated February, 2011. (Copy of report attached hereto as Attachment G.) This report points out, among other things, that the cost of renewable energy is quite high and that California

“... utilities have signed contracts that will cost them over \$6 billion more than they would otherwise pay for electricity from natural gas power plants. ... The DRA contends in its report that the CPUC hasn't done a good job scrutinizing contracts to make sure they aren't unreasonably high and won't saddle consumers with hefty bills ... The report goes on to say that utilities and the CPUC give too much weight on whether developers can complete and deliver their projects and not enough on the projects' costs to the public. It notes that the utilities have signed enough contracts to meet the state goals, so there is no good reason to accept super expensive contracts to ensure that the goals are met.”
(See below under “Summary of DRA Report”. See also the full report, attached to this letter.)

Furthermore, the report contains the following finding:

“The utilities are on track to achieve the 20% RPS goal by the end of flexible compliance in 2013 and are *ahead of schedule* to meet the 33% Renewable Energy Standard (RES) goal by 2020, even though some projects scheduled to come online will fail or be delayed.”

(p. 5, italics added)

This report merits two conclusions.

First, the County should carefully consider and analyze the projected costs to ratepayers of implementation of this project in its balancing of costs versus benefits of the project. We assume that the additional costs of energy generated by this project above the market price referent (MPR) will be passed on to consumers. If the County wishes to dispute this assumption, it must provide substantial evidence in the record that ratepayers will not bear this additional and unnecessary cost. Such substantial evidence would be required to justify a finding that overriding considerations of economic benefit outweigh the project's unavoidable adverse impacts on the environment.

Statement of Overriding Considerations

Second, CEQA provides that a lead agency "has an obligation to balance a variety of public objectives, including economic, environmental, and social factors" in justifying its findings. (CEQA Guidelines §§ 15021(d), 15093(a).) The report from the DRA, which is based on recent information, shows that there is no pressing need to rush into approval of the Topaz project merely to meet the needs of California's RPS goals. There are many other solar projects that do not involve the level of environmental sacrifice that this one does, and the FEIR admits that these other projects will be developed in ample time to meet the state's needs. (*See, e.g., the FEIR's discussion about the Westlands CREZ.*) Therefore, any Statement of Overriding Considerations that purports to justify approval of this project, despite its unavoidable and unmitigable environmental impacts, on the state's RPS goals is not and cannot be supported by substantial evidence in the record. The state is well on its way toward meeting its RPS goals even with a substantial failure rate of existing contracts for proposed projects. Moreover, the County's adoption of a No Project Alternative would not mean the project will fail, but merely that it can be relocated. *From the point of view of the state's RPS goals, there is no overriding consideration justifying the environmental costs of this project as proposed.*

CEQA requires that any Statement of Overriding Considerations be supported by substantial evidence in the record. (CEQA Guidelines 15093(b).)

The County must conduct a fresh cost-benefit analysis with these considerations in mind. Crucially, the County should adopt findings based on the existing substantial evidence in the record that this project, in all its Carrizo Plain alternatives, would result in unavoidable, unmitigable and unmitigated adverse impacts on the environment and on public resources. The County should further find that the economic benefits of the project might well be significantly offset by substantial rate increases to be borne by ratepayers, and that the likely attainment

through other projects of interim and long-term targets for the state's RPS requirements defeats any justification of Overriding Considerations in support of the sacrifice of irreplaceable public resources for the sake of this project. The County bears a public trust responsibility to protect those resources.

Therefore, the County should deny approval of this project and recommend its relocation outside the Carrizo Plain.

Summary of DRA Report

<http://www.renewableenergyworld.com/rea/news/article/2011/02/report-cal-utilities-sign-too-many-expensive-clean-power-contracts?cmpid=rss>

Report: CA Utilities Signing Expensive Clean Power Contracts
By Uclia Wang, Contributor
February 21, 2011

It's no secret that renewable electricity in general is more expensive than power from fossil fuels. But how much more expensive? A California report shows that the state's utilities have signed contracts that will cost them over \$6 billion more than they would otherwise pay for electricity from natural gas power plants.

The report, released by the Division of Ratepayer Advocates (DRA) last Friday, says 59 percent of the contracts signed by the state's three largest utilities are priced above the market price referent (MPR), which is a yardstick used by the California Public Utilities Commission (CPUC) in reviewing the contracts. The MPR takes into account the costs of building, operating and maintaining a 500-megawatt combined cycle natural power plant. The more expensive contracts have prices that on average are 15 percent higher than the MPR.

The report looks at the contracts signed by the utilities from 2002 to 2010 in order to meet the state's 2010 mandate called renewables portfolio standard (RPS) to get 20 percent of their electricity from renewable sources. The portion needs to climb to 33 percent by 2020. The contracts analyzed by the DRA include ones with power plants already in operation as well as projects that haven't yet been constructed.

California has set aside funds to allow utilities to sign contracts above the MPR because regulators understand that renewable electricity is more expensive. It's a price that the public will have to pay to use clean power that is better for the environment. The CPUC publishes the MPR and notes whether each contract it's approved is below or above the

MPR. But it doesn't divulge the actual pricing for each contract.

The DRA contends in its report that the CPUC hasn't done a good job scrutinizing contracts to make sure they aren't unreasonably high and won't saddle consumers with hefty bills. It notes that the CPUC has rejected only two out of the 184 it has reviewed. Many of these contracts are for power plants that haven't yet been built, so the actual impact on consumers isn't known.

The CPUC "has approved nearly every renewable contract filed by the utilities, even when contracts rate poorly on least-cost, best fit criteria," the report says.

The report goes on to say that utilities and the CPUC give too much weight on whether developers can complete and deliver their projects and not enough on the projects' costs to the public. It notes that the utilities have signed enough contracts to meet the state goals, so there is no good reason to accept super expensive contracts to ensure that the goals are met.

Not all proposed projects get built, of course, and the expensive contracts reflect the early stages of clean energy development. The California Energy Commission has found that 14 percent of the contracts have failed to deliver while 15 percent have been delayed, the report said. The 14 percent failure rate isn't so high, the DRA notes in the report. The number could climb because of some of the proposed projects are so large that lining up permits and financing will be difficult.

The three utilities, Pacific Gas and Electric, Southern California Edison, and San Diego Gas & Electric, have been signing lots of power purchase agreements. Some of the contracts involved mega projects of hundreds of megawatts each, and those projects have stirred up controversy for their impact on the environment and local communities. A few of them already have attracted lawsuits or threats of legal challenges.

PG&E has signed more contracts that are priced above the MPR than other utilities. Of the ones PG&E has signed, 77 percent of them are above the MPR. Edison and SDG&E's shares are less than 50 percent. A PG&E spokesman told the San Francisco Chronicle the utility is committed to pay more because many of the contracts are for solar electricity, which can be expensive than some other sources.

The DRA wants the CPUC to be more selective in approving contracts. Its recommendations include setting a pricing limit annually and requiring utilities that submit especially expensive contracts -- those that are \$100 million more than the MPR-based prices -- to go through a lengthier review process.

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DRA adds that the public also should be given easier access to information on how much these renewable electricity contracts are costing so far and will likely cost for the next 10 years, and the progress the utilities are making to meet the state mandates. The CPUC should require the utilities to report that information, DRA says.

“DRA supports the RPS program and cost-effective renewables. However, DRA is concerned that the perceived urgency to comply with the RPS and continuing CPUC approval of high-priced contracts has created an inelastic demand and subsequently driven the renewable market to yield very high prices,” the report says.

Please exercise discretion wisely. Recommend the relocation of the Topaz Solar Farm elsewhere. Recommend denial of approval of this application for a CUP to build a solar generating facility in the Carrizo Plain.

Thank you for your consideration of these comments. Please include this letter and accompanying attachments in the administrative record for this project.

Sincerely Yours,

/s/

Samuel B. Johnston
Attorney for Michael Strobridge

cc: Michael Strobridge
Sharon E. Duggan, Esq.
Marti Fischer

Enc.

Attachment A: Letter dated April 22, 2009 from Robin Bell to John Kessler re project #07-AFC-08

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

- Attachment B: Letter dated April 1, 2009 from Robin Bell to John Kessler re project #07-AFC-08
- Attachment C: Letter dated April 8, 2009 from Robin Bell to John Kessler re project #07-AFC-08
- Attachment D: "Habitat Suitability and Potential Corridors for San Joaquin Kit Fox in the San Luis Unit," Brian Cipher et. al., California State University, Stanislaus Endangered Species Recovery Program, May 22, 2007
- Attachment E: San Luis Obispo County Agricultural Commissioner, Restricted Materials Permit # 40-11-4020202, effective date January 1, 2011
- Attachment F: Copy of Glean label
- Attachment G: *Green Rush: Investor-Owned Utilities' Compliance with the Renewables Portfolio Standard*, California Public Utilities Commission's Division of Ratepayer Advocates, February, 2011

ATTACHMENT C: JOHNSTON COMMENT LETTER (II) ON
THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE
TOPAZ SOLAR FARM PROJECT, APRIL 14, 2011

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Attachment C: Johnston Comment letter (II) on the Final Environmental Impact Report for the Topaz Solar Farm Project, April 14, 2011

April 14, 2011

Steven McMasters, Project Manager
San Luis Obispo County Department of Planning and Building
976 Osos St., Rm 300
San Luis Obispo, CA 93408-2040

via US mail and email: smcmasters@co.slo.ca.us, mefisher@co.slo.ca.us

Re: Second Comment letter on the Final Environmental Impact Report (FEIR) for the Topaz Solar Farm Conditional Use Permit, DRC2008-00009

Dear Mr. McMasters,

This letter is submitted on behalf of Michael Strobridge, a resident of the Carrizo Plain area of eastern San Luis Obispo County. On March 31, I addressed the Planning Commission for three minutes regarding some issues concerning the Topaz FEIR. This comment letter supplements those brief oral comments. This letter also supplements our previous comments to the Department including my letter dated March 28, 2011, which is incorporated herein by reference. We urge the denial of approval for this CUP application. We urge that the Planning Commission recommend that this project be relocated outside the Carrizo Plain.

Recirculation

Of special concern is the late release of the applicant's "Revised Project" designated "Option 3B.1" (or "Alternative 3B.1"). This option was submitted to the County on February 16, 2011, more than a month after the close of public comment. (*See* FEIR at E-22.) The Revised Project, which contains numerous changes to the proposed project, presents significant and substantial new information, triggering the recirculation requirement under CEQA. Therefore, before this FEIR can be certified, it must be recirculated with all the relevant impact analyses pertaining to Alternative 3B.1 including, but not limited to, those mentioned herein. Otherwise, the public will be deprived of a meaningful opportunity to make an informed judgment as to the validity of the conclusions and findings reached regarding Alternative 3B.1.

New Impacts to Water Resources

Ms. Angela Colamaria

Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**

May 9, 2011

As the FEIR admits, “[...]his alternative would result in greater impacts to surface water resources and jurisdictional waters in comparison to the Proposed Project.” (FEIR at E-26.) Alternative 3B.1 would also “result in an estimated 750 cubic yards of fill within jurisdictional waters.” (*Id.*) Furthermore, implementation of Alternative 3B.1 would result in new adverse impacts not previously identified. For example, Alternative 3B.1 would relocate module arrays into jurisdictional waters and 100-year floodplains. Relocated arrays would now occur within 100-year floodplains in (without limitation) Sections 19, 20, 28, 32 and 33. (*Compare* Figures E-6 and ES-2.)

The relocation of module arrays into these areas would result in new impacts, and would result in an increase in the severity of impacts. Such impacts would likely include, without limitation:

- Alteration of surface water drainage patterns, resulting in increases in suspended sediment and turbidity in surface water drainages where the PV arrays, access roads, and associated facilities would be constructed;
- Release of pollutants other than sediment to the environment during construction, operation, and maintenance of the Project facilities;
- Changes in groundwater and/or surface water quality;
- Changes in flow in surface water drainages;
- Changes in groundwater levels and availability for other users;
- Changes in source water and vegetation at wetland areas;
- Changes in groundwater recharge rates;
- Reduction in floodplain capacity;
- Reduction of wetland areas;
- Alteration of flood flows upstream or downstream of the Project.

The FEIR’s discussion of Alternative 3B.1 regarding these impacts is wholly inadequate. For one thing, the discussion incorrectly asserts that the arrays will be relocated “along the edges of 100-year floodplains.” (FEIR at E-26). A quick glance at Figures E-6 and ES-2, however, reveals that a significant portion of arrays will actually be located *within* and not just “along the edges of” 100-year floodplains. This inaccuracy cannot be tolerated because it misleads the reader into believing the false proposition that no new impacts will result to floodplains from the relocation of the arrays. Moreover, the very brief analysis of impacts presented at p. E-26 utterly fails to provide any evidentiary link between the admission of new adverse impacts and the assertion that those or any impacts will be mitigated to less than significant. Recirculation is thus also required to provide this needed evidentiary link.

Any conclusion that Alternative 3B.1 mitigates impacts to water resources to less than significant is not supported by substantial evidence. Perhaps that is why the analysis of Alternative 3B.1 provided in the FEIR does not even reach the conclusion that the impacts are *mitigated* to less than significant. Rather, in a carefully worded statement, the FEIR concludes that the impacts

“would be *expected to be mitigable* to a level of less than significant.” (*Id.*, emphasis added.) The lack of recirculation has not been justified by substantial evidence. Finally, the failure to recirculate under these circumstances constitutes a failure to proceed according to law and frustrates the policies of informed decisionmaking and of informed self-government.

New Impacts to Biological Resources

The FEIR’s analysis of Alternative 3B.1 also asserts (as we continue to dispute) that Alternative 3B.1 “eliminate[s] a cumulatively significant and unavoidable (Class I) impact to San Joaquin kit fox movement corridors.” Recirculation is needed to provide support for this proposition. We maintain that it is not supported and that Alternative 3B.1 preserves this unmitigable cumulative impact. We have seen nothing from either the County or the applicant to refute our extensive discussion in our March 28 letter as to why the mitigation for the kit fox is inadequate. Indeed, we have recently learned from a statement by Steven McMasters at a meeting of the Agricultural Preserve Review Committee on March 28, 2011 that the County does not expect the applicant to plant vegetation in the areas underneath the arrays. If the applicant is abandoning the mitigation proposed for the areas under and within the arrays, that leaves an already deficient mitigation plan further compromised. Moreover, this apparent abandonment of mitigation for the areas under the arrays highlights that the County has approved project activities prior to permitting. The “test” arrays already built have altered the environmental baseline and constitute pre-permit project construction. These activities, which we have objected to on more than one occasion, have had the effect not only of altering the baseline but of degrading kit fox habitat prior to permit approval. At any rate, the abandonment of a proposed mitigation measure (of providing vegetation under the arrays) for biological resources constitutes significant new information requiring recirculation with a fresh analysis of why the abandoned mitigation measures will not result in significant impacts after mitigation.

Placing additional arrays in Sections 4, 5, 28, 29, 32, and 33 (without limitation), as Alternative 3B.1 proposes, will likely result in new adverse impacts as well as direct impacts to kit fox that are more severe than was previously the case, especially since kit foxes appear to occupy some of those areas in significant numbers, according to the applicant’s own studies. (*See, e.g.*, Figure 4 at p. 50 of the San Joaquin Kit Fox Conservation and Monitoring Plan, dated March 2011.) These additional impacts will result from direct loss of kit fox habitat, from loss of foraging habitat, from loss of vegetation supporting kit fox prey base, from additional loss of movement corridors, or from other factors. These additional impacts and factors must be analyzed in a recirculated document.

It should be noted that a plethora of other issues are, or could be, implicated by the relocation of the arrays under Alternative 3B.1. Because of the insufficient review of these other issues in the FEIR, we have been unable to determine to what extent Alternative 3B.1 might result in new or

increased impacts in other areas. Recirculation should be conducted in such a manner as to cure this deficiency in the FEIR.

Nevertheless, a cursory review of the documents associated with the Department of Energy's (DOE's) review of this project for the purposes of its consideration of a loan guarantee sheds some light on some of the other additional impacts of Alternative 3B.1 above and beyond the proposed project that was analyzed in the FEIR.

For example, the placement of additional arrays in Section 33 will create new adverse impacts to other wildlife species including, without limitation: bald eagle, golden eagle, ferruginous hawk, mountain plover, and prairie falcon. (*See* DOE's Draft Environmental Impact Statement, Volume II, "BR Map 8, Special Status Wintering Birds," at p. 468, attached hereto as Attachment 1)

Additional arrays in Section 33 will also have a significant adverse impact on pronghorn antelope. That area is a major crossing for the pronghorn, who frequently are seen crossing Highway 58 near the intersection of Tracy Lane. Unmitigated, significant impacts to pronghorn remain even under Alternative 3B.1. However, we may have underestimated the extent of the damage to pronghorn from the project in our previous comments. The Topaz project site is situated in such a manner that its significant adverse impacts to pronghorn antelope cannot be mitigated. This problem is well illustrated by DOE's "BR Map 4, CDFG Pronghorn Antelope Aerial Survey Data," attached hereto as Attachment 2. Additional arrays in Section 33 would result in significant new impediments to pronghorn movement. This triggers the requirement for recirculation under CEQA.

Feasible new project alternative

Additionally, there is now a feasible project alternative that is arguably considerably different from others previously analyzed: The Westlands CREZ. Although the Westlands CREZ alternative was previously analyzed, it is considerably different now because it has been upgraded, as our letter of March 28 points out, to a status of "high solar resource area." A feasible project alternative considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it. The recirculated EIR should analyze the Westlands CREZ alternative in this light. CEQA Guidelines § 15088.5(a)(3).

New mitigation measures proposed

Additionally, new significant environmental impacts will result from new mitigation measures proposed to be implemented under Alternative 3B.1.

First, new impacts will result from the shifting mitigation measures for biological and agricultural resources. The FEIR states that under Alternative 3B.1, “no Williamson Act lands would be affected.” However, to the extent that Alternative 3B.1 or any other alternative utilizes Williamson Act lands offsite as mitigation lands, this assertion is false, thereby violating CEQA’s requirement that an EIR convey accurate information. The utilization of offsite mitigation land is, moreover, planned to be an integral part of both biological and agricultural mitigation, no matter what alternative is chosen. The utilization of these offsite mitigation lands constitutes new mitigation measures not analyzed to a meaningful level of specificity in the original DEIR or in the FEIR.

The County and the applicant face a fundamental and, we believe, insurmountable problem: the tension between agricultural and biological mitigation. That problem, simply stated, is that offsite lands for agricultural mitigation are unsuitable for biological mitigation, and vice versa. The applicant, however, intends to “stack,” or “nest” many of these these offsite mitigation measures together in the same lands.

Offsite biological mitigation lands need to be managed for kit fox, pronghorn, and all the other species that require offsite protection as compensation for unmitigable onsite impacts. Crop production is obviously inconsistent in a number of ways with kit fox management; for example, the disking of fields will destroy kit fox dens and prey, and the use of herbicides will kill off the kit fox prey and the vegetation that constitutes kit fox prey base. Sometimes, cattle grazing can be consistent with kit fox management, but at other times grazing is not so compatible; the grazing would have to be carefully regulated. Improper cattle grazing can be harmful to kit fox, and it would be expected that cattle grazing in kit fox mitigation land would adversely impact the kit fox. Under these circumstances, biological mitigation would not be assured.

Additionally, agricultural mitigation would not be available with nesting, since the vast majority of agricultural uses of the land would be closed off and the only remaining use would be kit fox-friendly cattle grazing. Moreover, such regulation of the land for kit fox would conflict with preservation of agricultural land under the Williamson Act since, among other reasons, the soil would be expected to degrade over time. To the extent that the applicant identifies kit fox mitigation lands under Williamson Act contract, this would constitute a new mitigation measure whose efficacy has, at a minimum, not been demonstrated by substantial evidence, and which would result in new environmental impacts not previously analyzed. Therefore, the proposed measures for offsite mitigation lands trigger the recirculation requirement.

Ultimately, this problem stems from the fact that the location of the Topaz project site is manifestly unsuited to development of a solar generation facility, as we have emphasized again and again.

The FEIR includes a document prepared by the applicant’s consultant, Althouse & Meade,

entitled “San Joaquin Kit Fox Conservation and Monitoring Plan.” This document contains a discussion of proposed offsite mitigation lands beginning at p. 22, and a table of rankings for proposed mitigation lands (Table 3 at p. 25). The proposed conservation areas appear in blue on Figure 5 at p. 51. There are a number of problems with this discussion. First, it provides no evidence that all the proposed parcels will be available for acquisition. Feasibility of the mitigation measures is thus in question, before the adequacy of the performance standards even arises as an issue. Second, it removes language that appeared in a previous version of the document dated March 2011. The removed language is attached hereto as Attachment 3. Here is the deleted language:

“Up to 2,800 acres of cropland included within the conservation land package may be placed in agricultural conservation easements and may retain the potential to be planted with crops, in order to meet County requirements for mitigating impacts to agricultural resources. The locations of these agricultural easement properties within the conservation land package will be determined in discussion with USFWS and CDFG. Agricultural easements will not allow development of these parcels, and the lands will remain open for kit fox movement during part of the year, as they are in the existing condition. Some agricultural lands are currently considered important parts of the wildlife movement corridors near the TSF Project site.”

This indicates that some 2,800 acres will be “stacked” for use as both biological and agricultural mitigation land. If this stacking remains in the final plan, then the mitigation measures cannot obtain all of the project’s mitigation goals for the reasons described above. Moreover, the areas of the map labeled “A” and “B” are either completely or nearly completely lands under Williamson Act contract, and are therefore not suitable for offsite kit fox mitigation lands. Furthermore, the area marked “I”, for reasons we pointed out in our letter dated March 28, 2011, contains significant amounts of sloped areas not suitable for kit fox. (This fact calls into question the rankings given in Table 3, which ranks area “I” as highly suitable for kit fox.) Together, areas A, B, and I total 5,615 acres. These acres - almost half of the offsite mitigation lands proposed - are not adequate as kit fox mitigation lands.

Aside from the question of the adequacy of these offsite mitigation lands, they have not been evaluated by the public in the light of day but have been inserted into the FEIR at a time long past the close of public comment. This triggers the recirculation requirement. Moreover, there is no substantial evidence presented that the utilization of adequate offsite lands is feasible. Because the actual determination of which lands will constitute the offsite mitigation lands has been deferred to the future, this problem looks like a deferment problem. But it is actually both a deferment problem *and* a feasibility problem. Deferment of mitigation measures has occurred where the performance standards required cannot be reached. This means the mitigation proposed is not

feasible.

Saying “we will restore disturbed lands to certain standards” does not provide the substantial evidence necessary to justify either not recirculating or a finding that the impacts will be reduced to less than significant. Again, the acquisition of the lands has not been shown to be feasible. And even if it were feasible, there has been no analysis of how long it will take to restore the lands to a state that can support kit fox or other species. In the meantime, the kit fox or other species may permanently leave the area or die off. Because the offsite mitigation lands were not identified until after the end of public comment, the public has had no opportunity to evaluate whether the mitigation lands can succeed. The post-comment period identification of mitigation lands is a new, previously unproposed mitigation measure that will, in this instance, lead to new significant environmental impacts. Recirculation under these circumstances is required.

Another new mitigation measure triggering the recirculation requirement is the measure of raising the arrays above the ground. On the surface, this mitigation measure might appear to some not to result in any adverse impacts. However, this measure was not reviewed by the public or any agency during the public comment period. Therefore, the public has no way of determining whether this measure is adequate to avoid adverse impacts of flooding on the structures or other impacts. Simply put, there has been no publicly reviewable analysis of whether the arrays have been raised high enough. Because the public has no way of determining whether this mitigation measure will be effective, recirculation is warranted for this new mitigation measure.

Project Description

As a consequence of the revisions to the project, the project description in both the DEIR and FEIR fail to accurately describe the project. Therefore, the project description must be revised and recirculated.

Impacts to Kit Fox and Environmental Setting

The FEIR understates the impacts of the project to Kit Fox by mischaracterizing the environmental setting. Section 28, which is slated to contain more arrays than any other section, is inaccurately classified as poor kit fox habitat. It is in fact high quality kit fox habitat.

A comparison of “Figure 2 - Habitat Map” on page 48 of the April 2011 version of the Kit Fox Conservation and Monitoring Plan with Figure 6 on p. 53 of the same document illustrates this problem. In Figure 2, section 28 is correctly characterized as grassland and section 27 correctly as cropland. Yet in Figure 6, section 28 is characterized as poor quality kit fox habitat and section 27 as (mostly) high quality. Moreover, Figure 4 shows a great many kit fox sightings right on the

border between sections 27 and 28, with some sightings within section 28. Section 28 is otherwise suitable for kit fox: no slope, hasn't been farmed in 10 years, is grassland, and somehow it is rated poor quality, while the adjacent section 27, disturbed from cropland farming, is designated high quality for kit fox. Figure 6 appears also to mischaracterize some areas toward the west as high quality, as we have pointed out, for example, regarding the area marked "Section I" in Figure 5.

Impacts on Water Resources not Analyzed

An adverse impact to water resources that has not been identified or analyzed is the need to provide water for the sheep proposed for vegetation management related to wildfire control. Volume II of the FEIR contains, within RTC-2, Appendix 9, Wildfire Management Plan. In that plan, sheep are proposed to control vegetation fuel build-up. Aside from the problems we pointed to in earlier comments regarding kit fox prey base, this use of sheep grazing for fire control will require extensive water for keeping the sheep healthy and alive, yet this water need has not been included in the analysis of impacts on water resources. How much water will this require? Where will it come from? These questions are not addressed. This oversight violates CEQA. The recirculated document should address this.

Size of the Carrizo Plain ("The Plain")

The FEIR states, "...[t]he Carrizo Plain is located in southeastern San Luis Obispo County. This northwest-southeast trending valley is approximately 15 miles wide and 50 miles long, surrounded by foothills and mountains." No substantial evidence appears in the FEIR to support this asserted size of the Carrizo Plain. Fifteen miles times fifty miles equals 750 square miles. If the FEIR overstates the size of the Plain, then it understates the impacts to the Plain. A greater percentage of the Plain is impacted by the project if the Plain is smaller than represented.

In fact, the Carrizo Plain appears to be significantly smaller than represented. The BLM has characterized the Carrizo Plain as "roughly 50 miles long and six miles wide..." or 300 square miles. (*See* Bureau of Land Management (BLM), "Carrizo Plain Natural Area Plan," 1996, Section II, Subsection A, excerpt attached hereto as Attachment 4.) Furthermore, BLM's fact sheet for the Carrizo Plain National Monument describes the Carrizo Plain as 250,000 acres in size, which equals 390.625 square miles. (*See* BLM Fact Sheet on the Carrizo Plain National Monument, excerpt attached hereto as Attachment 5) Additionally, a Ph.D dissertation conducted at Stanford University regarding the San Andreas Fault describes the Carrizo Plain as "a narrow, undulating, and mostly undrained plain, about 15 km wide (NE-SW) and 75 km long (NW-SE)..." Fifteen times seventy five equals 1,125 square kilometers, which equals 434.364 square miles. This dissertation is available online at

<http://activetectonics.asu.edu/carrizo/cargeo.html>.

Thus, a reasonable range based on these studies for the size of the Carrizo Plain is between 350 and 434 square miles. Even the higher range figure, 434 square miles, significantly differs from the figure of 750 square miles given in the Topaz FEIR. The FEIR thus appears to dramatically overstate the size of the Carrizo Plain, infecting the entire document's analysis of environmental impacts. This dramatic discrepancy must be resolved before the most basic evaluation of the impacts of this project to this sensitive environment can be evaluated. As we have long contended, the Carrizo Plain is one of the last unique environmental resources in the state of California. We have contended that the Carrizo is ill-suited for this project because of its rare, special quality. The impacts of this project as a whole on the Carrizo, however, have been grossly underestimated by this EIR because of its inflated figure for the size of the Carrizo Plain. As a result, the extent of both direct and cumulative impacts from the project as a whole on the Carrizo Plain as a whole is significantly greater than represented. This gross deficiency in the evaluation of the environmental setting and the resulting deficient impacts analysis cannot stand.

Access to Residential Properties and the Ongoing Violations of Easement Rights

Currently, numerous public and/or private easements in or near the project site apparently have been closed off or blocked by the applicant or its agents, in violation of the rights of the public and of private landowners. For example, without limitation, Mr. Strobridge currently cannot access a deeded easement to his property located at the northern end of section 28, where the easement is blocked off at both northern corners of section 28. Moreover, "Exhibit A - Proposed Improvements and Water Resources" at p. 10 of the Wildfire Management Plan presents an inaccurate portrayal of the access roads to various properties. For example, Tracy Lane is mis-identified as "Pronghorn Rd."

Mr. Strobridge enjoys the right to access his property at two locations, but he currently can only access his property through one access road. Moreover, recently an emergency fire vehicle was traveling down a road on which Mr. Strobridge was traveling in the other direction, and when the two vehicles met, because of a blocked easement, the fire truck had to attempt to get by Mr. Strobridge's vehicle on that narrow road rather than utilizing the nearby blocked easement. The fire truck became stuck on the side of the road for a time and ultimately had to proceed in reverse for a long way before turning around. There remains a serious problem of emergency access to neighboring properties under the Topaz FEIR. This problem must be corrected.

These inaccuracies and incidences of easement violations do not inspire confidence in the applicant's or the County's concern for the rights of Mr. Strobridge and other landowners near the project. Mr. Strobridge reserves his rights under the law and has not waived in any way his rights to full enjoyment of his property. Mr. Strobridge objects to the ongoing violations of public

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

and private easement rights. These violations must be corrected at once. Should the project be approved and implemented, it will have to respect the present rights of neighboring landowners. The present conduct of the applicant and of the County do not reflect this reality. Mr. Strobridge's property and easements are not for sale. Mr. Strobridge continues to claim the right to use the public easements in and around the project area.

The State 's Goals Will be Reached without the Topaz Project

As we discussed in our letter dated March 28, 2011, and in oral testimony before the Planning Commission, *there is no overriding consideration justifying the environmental costs of this project as proposed*. However, to reinforce this proposition, we would like to submit additional evidence to buttress this fundamental point. Attached as Attachments 6 and 7 are documents submitted in the matter of the Application for Certification for the Ivanpah Solar Electric Generating System by Bill Powers, a professional mechanical engineer in the field of energy. These documents support energy development in the Westlands CREZ and distributed power as substitutes for utility-scale solar facilities in sensitive ecological areas. This additional evidence provides substantial evidence for a finding by the County of San Luis Obispo that feasible alternatives exist justifying the denial of approval for the Topaz project.

Conclusion

For the foregoing reasons, and for the reasons we have previously articulated, we urge the County to deny approval of the Topaz Solar Farm. The County should recommend that the project be relocated outside the Carrizo Plain. The County should acknowledge that, as a matter of public policy, it is unwise and counterproductive to support a modern "Solar Gold Rush" to establish industrial-scale solar generation in sensitive environments of limited and important ecological and public resources. The county should find that distributed power, conservation and efficiency are the "low hanging fruit" at this stage of battling climate change. The impending growth of solar generation and its attendant risks to the environment demand that we "do it right" at the outset. Industrial solar generation must be sited properly, and this project site is precisely the wrong way to do it.

At a bare minimum, the County must at this juncture require recirculation of the EIR consistent with our foregoing remarks. Only then will it be possible for the County to conduct a realistic and legally defensible evaluation of the environmental impacts of this project.

Thank you for your attention to these comments. Please include this comment letter and its attached documents in the administrative record for this project.

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Yours Truly,

/s/

Samuel B. Johnston
Attorney for Michael Strobridge

cc: Michael Strobridge
Sharon E. Duggan, Esq.

Enc.

Attachment 1: "BR Map 8, Special Status Wintering Birds," Department of Energy (DOE) Environmental Impact Statement (EIS) for the Topaz Solar Farm, Volume II, p. 468

Attachment 2: "BR Map 4, CDFG Pronghorn Antelope Aerial Survey Data," DOE EIS for the Topaz Solar Farm, Volume II, p. 464.

Attachment 3: Excerpt, Althouse and Meade, Inc., "San Joachin Kit Fox Conservation and Monitoring Plan," March 2011, p. 22

Attachment 4: Excerpt, Bureau of Land Management (BLM), "Carrizo Plain Natural Area Plan," 1996, Section II, Subsection A - Geographic Setting, located at

http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pdfs/bakersfield_pdfs/bake_cpnaplan.Par.5e4086fc.File.pdf/GeographicalSetting.pdf

which is found at

http://www.blm.gov/ca/st/en/fo/bakersfield/Programs/planning/cpnm_plan.html

Attachment 5: BLM Fact Sheet on the Carrizo Plain National Monument, located at

http://www.blm.gov/ca/st/en/fo/bakersfield/Programs/carrizo/mission_statement.html

Attachment 6: Testimony of Bill Powers, P. E. in the Matter of the Application for Certification for the Ivanpah Solar Electric Generating System, CEC Docket 07-AFC-5, December 16, 2009

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Attachment 7: Supplemental Testimony of Bill Powers, P. E. in the Matter of the
Application for Certification for the Ivanpah Solar Electric Generating
System, CEC Docket 07-AFC-5, March 16, 2010

ATTACHMENT D: JOHNSTON COMMENT LETTER (III)
ON THE FINAL ENVIRONMENTAL IMPACT REPORT FOR
THE TOPAZ SOLAR FARM PROJECT, APRIL 26, 2011

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Attachment D: Johnston Comment letter (III) on the Final Environmental Impact Report for the Topaz Solar Farm Project, April 26, 2011

April 26, 2011

Steven McMasters, Project Manager
San Luis Obispo County Department of Planning and Building
976 Osos St., Rm 300
San Luis Obispo, CA 93408-2040

via US mail and email: smcmasters@co.slo.ca.us, mefisher@co.slo.ca.us

Re: Third Comment letter on the Final Environmental Impact Report (FEIR) for the Topaz Solar Farm Conditional Use Permit, DRC2008-00009

Dear Mr. McMasters:

This letter is submitted on behalf of Michael Strobridge, a resident of the Carrizo Plain area of San Luis Obispo County. Mr. Strobridge has owned his property since 2002. We write to supplement our earlier correspondence regarding the Proposed Topaz Solar Farm project, in light of new issues that have since been raised. Please include this letter and attachments in the administrative record for the Topaz Solar Farm project.

The County has provided a set of responses to our recent correspondence. We appreciate these efforts by the County. These responses, however, fall short in a number of respects. Our comments below do not constitute an exhaustive response to those responses. Any lack of response below to points raised in the County's responses does not constitute a waiver of any issue or admission that any of those issues have been adequately addressed by the County. The County Response was made public on the late date of April 26, 2011, two days before the next Planning Commission hearing on the Topaz project. Accordingly, this office did not have anything close to adequate time to respond prior to the 48-hour time frame requested by the Planning Commission for correspondence on pending agenda items.

“Stacking” of Agricultural and Biological Mitigation Lands

We maintain that the problems posed by “stacking” of agricultural and biological mitigation lands remain insurmountable. This basic truth is essentially admitted by the FEIR. For one thing, the FEIR admits that the loss of agricultural lands resulting from the project is a Class I impact: unmitigable. Thus, a statement of overriding considerations will be required to justify this unmitigated impact. But the FEIR goes even further, stating that the “mitigation for secondary impacts to agricultural resources from biological resources mitigation” might be “infeasible” because it would have “the potential to add thousands of acres of additional mitigation to the Applicant’s compliance burden...” (FEIR at RTC GR-33 (Global Response GR-7B).) The ensuing discussion in GR-7B confirms the complexity of the problem: every time a measure is proposed to solve one problem it creates another.

This conundrum illustrates the fundamental problem with the Topaz project as proposed. It is just in the wrong place: as we stated in a similar context in another project, a “square peg in a round hole.” Mitigating the impacts of this project is like poking a balloon. You end up reducing the impact in one way and simultaneously increasing an impact in another area.

Without re-hashing all the complexities of the problem here, let’s look at the FEIR’s conclusion, which states:

“As a result of all of the complicating factors discussed in this Global Response, mitigation for secondary impacts to agricultural resources from biological resources mitigation may or may not be required. If such additional mitigation is required, it would be required at the 1:1 ratio described in Mitigation Measure AG 2.1. However, the County may determine that this additional mitigation would be unreasonable and infeasible.” (FEIR at RTC-GR-33)

One could add, “... and therefore the project should seek an alternative location that does not involve this inherent trading-off of one impact for another but would enable the overall mitigation of impacts to less than significant, in compliance with CEQA.”

Fortunately, precisely such an alternative location exists: the Westlands CREZ. In fact, numerous alternative locations exist. (*See*, e.g., the document submitted by Bill Powers, P.E. for consideration in the Ivanpah project, attached hereto as Attachment 1.) However, the FEIR fails to identify or analyze an adequate number of alternative sites. This failure is a fatal flaw in this EIR because of, among other reasons, the inherent inability to mitigate for so many impacts. The trade-off between agricultural and biological impacts, described above, is just one of many examples of mitigation trade-offs which we have identified in previous correspondence.

“Farmland” Mitigation

Loss of farmland from the project must be mitigated by farmland. So-called “ag-land” will not suffice. Farmland refers to land planted in crops. Apparently, the County is contemplating the allowance of “ag-land” as mitigation for the loss of farmland. This would violate CEQA. To the extent that the project relies on mitigation land that will be used for grazing to mitigate for the loss of cropland, the project violates CEQA. The applicant cannot be permitted to mask the lack of available mitigation land for farmland by changing mitigation language from “farmland” to “ag-land.”

Alternatives

Westlands CREZ

For reasons we articulated above and in our letter dated March 28, 2011, we maintain that the Westlands CREZ is a superior site for this project. The Topaz project should be moved to the Westlands CREZ. Neither the FEIR nor the Response provided by staff justifies not selecting the Westlands CREZ alternative.

Distributed Power

We have heard repeatedly from the County and from project proponents that the state’s RPS goals cannot be met with distributed power alone. We believe this conclusion may be unwarranted. For one thing, the efficiency of solar panels continues to increase. This means that the calculations by which the anticipated (deficient) results were reached may need to be revisited. Moreover, evidence indicates that more energy may be derived from distributed solar power than previously thought. (*See* attached documents: “Wrong from the Start,” by Solardoneright.org, attached hereto as Attachment 2, and “Distributed Solar PV – Why It Should Be the Centerpiece of U.S. Solar Energy Policy,” by Bill Powers, Sheila Bowers, and Solar Done Right, attached hereto as Attachment 3.)

For example, policies such as feed-in-tariffs (FITs) and Property Assessed Clean Energy (PACE) loan financing can facilitate and greatly economize distributed solar power. However, the FEIR brushed distributed power aside based on the conclusory position that distributed power cannot alone meet the state’s renewable energy goals. The FEIR admits that a distributed power alternative would have completely avoided all the environmental impacts associated with the project. The FEIR should have included a detailed analysis of distributed solar power as an alternative to the project.

Reasonable Range of Alternatives

As Commissioner O’Grady pointed out at the April 18, 2011 hearing, there is another alternative which has not received consideration. This alternative would be a version of Alternative 3B.1 but with a reduced production capacity of 400 MW. The Planning Commission declined to ask staff to analyze such an alternative. This is unfortunate. Such an alternative might have been a viable compromise as between the competing project objectives of 550 MW capacity and the minimization of impacts on biological resources. Because this alternative has been ignored, there has not been the identification and assessment of reasonable alternatives that have the potential to avoid or minimize the impacts of the project, in violation of CEQA. The EIR does not “describe a reasonable range of alternatives to the project ... which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen ... the significant effects of the project.” (CEQA Guidelines Section 15126.6(a).) A reasonable range of alternatives would have included the sensible alternative suggested by Commissioner O’Grady.

The applicant’s spokesperson stated at the April 18 hearing that a 400 MW capacity facility would not comply with the terms of the contract between the applicant and PG&E to provide 550 MW of power. However, as the SLO County Department of Planning and Building Manager for this project stated, contracts between the applicant and PG&E do not bind the County. Moreover, contracts can be amended by mutual agreement. Indeed, the current agreement between Topaz Solar Farms LLC and PG&E has been modified at least once, involving numerous and substantive modifications. (*See* attached documents: a PG&E filing before the California Public Utilities Commission (PUC) entitled “Advice 3514-E” dated August 21, 2009, attached hereto as Attachment 4, and PUC Resolution E-4314 dated February 25, 2010, attached hereto as Attachment 5.)

The FEIR itself admits that a 400 MW facility would *partially meet* the objective of a 550 MW capacity because it would “contribute to State and federal renewable energy goals.” (FEIR, p. E-34.) Furthermore, this alternative would meet the objective of supporting goals stated in the SLO General Plan Energy Element. And still further, a 400 MW alternative would avoid all impacts associated with reconductoring PG&E’s transmission line between the proposed PG&E switching station and the Midway Substation. Therefore, this feasible alternative would come closer than any of the alternatives analyzed in the FEIR to meeting all of the stated project objectives. Yet, it was not analyzed at all, either in the FEIR or by the Planning Commission.

All the other alternatives analyzed pose the problem that not all project objectives can together be met. A 550 MW facility will result in significant, unmitigated impacts to biological resources (and to other areas). Therefore, reducing the footprint to a 400 MW facility could be a way to move forward and simultaneously reduce biological and other impacts to less than significant. But we will never know for sure, because that alternative has been foreclosed from consideration

altogether. This violates CEQA in that the public has been completely deprived of an opportunity to evaluate a feasible alternative that would be environmentally superior to all the other alternatives. This CEQA violation is all the more bewildering in light of the *Draft EIR's* identification of Alternatives 4 and 5 (both of which call for a 400 MW capacity) as the Environmentally Superior Alternatives. (*See Draft EIR, October, 2010, at p. E-52; see also "Solar Project in East San Luis Obispo County Dimmed by Planners," by David Sneed, SLO Tribune, 11-2-2010, attached hereto as Attachment 6.*)

Aesthetics - Hubbard Hill / Freeborn Mountain Sensitive Resource Area

The FEIR analysis contains no analysis of the visual impacts of the project as seen from the Hubbard Hill - Freeborn Mountain Sensitive Resource Area. This oversight must be corrected to comply with CEQA. The SLO General Plan, in the Shandon-Carrizo Area Plan, contains this description of the Hubbard Hill/Freeborn Mountain Sensitive Resource Area:

“Hubbard Hill-Freeborn Mountain is designated in the Open Space land use category to emphasize protection of the area in its natural state, and use for passive recreation activities only. No specific plans for use of the area have been formulated except potential acquisition of some of the area by the state. The park would be on BLM property and areas west of it, and would be a natural park with no activities planned other than limited camping, hiking and riding. This potential recreational area has a great diversity of interest. San Juan Creek, a permanent stream, affords recreational possibilities. The mountain slopes are excellent for hiking and riding. Wildlife is abundant, and geology and natural vegetation are of special interest. A spectacular view of the Carrizo Plain is provided from these mountains.” (Shandon-Carrizo Area Plan at p. 5-1)

Since there is no analysis of this impact, there is of course no mitigation measure required that addresses this specific impact. This too violates CEQA.

Nor are the impacts of noise on this Sensitive Resource Area identified, analyzed or mitigated. These oversights must be corrected to comply with CEQA.

Glare

The glare that will result from this project will be unmitigable. Mr. Strobridge submitted for the record at the recent Planning Commission hearing on April 18 a photograph he took of glare from the test panels near his property. This severe glare will be multiplied by an overwhelming amount when one considers that there will be 9 million panels in the project. At the April 18 hearing, representatives from both the County and Aspen Environmental Consulting asserted that

the glare from the panels would only have an adverse impact in the early morning and only for a brief moment. However, the aforementioned photo was taken at about 6 o'clock in the evening. Further, Mr. Strobridge observed the glare to be in existence for over an hour. Thus, this impact will be overwhelming to both drivers and residents. The FEIR vastly understates this impacts and does not provide anything near adequate mitigation - in fact, this impact is unmitigable.

Moreover, the FEIR's consideration of glare focuses on the impact to drivers on roads but does not evaluate the impacts on residents. The impacts on residents will be severe and unmitigable. Thus, overriding considerations must be found in order to justify this unmitigable impact. But there are no such overriding considerations as we have previously explained.

Valley Fever

The County's treatment of valley fever continues to be lackluster. The Response provided by the County, on page 18, continues to downplay the effects and risks from valley fever. In spite of our point that valley fever spores can be spread by the wind without dust, the response contains this falsehood: "Therefore, with implementation of this mitigation measure [related merely to dust control], there would be no risk of Valley Fever spores being transported off site during project construction." This statement is false and is not supported by substantial evidence. There would in fact be a substantial risk. Ignoring this risk violates the law.

Recirculation

Staff attempts in its Response to argue that recirculation is not necessary as a result of any additional impacts from Alternative 3B.1. We disagree and make this point of clarification. Staff apparently confuses "significant" new information with "significant" new impacts. The lynchpin is the ability of the public to comment on a new impact, and here the public has been deprived of that opportunity because there has not been an adequate analysis of those impacts.

CEQA Guidelines Section 15088.5(a) states in relevant part: "New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project..." This rule is designed in part to prevent a lead agency from significantly altering a project after the end of public comment but before certification of an EIR. In this case, the alteration of the project will have additional environmental impacts, as staff's response admits ("The commenter is correct in describing that Alternative 3B.1 would place infrastructure within designated jurisdictional water areas and flood hazard areas.") The public, of course, can comment on these impacts by pointing out that they will exist (as I am doing now in this letter) but cannot comment on the extent and degree of these new impacts because there has been presented no analysis of these

new impacts in the FEIR or anywhere else. Thus, the requirement for recirculation is triggered so that the public can make an informed judgment as to the degree of impact and the extent to which the impact will be mitigated by the measures proposed in the EIR. The public can make no judgment about this degree and extent because the lead agency has provided no analysis; precisely the circumstance for which the recirculation requirement was designed.

The subsequent assertions in the Response under the section “Relocation of Arrays” are conclusory in the absence of the analysis which a recirculated document would contain.

Vegetation Management

The use of sheep entails impacts that have not been analyzed. Our comments dated April 14, 2011 (and previously) regarding the use of sheep have not been addressed. Moreover, Condition 95 involves reducing the size of vegetation to 4 inches during the dry season as a fire control measure. The result will be that hot, dry daily winds will completely eliminate the vegetation, turning it into dust and blowing it away. This will have many adverse impacts, one of which will be the elimination of the land as suitable for kit fox or any other species, and another is the increased risk of spreading valley fever spores. None of these impacts have been addressed, much less mitigated. This oversight must be corrected to comply with CEQA.

Requests for Conditions of Approval

_____ Landscaping and Screening

The applicant is responsible for providing nearby residents with a plan for screening out visual impacts of the project. The screening plan must specify that it shall consist of adequate vegetation (i.e., trees and shrubs) to block out the view of the project from sensitive receptors and impacted residences. The plan must include provisions for adequate and suitable types of trees, sizes of trees, and irrigation plans to sustain the vegetation for the life of the project. The irrigation must be underground and hard-lined. The amount of screening must be sufficient to completely screen the entirety of the visual impact of the project from every vantage point within each residential property within a mile of the project. The screening should appear at the property line in order to prevent the obstruction of the use and enjoyment of property. The initial height of the trees should be adequate to provide this complete degree of screening. There should be a row of trees and, staggered behind and between, a row of shrubs in order to provide complete screening. The best type of vegetation for this purpose would be a row of multitrunk olive trees staggered by a row of shrubs. Junipers are not suitable for this purpose as they do not last long, are burdensome to manage, and require excessive water to irrigate.

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Irrigation for the vegetation to be used in this landscaping/screening mitigation measure has not been analyzed in the FEIR. This oversight must be corrected. Residents should not have to bear the cost of this irrigation. Moreover, this irrigation should not come at the expense of adequate water supplies in residents' wells for other purposes. Because the County and the applicant have failed to demonstrate adequate water supplies for the project, much less for this screening irrigation, the applicant should be required to truck in water from other areas in the event that the groundwater proves inadequate for the project. The impacts of this potential trucking must be analyzed and mitigated. The applicant should be required to bear the costs of irrigating the screening vegetation, including without limitation installing irrigation equipment and any additional water tanks. This screening irrigation water should be considered part of the project's water use.

The FEIR contains no process by which the applicant will provide some kind of screening irrigation plan for evaluation by nearby residents. This oversight must be corrected.

Setbacks

The project should be set back 2640 feet (which is one-half mile) from any sensitive receptor or residence near the project site.

Undergrounding of Collector Lines

Any major collector lines should be undergrounded within a half-mile of any residences. Otherwise, adverse visual impacts will remain unmitigated.

Thank you for your consideration of these comments. Please include this letter and accompanying attachments in the administrative record for the Topaz project.

Ms. Angela Colamaria
Comment Letter on DEIS for Topaz Solar Farm DOE Loan Application, **DOE/EIS-0458D**
May 9, 2011

Sincerely Yours,

Samuel B. Johnston
Attorney for Michael Strobridge

cc: Michael Strobridge
Sharon E. Duggan, Esq.

Enc.

- Attachment 1: Bill Powers, P.E., Preferred Disturbed Land Sites –Evaluated in EIR/EIS – for Fast-Track BLM Solar Projects, January 31, 2011
http://solardoneright.org/images/uploads/31-jan-_1_BLM_fast_track_projects_%20list_of_preferred_disturbed_land_alternatives1.pdf
- Attachment 2: Solardoneright.org, “Wrong from the Start,” April 4, 2011
<http://solardoneright.org/images/uploads/WrongFromTheStart.pdf>
- Attachment 3: Bill Powers, Sheila Bowers, and Solar Done Right, “Distributed Solar PV – Why It Should Be the Centerpiece of U.S. Solar Energy Policy,” September 10, 2010,
http://solardoneright.org/index.php/briefings/post/distributed_solar_pv_why_it_should_be_the_centerpiece_of_u.s._solar_energy/
- Attachment 4: PG&E, “Advice 3514-E” dated August 21, 2009
- Attachment 5: PUC Resolution E-4314 dated February 25, 2010
- Attachment 6: David Sneed, “Solar Project in East San Luis Obispo County Dimmed by Planners,” SLO Tribune, November 2, 2010

Appendix RTC-C

Attachments to Mike Strobridge
Public Hearing Comments

CADMIUM RELATED DOCUMENTS



DEPARTMENT OF ENVIRONMENTAL SCIENCE, POLICY, AND MANAGEMENT

December 30, 2010

This independent review of the Hazards and Hazardous Materials Section of the Topaz Solar Farm Draft Environmental Impact Review (DEIR) was solicited by the Center for Biological Diversity and a local resident. The task was to examine the robustness and accuracy of the analysis, and propose mitigations to minimize the potential of toxic material release from the Cadmium Telluride (CdTe) solar modules planned for the Topaz Solar Farm.

First Solar's CdTe solar panels contain two Cadmium (Cd) compounds layered in between two sheets of glass that are encapsulated in a polymer. CdTe is the thicker semiconductor layer, while the thinner Cadmium Sulfide (CdS) is used as the buffer semiconductor layer. CdS has a higher melting point than CdTe, so is less likely to pose an environmental hazard in the field. Overall, it contributes a modest increase in the overall cadmium levels present in the solar panel.

The encapsulated solar cell design effectively prevents emissions from CdTe solar panels during operation. The release of cadmium into the environment is possible from cracked, broken, or burned modules, or any modules that have the encapsulation seal broken. Cadmium can be directly emitted to the environment from the cadmium-based solar panel by leaching with low pH liquids, vaporizing during fires, or from dust created by broken or ground panels on site. The Norwegian Geotechnical Institute (2010) has suggested that low pH water can cause CdTe to leach out of modules, and the Department of Toxic Substances Control (DTSC) has remarked that the modules proposed for this project fail hazardous waste determination tests in the state of California (STLC & TTLC).

Though the amount of cadmium release over the project lifetime is likely low, it is above zero. The hazard from cadmium compounds could be significant if appreciable cadmium enters drinking water aquifers or contaminates farmland.

DEIR inaccuracies

The DEIR incorrectly describes the following pathways for release of CdTe.

Dust particles would not be generated unless the panels were ground up (e.g., during final disposal) or vaporized in a fire (Fthenakis and Zweibel, 2003). (C.9-16)

Dust particles can be generated indirectly, for example, if from cracked or broken CdTe solar panels where the encapsulant is broken or an ineffective barrier to moisture. Also, if Cd leaches out from the solar panel with rainfall onto the soil, dust particles would be generated when the leachate dried on the surface.

Submitted by
Michael Strobbridge Carrizo Resident

Cadmium dust could also be present on the surface of the module. CdTe solar panel manufacturing facilities have ambient levels of cadmium that are greater than zero. Some cadmium compounds could be deposited on the surface from static electricity, even if only minimal. Some of this dust could be present on the surface of the solar panel when it arrives on site. No studies of this hypothetical pathway have been conducted.

The fire hazards are also not accurately depicted in the DEIR, on page C.9.19 the DEIR says:

However, for cadmium to be vaporized in a wildfire, flame residence time and temperature would have to be sufficient to heat the PV panels to over 1,000°C. (C.9-19)

The melting point of CdTe is 1041°C, and evaporation begins at 1050°C (Fthenakis and Zweibel, 2003), and the melting point of glass is several hundred degrees centigrade higher. Therefore, due to the rapid burn time and low temperature of grass fires, heat transfer during a wildland fire would be insufficient to melt the glass substrate of the panels to allow the cadmium to diffuse through, or to vaporize cadmium into the environment, so the cadmium would remain encapsulated in the panels and no effect on human health would result. (*Id.*)

The most recent and widely cited study of the fire hazards from CdTe is Fthenakis et al. 2005. This paper shows that Cd is released from CdTe PV in a 500 C degree fire for 60 minutes, but that most of the Cd is diffused into the glass. This study has been criticized because it solar panels were laid flat during the heating process. In the field, these modules would be installed at an angle. It is possible that the glass plates could slip during a fire exposing much more cadmium.

The DEIR does not consider that the vapor pressure of CdTe is above zero even at 500 degrees. While the melting and boiling points are accurately listed in the DEIR, there are other means of vaporization that are overlooked. The amount of cadmium released from fires at temperatures lower than the melting is greater than zero.

Researchers at the University of Toronto, Canada, have found that flame residence times in grass fuels are approximately 15 seconds, and that maximum temperatures, observed at the base of the flame (the hottest part), are approximately 800 degrees Celsius (°C) to 1000°C (University of Toronto, 2009). (*Id.*)

The fire residence time and temperature could are also underestimated. There is no mention of the plastic wiring or plastic junction box that could melt and add to the fuel load. Melting and burning plastic would likely raise fire temperatures and residence times, though it is not clear how much. It is not clear if this temperature rise would be great enough to add any appreciable release of cadmium because no research has been conducted on this scenario. The combination of higher fire temperatures, and lower temperatures for cadmium compound release means that the risk is greater than zero. The applicant cannot assure that all cadmium will remain in the modules after a grass fire.

No discussion in the DEIR examines what happens to CdTe solar panels after they experience a grassland fire. Does the glass crack? Will glass layers slide apart? Does the encapsulant melt

away? Cracked modules with melted encapsulant will pose a significant risk for cadmium release. Exposed surfaces of cadmium from glass slippage would present an even greater risk.

The melted junction boxes and wires could also contaminate soil with PCBs, furans, or dioxins. There is no mention of this in the report.

There is reference to the revision of rules for hazardous waste by DTSC on C.9-10. It does not discuss the possibility that DTSC will not take any action. If this happens, hazardous waste handling would still be required, and the developer or project owner would become a hazardous waste generator upon decommissioning. Decommissioning this project as hazardous waste would greatly increase the costs.

On page C9-13 the DEIR indicates that First Solar claims their modules are not a federal hazardous waste, but no data are presented on the TCLP tests to substantiate this.

Other materials that could be present in the solar panels are not discussed. Is antimony, molybdenum, or tin present in the solar panels? What levels are present in the TCLP tests?

This estimate below for broken panels seems very low, though since "break" is not defined it is not clear. Since First Solar has developed other solar energy farms, it seems like actual (*ex post*) data could be used to accurately anticipate how many solar panels would be broken.

Out of the approximately 9 million panels to be installed onsite, it is expected that approximately 100 panels would break each year; and 2,500 panels (0.03 percent) would break over the 25 year panel life. (C.9-18)

The estimate for "release potential" of cadmium over the lifetime of the project is also underestimated in the DEIR.

Each panel contains approximately 6 grams of cadmium, panels are normally completely encapsulated so exposure of Cd to the environment could only occur from broken/fractured panels; and only 2,500 panels are expected to break over the life of the project. This represents a total project life release potential of 33 lbs of cadmium, if the panels were finely ground and exposed to low pH liquids. (*Id.*)

9 million solar panels at 6 grams per panel equals 118,000 pounds of cadmium. The overall emission from 33 pounds of Cd as suggested is 0.00027% of the overall cadmium mass. Fthenakis et al. 2005 suggest that a 500 C degree fire for 60 minutes would release 0.2 percent of the cadmium in the panel. So even this minimal cadmium emission scenario from a catastrophic fire is an order of magnitude more cadmium released (237 pounds). Without an adequate decommissioning plan, the worst-case scenario is that 118,000 pounds of cadmium would be released into the environment (though this scenario is not likely). If modules break *in situ* after a power plant is abandoned, they would slowly crack and weather.

The estimated emission of 33 pounds of cadmium may be accurate, but the means to arrive at this value in the DEIR is in plausible. The number of failed and broken modules is too low, and the likelihood of grinding them to a powder is also unlikely.

The even mixing of cadmium in the soil proposed below is an implausible scenario. The worst-case scenario underestimates the cadmium emissions as suggested above. Cadmium would more likely pool in low spots in the watercourse through the site. It is not clear if this would travel into the water column of nearby drinking water aquifers.

The active footprint of the project would be approximately 4,100 acres, so under worst case conditions, where 33 lbs of cadmium (the maximum amount of Cd expected to be released over the life of the project) were mixed evenly with the top foot of soil under the project area that would increase the cadmium concentration in the soils by approximately 0.22 parts per billion (ppb), or if a single panel (4 feet by 1.97 feet) were to release its entire 6 grams of cadmium the surface soil at a depth of one foot, assuming all the cadmium is mixed evenly in the first foot of soil, would have its average cadmium concentration increased by 17 ppm. (C.9-18)

Proposed mitigations

PV modules should be washed in a room separate from the manufacturing facility, or checked upon arrival with a swab test to ensure no cadmium is present.

A plan should be in place to deal with the PV farm in a post-fire scenario including an assurance that broken and burned modules are immediately removed from the site.

There is reference to a recycling and disposal plan, but no finance set aside for decommissioning. A decommissioning plan should be bonded or insured to ensure that the entire solar farm can be removed at the end of the project's operation. A mitigation plan should require a fully bonded and/or insured decommissioning plan in addition to the money set aside for takeback and recycling in First Solar's restricted investment account. This account should be audited to ensure that funds are available for project decommissioning.

In the Mitigations subsection C.9.-24 there is no definition of broken or damaged modules in the text. It is imperative to define what is a broken or cracked module. Broken or cracked PV modules continue to generate electricity, so do not necessarily need to be replaced. Cracked or broken modules present a leaching risk, particularly if the encapsulation is broken. They should be removed and disposed of immediately to lower the risk of cadmium release. A definition of a broken or damaged module should be included in the DEIR.

A mitigation proposed in a nearby solar energy farm (Panoche PV Farm), which does not even plan to use CdTe modules, will require that,

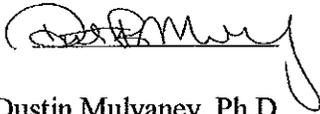
Prior to construction and mounting of the PV panels, each panel will be checked for cracks or other defects to avoid the possible exposure of toxic metals on the surface. The panels will be properly cleaned, if necessary, to prevent any potential contaminated water from contacting the ground or native vegetation.

The mitigation should include a description of the inspection process and frequency for checking for cracks or defects is missing from the Topaz DEIR.

There is no definition of what entails proper inspection of modules.

A description of the cleaning process to ensure that no cadmium emissions from the manufacturing facility are present on the surface of solar panels should also be included.

Thank you for the opportunity to participate in the EIR process. Please contact me if you have further questions.



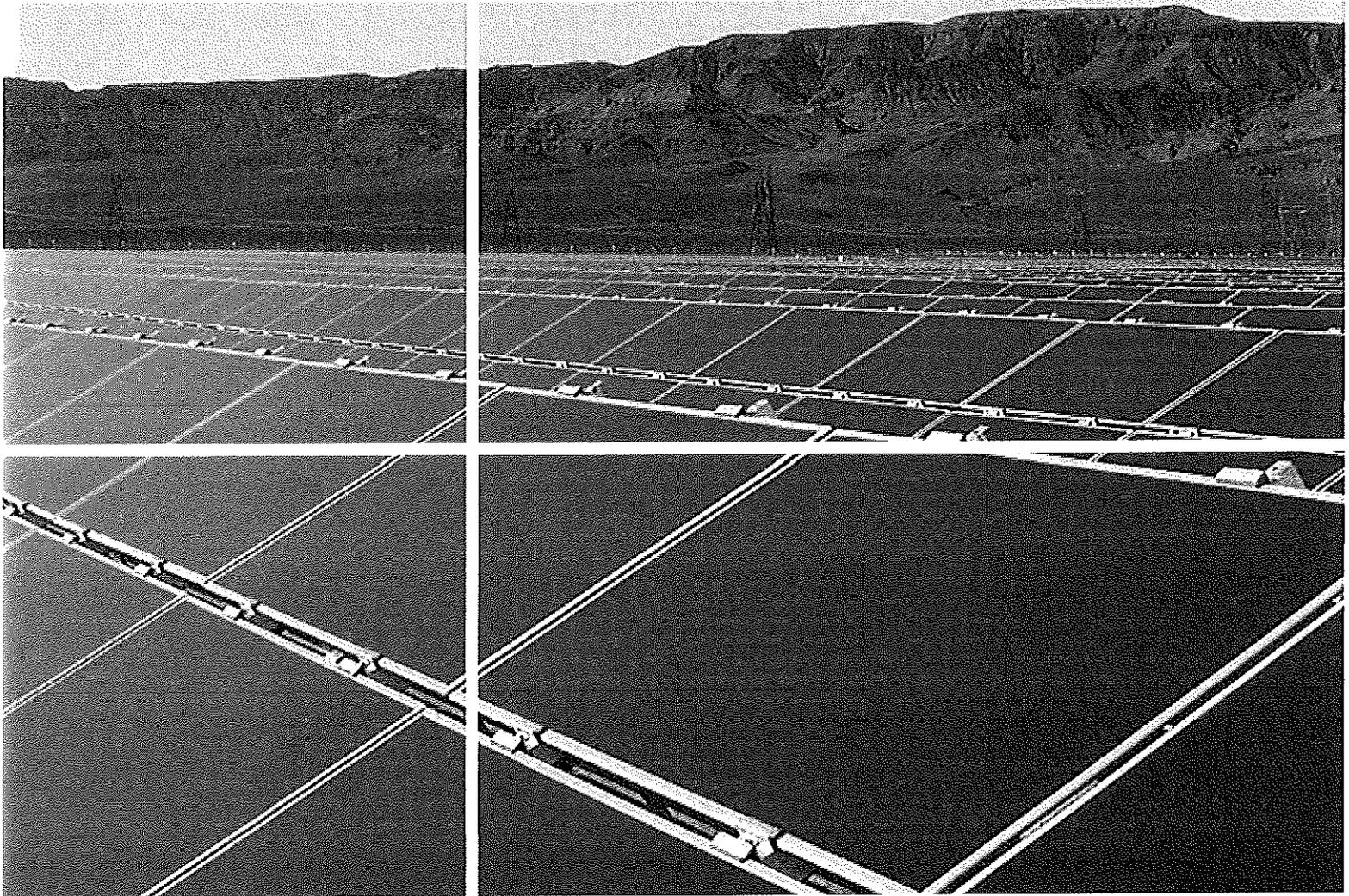
Dustin Mulvaney, Ph.D.
831 247 3896

References

- Fthenakis, V., and K. Zweibel. 2003. CdTe PV: Real and perceived EHS risks. Paper read at NCPV and Solar Program.
- Fthenakis, V. M., M. Fuhrmann, J. Heiser, A. Lanzirrotti, J. Fitts, and W. Wang. 2005. Emissions and encapsulation of cadmium in CdTe PV modules during fires. *Progress in Photovoltaics: Research and Applications* 13 (8):713-723.
- Norwegian Geotechnical Institute. 2010. Environmental risks regarding the use and end-of-life disposal of CdTe PV modules. Trondheim, Norway.



2008 Annual Report



Boulder City, NV, USA (10MW AC); Sempra Generation
Expanding to 58MW AC (2009/2010)

Clean.
Affordable.
Sustainable.

Submitted by
Michael Strobbridge Carrizo
Resident

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Form 10-K

(Mark One)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 27, 2008

or

[] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number: 001-33156

First Solar, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

20-4623678

(I.R.S. Employer Identification No.)

350 West Washington Street, Suite 600

Tempe, Arizona 85281

(Address of principal executive offices, including zip code)

(602) 414-9300

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Name of each exchange on which registered

Common stock, \$0.001 par value

The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act:

None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes [X] No []

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act. Yes [] No [X]

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes [X] No []

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. []

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer [X] Accelerated filer [] Non-accelerated filer [] Smaller reporting company [] (Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes [] No [X]

The aggregate market value of the registrant's common stock, \$0.001 par value per share, held by non-affiliates of the registrant on June 27, 2008, the last business day of the registrant's most recently completed second fiscal quarter, was approximately \$10,046,225,940 (based on the closing sales price of the registrant's common stock on that date). Shares of the registrant's common stock held by each officer and director and each person who owns 5% or more of the outstanding common stock of the registrant are not included in that amount, because such persons may be deemed to be affiliates of the registrant. This determination of affiliate status is not necessarily a conclusive determination for other purposes. As of February 18, 2009, 81,643,905 shares of the registrant's common stock, \$0.001 par value per share, were issued and outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of this Annual Report on Form 10-K, to the extent not set forth herein, is incorporated by reference from the registrant's definitive proxy statement relating to the Annual Meeting of Shareholders to be held in 2009, which will be filed with the Securities and Exchange Commission within 120 days after the end of the fiscal year to which this Annual Report on Form 10-K relates.

Existing regulations and policies and changes to these regulations and policies may present technical, regulatory and economic barriers to the purchase and use of photovoltaic products, which may significantly reduce demand for our solar modules.

The market for electricity generation products is heavily influenced by foreign, federal, state and local government regulations and policies concerning the electric utility industry, as well as policies promulgated by electric utilities. These regulations and policies often relate to electricity pricing and technical interconnection of customer-owned electricity generation. In the United States and in a number of other countries, these regulations and policies have been modified in the past and may be modified again in the future. These regulations and policies could deter end-user purchases of photovoltaic products and investment in the research and development of photovoltaic technology. For example, without a mandated regulatory exception for photovoltaic systems, utility customers are often charged interconnection or standby fees for putting distributed power generation on the electric utility grid. These fees could increase the cost to our end-users of using photovoltaic systems and make them less desirable, thereby harming our business, prospects, results of operations and financial condition. In addition, electricity generated by photovoltaic systems mostly competes with expensive peak hour electricity, rather than the less expensive average price of electricity. Modifications to the peak hour pricing policies of utilities, such as to a flat rate, would require photovoltaic systems to achieve lower prices in order to compete with the price of electricity from other sources.

We anticipate that our solar modules and their installation will be subject to oversight and regulation in accordance with national and local ordinances relating to building codes, safety, environmental protection, utility interconnection and metering and related matters. It is difficult to track the requirements of individual states and design equipment to comply with the varying standards. Any new government regulations or utility policies pertaining to our solar modules may result in significant additional expenses to us, our resellers and their customers and, as a result, could cause a significant reduction in demand for our solar modules.

Environmental obligations and liabilities could have a substantial negative impact on our financial condition, cash flows and profitability.

Our operations involve the use, handling, generation, processing, storage, transportation and disposal of hazardous materials and are subject to extensive environmental laws and regulations at the national, state, local and international level. These environmental laws and regulations include those governing the discharge of pollutants into the air and water, the use, management and disposal of hazardous materials and wastes, the cleanup of contaminated sites and occupational health and safety. We have incurred and will continue to incur significant costs and capital expenditures in complying with these laws and regulations. In addition, violations of, or liabilities under, environmental laws or permits may result in restrictions being imposed on our operating activities or in our being subjected to substantial fines, penalties, criminal proceedings, third party property damage or personal injury claims, cleanup costs or other costs. While we believe we are currently in substantial compliance with applicable environmental requirements, future developments such as more aggressive enforcement policies, the implementation of new, more stringent laws and regulations, or the discovery of presently unknown environmental conditions may require expenditures that could have a material adverse effect on our business, results of operations and financial condition.

In addition, our products contain cadmium telluride and cadmium sulfide. Elemental cadmium and certain of its compounds are regulated as hazardous due to the adverse health effects that may arise from human exposure. Although the risks of exposure to cadmium telluride are not believed to be as serious as those relating to exposure to elemental cadmium, the chemical, physical and toxicological properties of cadmium telluride have not been thoroughly investigated and reported. We maintain engineering controls to minimize our associate's exposure to cadmium or cadmium compounds and require our associates who handle cadmium compounds to follow certain safety procedures, including the use of personal protective equipment such as respirators, chemical goggles and protective clothing. In addition, we believe the risk of exposure to cadmium or cadmium compounds from our end-products is limited by the fully encapsulated nature of these materials in our products, the physical properties of cadmium compounds used in our products as well as the implementation in 2005 of our end of life collection and recycling program for our solar modules. While we believe that these factors and procedures are sufficient to protect our associates, end-users and the general public from cadmium exposure, we cannot assure that human or

~~environmental exposure to cadmium or cadmium compounds used in our products will not occur.~~ Any such exposure could result in future third-party claims against us, as well as damage to our reputation and heightened regulatory scrutiny of our products, which could limit or impair our ability to sell and distribute our products. The occurrence of future events such as these could have a material adverse effect on our business, financial condition or results of operations.

The use of cadmium in various products is also coming under increasingly stringent governmental regulation. Future regulation in this area could impact the manufacture, sale, collection and recycling of cadmium-containing solar modules and could require us to make unforeseen environmental expenditures or limit our ability to sell and distribute our products. For example, the European Union Directive 2002/96/EC on Waste Electrical and Electronic Equipment, or the "WEEE Directive," requires manufacturers of certain electrical and electronic equipment to be financially responsible for the collection, recycling, treatment and disposal of specified products sold in the European Union. In addition, European Union Directive 2002/95/EC on the Restriction of the Use of Hazardous Substances in electrical and electronic equipment, or the "RoHS Directive," restricts the use of certain hazardous substances, including cadmium, in specified products. Other jurisdictions are considering adopting similar legislation. Currently, photovoltaic solar modules in general are not subject to the WEEE or RoHS Directives; however, these directives allow for future amendments subjecting additional products to their requirements and the scope, applicability and the products included in the WEEE and RoHS Directives may change. In December 2008, the European Commission issued its planned revisions of both the WEEE and RoHS Directives. The revisions did not include photovoltaic solar modules in the scope of either directive. The revisions will now be considered by both the European Parliament and the EU Members States as part of the normal European Union legislative process, which is likely to take one to two years. If, in the future, our solar modules become subject to requirements of the WEEE and RoHS Directives, we may be required to apply for an exemption. If we were unable to obtain an exemption, we would be required to redesign our solar modules in order to continue to offer them for sale within the European Union, which would be impractical. Failure to comply with these directives could result in the imposition of fines and penalties, the inability to sell our solar modules in the European Union, competitive disadvantages and loss of net sales, all of which could have a material adverse effect on our business, financial condition and results of operations.

We may not realize the anticipated benefits of past or future acquisitions, and integration of these acquisitions may disrupt our business and management.

In November 2007, we acquired Turner Renewable Energy, LLC and in the future, we may acquire additional companies, products or technologies. We may not realize the anticipated benefits of an acquisition and each acquisition has numerous risks. These risks include the following:

- difficulty in assimilating the operations and personnel of the acquired company;
- difficulty in effectively integrating the acquired technologies or products with our current products and technologies;
- difficulty in maintaining controls, procedures and policies during the transition and integration;
- disruption of our ongoing business and distraction of our management and employees from other opportunities and challenges due to integration issues;
- difficulty integrating the acquired company's accounting, management information and other administrative systems;
- inability to retain key technical and managerial personnel of the acquired business;
- inability to retain key customers, vendors and other business partners of the acquired business;
- inability to achieve the financial and strategic goals for the acquired and combined businesses;
- incurring acquisition-related costs or amortization costs for acquired intangible assets that could impact our operating results;



DOE/ER/82068-1

DOE Project Number DE-FG02-95ER82068

FINAL TECHNICAL REPORT

**Environmentally Responsible Recycling of Thin-Film
Cadmium Telluride Photovoltaic Modules**

Principal Investigator

John Bohland, CHMM
Phone: 419/662-8500

Associated Staff

- ✓ Todd Dapkus, Project Engineer
- ✓ Ken Smigielski, EHS Engineer
- Kristin Kamm, Chemical Engineer

DOE Patent Clearance Granted

4/6/02
Date

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Submitted by
Michael Strobbridge
Carrizo
President

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Introduction

Continuing from the third quarter, all technical objectives of this Phase II SBIR work were previously and successfully completed. This report is therefore brief and contains two elements:

1. A comparison of technical objective accomplishments to the stated goals in the original grant proposal
2. A summary of the third key element of this work; a market analysis for the developed recycling technology systems

Technical Objective Summary

Original Phase II SBIR Grant Proposal Objective

1. Design, construct and operate a one megawatt annual throughput PV module recycling plant.

Results Summary

- The goal of one megawatt annual throughput capacity per operating shift (approximately 350 tons annually per shift) has been met.
 - The goal of one-half shift labor requirement per megawatt throughput has been achieved.
 - Total regulated waste discharges under 100 pounds per year per megawatt throughput was not achieved because an economic recovery pathway for cadmium was not identified. However, the target was missed only by a factor of about five and is still very low as a percentage of total weight processed; only about 0.1% by weight of regulated waste discharges are generated even without reclaiming cadmium.
 - Total treatment costs of cents per watt or less excluding transportation and facility costs has been achieved and a cost model actually predicts costs closer to 2 cents per watt at maximum throughput rates.
2. Increase the separation and purity of the recovered metals, particularly the tellurium semi-metal, to increase their value and provide an increased economic offset for the module recycling process.

Results Summary

- As mentioned above, an economically viable recovery pathway for cadmium was not achieved and was consciously abandoned because of the low intrinsic value of cadmium and the low percentage of cadmium in the recycled materials stream. On the other hand, a potentially economic pathway of selectively reclaiming tellurium from the mixed metal sludge resulting from the precipitation of the etched elements was defined. Lacking large quantities of scrap to develop and optimize this process, 50 to 80% yields of metallurgical grade tellurium (>99% pure) were achieved by extracting the mixed metal sludge with concentrated potassium hydroxide then electrowinning. Therefore this objective has been achieved satisfactorily.

Introduction

Continuing from the second quarter, significant progress has been made toward the project goal of defining an economical, high-throughput process for environmentally responsible recycling of end-of-life cadmium telluride (CdTe) thin-film modules. Technical achievements in this quarter include:

- Completion of all recycling equipment including automation equipment, material handling equipment and ancillary equipment such as a ventilation and dust control systems.
- Commissioning and optimization of all systems.
- Optimization of a high purity tellurium metal recovery scheme.
- Evaluation of the feasibility of recycling mirror scrap.
- Evaluation of the feasibility of recycling flat panel display scrap
- Preparation of an updated cost model.
- Crystalline silicon (x-Si) wafer recovery
- In-process CdTe module substrate reclamation
- Confirmation of regulatory status of the CdTe module recycling facility (i.e. confirmation of recycling Vs hazardous waste treatment facility status).

Following are technical descriptions for each of these achievements.

A paper titled *Photovoltaics as Hazardous Materials; The Recycling Solution*, presented at the Second World Photovoltaic Conference in Vienna in July 1998, additionally summarizes the project results to date and is attached as Addendum I.

Equipment Installation, Commissioning and Optimization

All equipment for recycling the end-of-life cadmium telluride PV modules has been received, installed and made operational. See Figure 1 below:

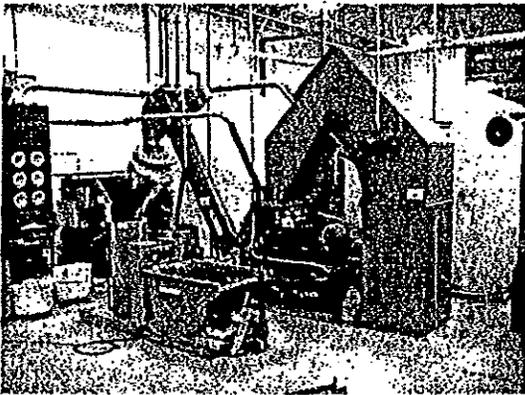


Figure 1 – Module recycling equipment as installed

Skip Hoist, Hammer Mill and Hammer Mill Discharge Trap

Since the last quarter, the hammer mill has crushed several thousand pounds of defective CdTe modules and has demonstrated effective “disassembly” through separation of the substrate and superstrate glass from the ethylene vinyl acetate (EVA) interlayer and the polyurethane mounting feet. The skip hoist module delivery conveyor has been optimized to deliver three modules at a time in two minute time intervals. This equates to a throughput rate for this part of the operation of 1,800 pounds of modules per hour or 4.5 KWH_p (kilowatt-hours peak power) of modules per hour.

High Speed Inclined Belt Conveyor and Conical Barrel Finisher

The Cambelt® high speed, high incline conveyor has been installed and is used effectively to deliver the crushed glass solar module cullet from the hammer mill to the rotating conical barrel finishing machine. It indeed has proven to accept the cullet from the hammer mill discharge chute on a “choke feed” basis. It was discovered though, after breaking the transfer belt (which was subsequently repaired by splicing), that routine cleaning of the conveyor at the hammer mill discharge point is required to prevent internal glass spillage from creating excessive drag on the belt.

The neoprene lined barrel finishing machine, which is resistant to both the corrosiveness of the etchant and the abrasiveness of the glass and imparts a high amplitude, low frequency agitation motion to the glass load, has been working

excellently. Adjustments of speed and tilt angle have been made to reduce the etching time at ambient temperature to about 30 minutes.

After the initial etching, a series of surfactant aided water rinses reduce the free cadmium level in the etched, cleaned glass to less than 1 PPM.

Chemical Precipitation Equipment

A system of tanks, pumps, valves, mixers and filters have been installed and made operational to precipitate the cadmium, tellurium and back contact metals put into solution by the etching process. See Addendum I, Figure 2 for a general arrangement drawing of the chemical precipitation system. The sodium carbonate precipitation has effectively reduced effluent cadmium levels to meet the City of Toledo discharge levels of 0.3 mg/L. The resulting mixed metal sludge is pressed effectively by a small filter press.

The end-of-life module recycling system is considered to be "commissioned" as of April, 1998 and has been used on a daily basis since then.

Optimization of a High Purity Tellurium Metal Recovery Scheme

A custom electrowinning cell was designed and made in-house for experimentation of tellurium recovery from a highly alkaline tellurium rich extract of the mixed-metal precipitation sludge.

A report outlining the technical details of this process is attached as Addendum II.

Using the limited quantities of sludge available (the recycling process does not generate much metals for precipitation because the semiconductor films are very thin and only a fraction of the small production output becomes available to the recycling stream), final recovered high purity (>99% pure) tellurium yields of 50 to 80% were achieved. Until more waste is generated, further optimization of the tellurium extraction process, if economically justifiable, will have to wait.

Evaluation of the Feasibility of Recycling Mirror Scrap.

Mirror scrap was identified as a potential market for the First Solar recycling process because potentially hazardous materials are used in mirror construction (silver and lead) and the substrate is glass. Samples of two types of mirror glass, one from Toledo Glass and Mirror, and one from a Connecticut manufacturer seeking a recycling technology were studied.

A complication with recycling mirror scrap is removing the organic paint backing layer of the mirror. This layer is to protect the silver in the mirror from oxidation and sulfation and is typically composed of up to 5% by weight lead to act as a sulfur scavenger. To chemically digest and break through the organic interlayer, it was discovered that a more complex etchant system be used. Specifically, various proportions of HNO₃ (nitric acid) had to be added to the original sulfuric acid and hydrogen peroxide etchant used to solubilize the CdS and CdTe semiconductors from the First Solar PV modules.

It was determined that it would be possible to recycle mirror scrap using the appropriate chemistry with the First Solar end-of-life module recycling apparatus and process. A detailed report showing the etchant chemistry development work that demonstrated this is attached as Addendum III.

Evaluation of the Feasibility of Recycling Flat Panel Display Scrap

As with mirror scrap, plasma flat panel displays are built on a glass substrate but in this case the incentive for recycling is twofold: the displays contain a lead based dielectric material that in fact failed the EPA's TCLP test for lead as toxicity characteristic but also contain a fair amount of gold which is used as the display's interconnection grid. Samples were obtained for analysis from a local flat panel display manufacturer and used to develop possible recycling process based on the First Solar recycling technology.

In this case, there were two complications. First, the lead dielectric coated over the gold interconnection grid must be removed with acetic acid or weak nitric acid. This exposes the gold, which must be removed in concentrated aqua regia (a mixture of nitric and hydrochloric acids). Gold is considered a "noble" metal and is very difficult to oxidize with acids. The aqua regia can then be neutralized and, at the proper pH, sodium borohydride added to reduce the gold back the elemental state.

The conclusion of this work was that lead recovery and gold reclamation is possible using sequential processes and appropriate chemistry in the First Solar recycling apparatus. Additionally, more inert materials of construction for transfer piping, pumps, valves and filtration equipment may be required for adequate chemical resistance to the aqua regia. Last, ventilation control equipment will be required for controlling the aqua regia fumes.

A report detailing the lead and gold etchant chemistry development and removal and recovery processes is attached as Addendum IV.

Preparation of an Updated Cost Model

Updated cost models have been prepared and are presented graphically in Figure 4 of Addendum I. Both in-house and stand-alone cost models were considered. The difference is that an in-house recycling operation would be free from overhead burden such as facility costs. A stand-alone model, including estimated costs incurred from

facility burden and transportation of the defunct modules to the recycling facility is also presented and agrees with a similar estimate prepared by Chris Eberspacher at UNISUN (see Addendum I for reference).

At maximum throughput of 2 MW_p per year, the in-house cost model predicts a cost of just over \$0.02/W_p and the stand-alone cost model predicts a cost of \$0.12/W_p.

Crystalline Silicon (x-Si) Wafer Recovery

One of the ancillary activities undertaken by this grant, in addition to applying the First Solar CdTe module recycling apparatus and process to mirror and plasma flat panel display scrap, is solving the problem of recycling defunct crystalline silicon module materials. This problem was attacked quite successfully. The reader is referred to Addendum V, *Possibility of Recycling Silicon PV Modules*, presented at the 26th IEEE PV Specialists Conference, October, 1997 in Anaheim CA for a detailed technical discussion on this process.

The results of this work is that, for the first time, by using an inert gas pyrolysis process, crystalline silicon wafers can be recovered from laminated modules intact and functioning. A cost effective recycling methodology for recovering crystalline silicon PV module materials has been developed. A cost model shows about \$0.13/W_p to recover functioning crystalline silicon wafers from modules, not including transportation, facility or administrative costs.

A patent has been applied for from this work.

In-Process CdTe Module Substrate Reclamation

A second significant ancillary activity is the development of an inexpensive apparatus and process to recover CdS/CdTe coated substrates that have not reached the lamination phase. As mentioned in the second quarter report, while the thrust of this project has been on recycling end-of-life, presumably broken or otherwise unsalvageable CdTe PV modules, it is quite desirable as a module manufacturer to have the ability of efficiently reclaiming the solar cell substrate, even for possible re-use, since most yield loss in fact occurs before the lamination process.

The automatic, dual ultrasonic polypropylene etchant tank system reported on in the second quarter report has been functioning flawlessly and has a 200 unit (~10 KWp) per one man shift capacity.

It is particularly economic since the etchant is transferred between the two tanks, "parts" are not transferred. Sophisticated and expensive parts loading and unloading equipment is not needed, the tanks are inexpensive to construct, and the submergible resonant tube transducer ultrasonic units provide the required watt density for etching or cleaning. This dual-tank, high throughput concept appeared to be unique according to our investigation of ultrasonic cleaning tank vendors.

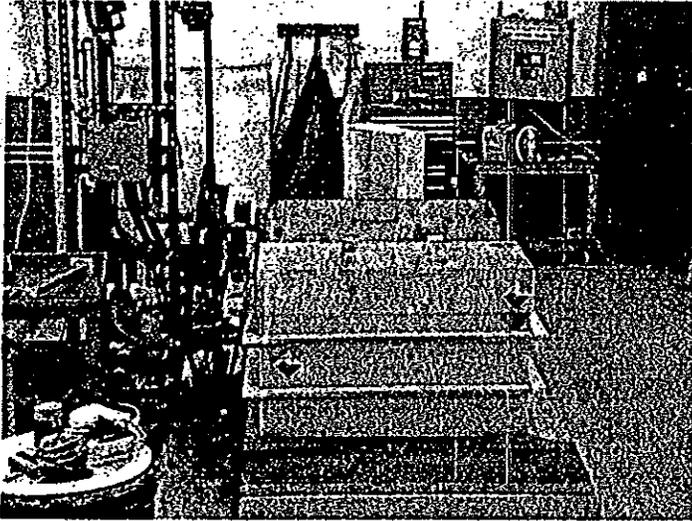


Figure 4 – “Whole Plate” module substrate etching apparatus as installed

Confirmation of Recycling Regulatory Status

The Ohio EPA has made an official determination that First Solar's PV module recycling activities are indeed legitimate recycling activities and has issued a letter to that effect. The letter is attached as Addendum VI.

Next Six Month's (Fourth Quarter) Objectives

All key milestones for the third quarter were met successfully. All technical objectives for the Phase II work have been completed successfully. Therefore the fourth quarter and final report will focus on summarizing the technical achievements according to the stated objectives in the Phase II grant proposal and include the results of the marketing work for the First Solar recycling technologies that has recently been subcontracted to Environmental Business International, Inc., of San Diego, CA.

Respectfully submitted,

John R. Bohland, CHMM
Principal Investigator

ADDENDUMS

Addendum I --- Photovoltaics as Hazardous Materials; The Recycling Solution

Addendum II --- K. Kamm Report on Recycling

Addendum III -- K. Kamm Report on Mirror Scrap Etching and Silver Reclamation

Addendum IV -- I. Anisimov Report on Flat Panel Display (gold and lead) Recovery

Addendum V -- Possibility of Recycling Silicon PV Modules

Addendum VI -- Copy of Ohio EPA;s letter on Regulatory Status of Recycling Operation



COUNTY OF SAN LUIS OBISPO
Department of Agriculture/Weights and Measures

2156 SIERRA WAY, SUITE A, SAN LUIS OBISPO, CALIFORNIA 93401-4556
ROBERT F. LILLEY (805) 781-5910
AGRICULTURAL COMMISSIONER/SEALER FAX: (805) 781-1035
AgCommSLO.ucslu.ca.us

DATE: February 5, 2010
TO: Board of Supervisors
FROM: Lynda L. Auchinachie, Agriculture Department
Mary Blanche, Horticulture Advisor, UC Cooperative Extension
SUBJECT: Draft Conservation and Open Space Element – Important Agricultural Soils Clarification

Thank you for the opportunity to discuss the proposed *Soil Resources* chapter of the Planning Commission approved Draft Conservation and Open Space Element (COSE). The following is a summary of our conversations regarding the concerns raised by the Planning Department.

Concern: COSE definition of "Prime Farmland" is new, and includes a phrase "whether or not land is actually irrigated." This is different from the definition of "Agricultural Soils, Prime" in the Agriculture Element.

Input: The COSE "Prime Farmland" definition is not new. The definition is comprehensive and based on the resource and is referenced to existing state and federal code. CA Government Code Section 51201 (c) is the state definition for prime agricultural land. This definition includes the Storie Index Rating known today as the CA Revised Storie Index Rating. Storie Index is based on soil profile development, surface texture, slope and other soil and landscape conditions, and does not consider agricultural infrastructure such as the availability of water. The phrase "whether or not land is actually irrigated" has been included to accurately reflect CA Revised Storie Index Ratings.

The Agriculture Element definition of "Agricultural Soils, Prime" is a variation of CA Government Code Section 51201(c) for local purposes such as eligibility criteria for Agricultural Preserves and Land Conservation Contracts (see page 5 of the Rules of Procedure).

Concern: A result of the new definition of "Important Agricultural Soils" is that many thousands of acres of land would be considered "Prime Farmland" even though they are not located over a groundwater basin. Such areas generally do not have enough water to support agriculture at this time or in the foreseeable future.

Input: Many thousands of acres of land currently mapped by the Natural Resources Conservation Service as prime, even though they are not located over a groundwater basin. For example, a large percentage of the soils located within the Carrizo Plains Soil Survey Area have a CA Revised Storie Index Rating that meets CA Government Code Section 51201 (c) for prime agricultural land. Additionally, this area has a long history of production agriculture despite the lack of available irrigation. The proposed definition of "Important Agricultural Soils" does not change the existing classifications of these soils.

Concern: The characterization of "Important Agricultural Soils" gives the perception that the four categories, "Prime Farmland, Farmland of Statewide Importance, Other Productive Soils, and Highly Productive Rangeland Soils," are of equal importance as an agricultural land resource and therefore is inconsistent with Agriculture Element Policy AGP24.

Submitted by
Michael Strobbridge

Carrizo Resident

C-3
Correspondence
2/9/2010

Input: From a resource perspective, the identified "Important Agricultural Soils" are considered equal. This level of neutrality does not create an inconsistency with AGP24 based on the historical application of this policy.

Concern: Staff recommends the Board consider deleting Soil Resources - Goal 3 from the COSE, due to inconsistencies, and addressing the issue in the Agriculture Element.

Input: The current Agriculture Element defers to the existing Conservation Element for policies that address soil resources and conservation. Deleting Soil Resources - Goal 3 would result in the general plan lacking appropriate agricultural resource policies.

Concern: Proposed revision to Policy SL3.1 from "Conserve Important Agricultural Soils" to Agricultural Land Resources.

Input: Our understanding is this concern is related to development on agricultural lands. Development on agricultural land is addressed in the Agriculture Element.

If you have any questions, please call 781-5914.

cc: Mike Wulkan

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WATER RELATED DOCUMENTS

COUNTY OF SAN LUIS OBISPO

THE LAND USE AND CIRCULATION ELEMENTS
OF THE SAN LUIS OBISPO COUNTY GENERAL PLAN

SHANDON-CARRIZO AREA PLAN

Table of Contents

ADOPTED BY
THE SAN LUIS OBISPO COUNTY BOARD OF SUPERVISORS
SEPTEMBER 22, 1980 - RESOLUTION 80-350

Revised January 1, 2003

Submitted by
Michael Strobridge Carrizo Resident

Water for Whitley Gardens is provided by the Green River Mutual Water Company. The distribution system was installed in the 1920s and is undersized for existing development. Storage capacity may not be adequate to meet fire flow requirements for significant new development, though flow rates from new or existing wells may be sufficient.

California Valley may experience water shortages that will inhibit growth if the community develops. Although comprehensive information on water resources is available, future water studies in this area are necessary. Full development of California Valley under this Land Use Element could possibly house as many as 20,000 people on already existing lots. The area would need approximately 3,300 acre-feet of water annually to support such a population. ~~The entire Carrizo Plains area is currently in an overdraft situation.~~ The water quality is poor, sometimes exceeding the U.S. Public Health Service recommended limits. Some groundwater obtained in the area is unsuitable for either agricultural or domestic uses. Because of the poor quality and limited water quantity, the only solution for future development would be the importation of supplemental water. However, present estimates of the cost of water, for example, from the state Water Project would most likely be prohibitive. As a result, the future development of California Valley is anticipated to be limited by water availability.

Sewage Disposal

The entire planning area is served by septic tanks and other individual disposal systems. Soil conditions and large parcel sizes should permit their continued safe use. Shandon presently relies entirely upon individual septic tanks and leach line systems for sewage treatment and disposal. The community suffers from frequent septic tank failures, probably due to impervious soil conditions, making community sewers a necessity. The Master Water and Sewer Plan for County Service Area 16 recommends alternative methods for financing the facility. Though grants or loans may not be forthcoming, the project should not be abandoned.

Solid Waste Disposal

Successful refuse disposal practices include direct haul by residents and private garbage companies to disposal sites. Residents in Shandon, California Valley and Whitley Gardens have garbage pickup available. A small disposal site is operated by the California Valley Community Services District. Shandon and Whitley Gardens residents use the Paso Robles landfill in the El Pomar-Estrella planning area near Highway 46 and Whitley Gardens.

Drainage

Shandon is vulnerable to flooding from San Juan Creek and the Estrella River. Both are designated Flood Hazard areas.

C. EMERGENCY AND SOCIAL SERVICES

Police Service

The entire planning area is serviced by the county sheriff. Response times are generally poor. The California Highway Patrol also patrols most of the major rural roads.

Fire Protection

Fire protection for the entire planning area is provided by the California Division of Forestry (CDF) with fire stations in California Valley-Simmler, Shandon, La Panza and Cuyama (Santa Barbara County). As is usual with fire protection stations, there are reciprocal firefighting arrangements with Cuyama, Kern County (McKittrick) and Monterey County (Parkfield). Rural fire protection is judged to be generally adequate for the future anticipated growth.

**San Luis Obispo County
Master Water Plan Update
WATER PLANNING AREA #8 – CALIFORNIA VALLEY**

WPA 8 consists of the Carrizo Plain area of the County. Purveyors include the California Valley CSD, the CDF-Simmler Fire Station, California Valley Water, and the Carrisa Plains Elementary School.

DEMAND

The development of demands for the San Luis Obispo (SLO) MWP Update involved collection and analysis of four types of existing data: 1) urban demand; 2) agricultural demand; 3) rural demand; and 4) environmental demand. Following the review of existing plans and data, existing demands for each of the four categories were prepared for each of the 12 water planning areas. Next, data regarding growth and future water use was analyzed to develop a preferred approach for the development of future water demands. These future demands were then prepared and projected by the same four demand categories for each of the water planning areas.

The total existing and future demands for WPA 8 are listed in Table 1. Discussion of demands by each category follows.

**Table 1
WPA 8 Demand Totals by Category^a**

Category of Demand	Existing Demand (ac-ft/yr)	Projected Demand (ac-ft/yr)
Urban	0	0
Agricultural	200	170-210
Rural	730	1,090
Environmental	NA	NA
Subtotal	930	1,260-1,300

a. All figures have been rounded to the nearest 10's.

Urban Demand

WPA 8 has no urban water demand for the purposes of this study.

Agricultural Demand

This section documents existing and projected Gross Irrigated Water Requirements (GIWRs) for WPA 8. The existing and projected demand figures relied upon published data and accepted methods, along with information gathered from extension agents, consultants, growers, and irrigation specialists. Tables 2 and 3 summarize the current and projected agricultural water demands for WPA 8.

Submitted by
Michael Strobridse Carrizo Resident

Table 2
Existing GIWR for WPA 8 (AF/Yr).

Annual Gross Irrigation Water Requirement (AF/Yr)		
Low	High	Average
180	221	200

Table 3
Projected GIWR for WPA 8 (AF/Yr).

Low	High	Average
168	205	187

Procedures and Concepts

Estimating GIWR for local conditions can be characterized by the following general formula:

$$GIWR = \frac{\text{Crop ET} - \text{Contrib. from rain or shallow water table}}{(1 - \text{Leaching Requirement}) \times \frac{\text{Irrigation Efficiency}}{100}} + \text{Climate Control}$$

This analysis must be completed for each crop group, acreage, and weather pattern to calculate total GIWR (in AF) by Water Planning Area (WPA).

Cropping Patterns

Table 4 summarizes estimates of irrigated cropping acreage for WPA 8.

Table 4
Estimated cropping acreage for WPA 8

Veg.	Total
100	100

Source: Estimated from annual crop report, county GIS records and pesticide use records.

Crop Evapotranspiration

Several UC Cooperative Extension Leaflets describe estimating crop evapotranspiration (ETc) where:

$$ETc = ET_o \times Kc$$

ETc is estimated by multiplying the weather factor (ETo) with the crop coefficient (Kc). ETo values for the Taft climate group (51.2 in/yr) were assigned to WPA 8 and Kc values are specific to the crop groupings (see Chapter 2). Yearly ETc totals for WPA 8 are summarized in Table 5.

Table 5
Yearly crop evapotranspiration (ft/yr) for each crop group in WPA 8

Vegetable
1.6

Effective Rainfall

WPA 8 was assigned the Shandon rainfall group (10.5 in/yr) for the purpose of estimating effective rainfall (See chapter 2). Ranges of percentage of effective precipitation were applied to the crop groupings in WPA 8 and are listed in Table 6. Higher percentages were assigned to the deeper-rooted crops according to their larger rootzone water holding capacity.

Table 6
Assigned ranges of typical effective precipitation for crop groups in WPA 8

Crop Group	Effective Precipitation Range (%)¹	
	Low	High
Vegetable ²	15	25

1. As a percentage of total annual rainfall.
2. 2x adjustment factor for multiple cropping.

Frost Protection

No crops in WPA 8 require frost protection.

Leaching Requirements

The amount of extra irrigation water, which needs to be applied to satisfy the leaching requirement for a particular crop, depends on the salt tolerance of the crop and the irrigation water quality. Ground water quality in San Luis Obispo County is typically adequate for crop production and does not necessitate additional *irrigation* water applied for leaching since it is typically satisfied by normal rainfall. Chipping et al. 1993 reports that of the wells tested in the Paso Robles Ground Water Basin Study, most of the wells tested have EC levels < 1.0 dS/m. Given these water qualities and salt tolerances typical with central coast crops, leaching requirements would be satisfied by rainfall.

Irrigation Efficiencies

Irrigation efficiency can be expressed by the following relationship:

$$\text{Irrigation Efficiency} = \text{Distribution Uniformity} \times (1 - \text{Losses})$$

The Cachuma Resource Conservation District routinely conducts irrigation evaluations in Santa Barbara and San Luis Obispo Counties and are excellent resource in describing the actual performances of irrigation systems in the region. Irrigation efficiencies were assigned to crop group according to prevalent irrigation system type and knowledge of typical local uniformities (Table 7).

Table 7
Assigned irrigation efficiency averages for each crop group in WPA 8

Crop Group	Irrigation Efficiency Range (%)	
	Low	High
Vegetable	65	75

Existing Gross Irrigation Water Requirement by Crop Group

Existing GIWRs for WPA 8 are summarized in Table 8. The ranges provided in Table 8 do not represent the extremes in GIWR, but do represent the typical ranges in a normal year given local variations in effective precipitation and irrigation efficiencies. Table 2 summarizes the current agricultural water demands for WPA 8.

Table 8
Summary of Existing GIWR for WPA 8 by crop group (AF/Ac/Yr)

Vegetable	
Low	High
1.8	2.2

Future Gross Irrigation Water Requirements by Crop Group

Several issues would affect changes in future irrigation water requirements:

- Changes in cropping acreage and type of crop
- Changes in irrigation methods

Cropping Patterns

Trends in cropping patterns were examined through historical crop reports and previous water use projections completed by the Department of Water Resources. Table 9 summarizes projected crop acreages in WPA 8.

Table 9
Projected cropping acreage for WPA 8

Veg.	Total
100	100

Irrigation Methods

Table 10 reflects the projected irrigation efficiencies by crop group in WPA 8

Table 10
Projected irrigation efficiencies by crop group in WPA 8

Crop Group	Irrigation Efficiency Range (%)	
	Low	High
Vegetable	70	80

The same procedures that were utilized to calculate existing agricultural demands were utilized in estimating projected irrigation water requirements. The projected values reflect the changes in cropping acreage and irrigation efficiencies. Table 3 summarizes the projected agricultural water demands for WPA 8.

Table 11
Summary of Projected GIWR by crop group for WPA 8 (AF/Ac/Yr)

Vegetable	
Low	High
1.7	2.1

Rural Demand

Rural water demands in the California Valley water planning area include dwelling units scattered throughout the hills and valleys, especially in the old subdivision creating California Valley. The commercial areas of California Valley not included in Table 12 and 13 below. Water is produced in private wells from the groundwater basin in the area.

Table 12
Current Demand – 1995

Population	Pop/Du	Houses	Duty (ac-ft/ac)	Demand^a (ac-ft/yr)
1,235	2.86	432	1.7	730

a. Demand figure has been rounded to the nearest 10's.

Table 13
Projected Demand – 2020

Population	Pop/Du	Houses	Duty (ac-ft/ac)	Demand^a (ac-ft/yr)
1,836	2.86	642	1.7	1,090

a. Demand figure has been rounded to the nearest 10's.

Data Deficiencies

The following additional data would improve the accuracy of this study:

- **Commercial.** A few commercial activities exist in the rural areas that were not accounted for in the urban demand. It represents a very small percentage of the total water used. California Valley has the largest unaccounted commercial demand in the rural area and should be added to the total. A small school is in the area as well.
- **Dwelling Units.** The study was based upon population numbers, with an estimate of dwelling units derived from population figures divided by persons per household. Demand should be based upon a count of dwelling units by water planning area. This information would be derived from assessor data.
- **Certificate Lots.** Many parcels of land in the area may be buildable. It is difficult to ascertain how many will be built upon.

Environmental Demand

WPA 8 contains no permanent streams. The environmental demands in WPA 8 for the purposes of this study is 0 AF.

SUPPLY

Water service to the California Valley area is provided by small isolated water systems that lack interties.

Groundwater Supply

Table 14 lists the ground water basins in WPA 8. Estimates of "basin yield" are provided for those basins that have been studied, coupled with estimates of ground water production. An estimate of annual ground water production is provided on the table, along with the year representing the estimate and a reference to the source of information.

WPA 8 includes the Carrizo Plain Basin, which is said to be at its yield limit by the 1958 DWR Bulletin 18. The Carrizo Plain Basin water management issues include water quality problems such as locally high nitrate and salinity concentrations.

Table 14
WPA 8 Ground Water Basins

Water Planning Area	Basin Name	Basin Area in Square Miles	Basin yield with original descriptive term in acre-feet per year	Production - year in acre-feet
8	Carrizo Plain	269 ⁽⁶⁾	600 safe seasonal yield ⁽⁶⁾	600 ⁽⁶⁾

6. California Department of Water Resources, 1958, San Luis Obispo County Investigation: State Water Resources Board Bulletin No.18, vol. I and II.

The estimates in Table 14 represent the results of published data from data as old as 40 years. It is also important to note that most of the basins have not been studied in detail, and true perennial yield values are not known. Thus, much of the information does not reflect current conditions, population, water usage, and agricultural trends. It also tends to point out the necessity of developing new data to more accurately describe the hydrologic conditions of the basins.

Uncertainties

The "basin yield" values described in the table reflect the results of a variety of methods of determining yield, including annual recharge, safe yield, seasonal replenishment, and net safe annual extractions, and thus may or may not reflect an accurate perennial yield value for the basin.

Surface Water Supply

Ground water is the predominant source of water supply in WPA 7. Surface water yield is assumed to be 0 AF for the purposes of this study.

DEFICIENCIES

California Valley is sparsely populated and mostly agricultural. Large areas have recently been converted to wildlife preserves. Water quality is a significant issue.

Table 15
Existing (ac-ft/yr)

Demand	Grndwater Supply	NonGrndwater Supply	Total Supplies	Balance^a (Deficiency)
930	600	0	600	(-330)

a. Balance (Deficiency) figure has been rounded to the nearest 10's.

Table 16
Projected (ac-ft/yr)

Demand	Grndwater Supply	NonGrndwater Supply	Total Supplies	Balance^a (Deficiency)
1,260-1,305	600	0	600	(660)-(705)

a. Balance (Deficiency) figure has been rounded to the nearest 10's.

ALTERNATIVES

No future water supply options were considered for the purposes of this study.

WESTLAND ALTERNATIVE

BR-30) in comparison to Option A. This alternative would, however, still result in significant and unavoidable impacts (Class I) due to the permanent conversion of agricultural operations (Impact AG-2) and cumulative impacts related to San Joaquin kit fox movement corridors (Impacts BR-34 and BR-35).

Due to this alternative's use of Sections 15 and 16 of T29S, R18E, it is noted that additional grading and earthwork would be required due to this area's topography. As such, in comparison to proposed Option A and Option B, Alternative 5 could have greater impacts related to air quality (Impacts AQ-1 and AQ-2). Biological resources (BR-1) would be reduced in comparison to Option A or Option B. These impacts can, however, be mitigated to a level of less than significant (Class II) with full implementation of the mitigation measures provided in Sections C.4 (Air Quality) and C.6 (Biological Resources), except for cumulative biological resource impacts (see above). It is also noted that this alternative would avoid potential conflicts with a currently proposed minor agricultural cluster and vesting tentative tract map to subdivide an existing 1,280 parcel into eight parcels located south of Highway 58 in Section 4 of T30S, R18E. This alternative would additionally avoid all impacts associated with reconducting PG&E's 230 kV transmission line between the proposed PG&E switching station and the Midway Substation.

As with Alternative 4, the Proposed Project's full contribution to greenhouse gas emission offsets would not be realized under Alternative 5 because it would generate only 400 MW of renewable energy in comparison to 550 MW of renewable energy. Additionally, although Alternative 5 would be expected to employ the same number workers during construction as the Proposed Project, the duration of employment would be anticipated to occur for a shorter period of time. Therefore, Alternative 5's beneficial impacts to local employment and sales tax revenues during construction would be incrementally reduced. Similarly, due to Alternative 5's reduced acreage, County revenues related to property taxes could be incrementally reduced. Therefore, these long-term beneficial impacts would be less for Alternative 5 than for the Proposed Project.

E.3.67 Alternative 6 Westlands CREZ

As summarized in Table E-1, during the Proposed Project's public scoping process it was requested that an alternative site be considered that is located on disturbed and unusable agriculture lands, thereby lessening the potential impacts to the Carrizo Plain.

Description

The Renewable Energy Transmission Initiative (RETI) incorporated a new Competitive Renewable Energy Zone (CREZ), the Westlands CREZ, in its Phase 2A Update Report, dated December 2009. The Westlands CREZ has a potential renewable energy resource of up to 5,000 MW and is located on agriculture lands that are no longer in use (RETI, 2010). This CREZ was identified as being a moderate high solar area, capable of generating between five to six kilowatt hours per square meter per day (kWh/m²/day); it was incorporated in the RETI analysis because it consists of disturbed agricultural land and is adjacent to an existing transmission (NREL, 2008; RETI, 2010).

The Westlands Water District has a lease contract with Westside Holdings, a private investment group, to use approximately 30,000 acres of fallow agriculture land for a 5,000 MW solar power plant (Sheehan, 2010). The farmland has been retired over the past decade because of a combination of water shortages and salt buildup that makes the soil toxic to crops (Sheehan, 2010). Since the publication of the Draft EIR, Westside Holdings has begun planning for commercial development in the first phase of the Westlands Solar Park (Westlands, 2010). Westlands Solar Park is considering developments of 200 MW or larger (Westlands, 2010). The first phase of the solar park will be pursued through the summer of 2010; it is expected to consist of 9,000 acres leased from farmers and generate 600 to 1,000 MW of electricity (Woody, 2010). On January 3, 2011, Kings County approved a 125 MW PV project within the

Submitted by
Michael Strobbridge

Carrizo Resident

boundaries of the Westlands Solar Park (also within the Westlands CREZ), known as the GWF Solar Project (Kings County, 2011).

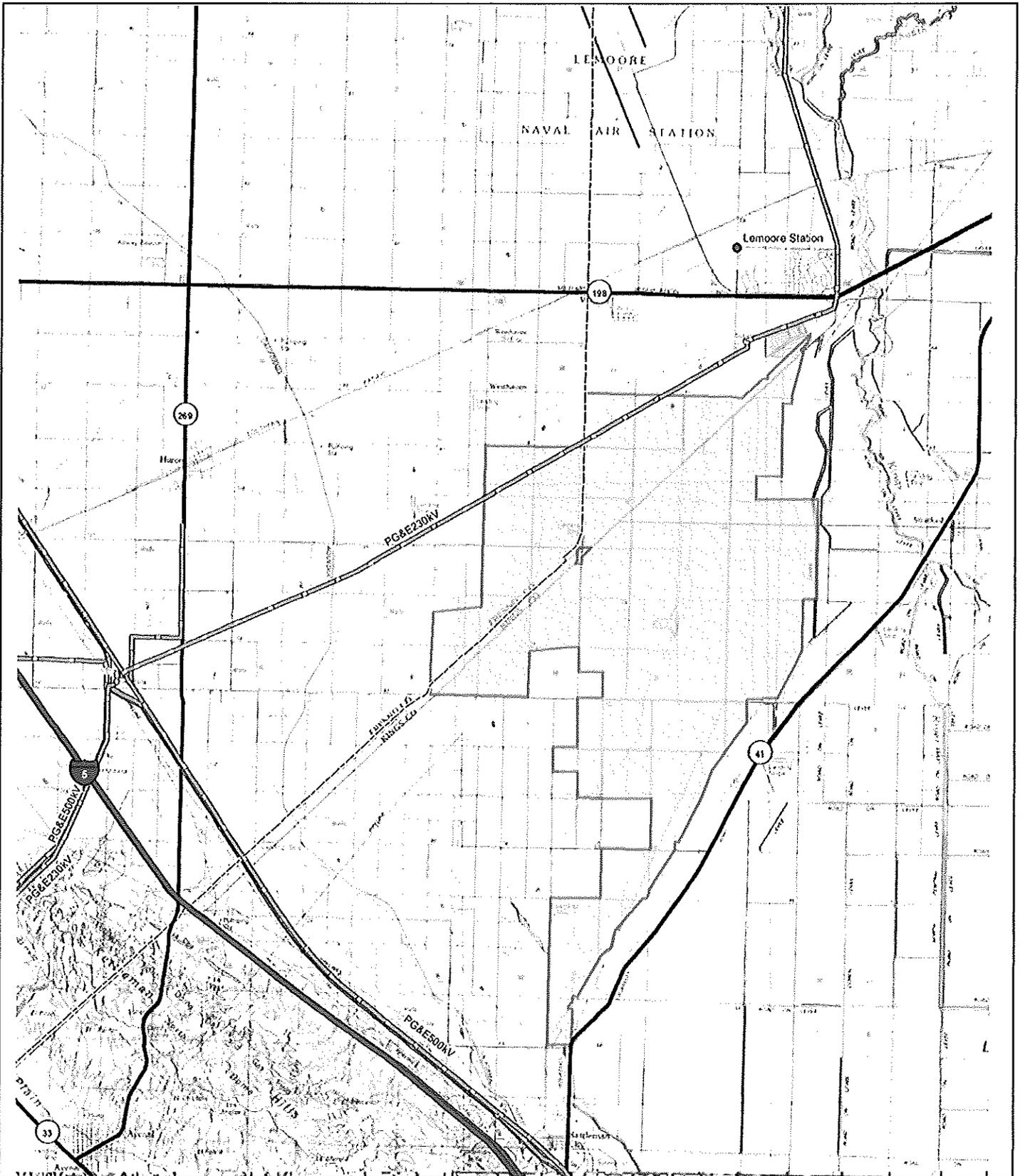
No specific site has been released for the first phase of the solar park, but tThe Westlands CREZ consists of approximately 30,000 acres of private land within the Westlands Water District lands-service area between Kings County and Fresno County, east of Huron, north of Kettleman City, and southwest of Lemoore (Sheehan, 2010). Approximately 20,000 acres of this area are encumbered by Williamson Act contracts. The total acreage of this area would be much greater than what would be needed for an alternative to the Proposed Project, but details regarding the construction and planning of-for specific projects within the Westlands solar park project have yet to be released. As such, the Westlands region has been considered generally rather than by a specific project design. The first phase of the Westlands Solar Park is expected to be larger than the Proposed Project. As with any solar generation project, definition of specific transmission line availability would be required, and if transmission line upgrades were needed, they would have to be evaluated under CEQA and/or NEPA. The Westlands CREZ is shown in Figure E-89.

Project Objectives

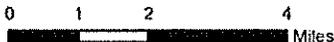
This alternative would partially meet project objectives, as defined below:

- Construct a 550 MW solar energy facility to be online by the end of 2014~~2~~ in order to help meet State and federal renewable energy goals? **Partially meets objective.** A Westlands project of 550 MW could be constructed, but ~~not~~ this would be unlikely to occur by the end of 2014~~2~~ due to the time required for project siting, design, surveys, and permitting. Because fewer permits from resource agencies are likely to be required, the permit process would likely be substantially faster for this alternative. However, siting, land acquisition, design, and pre-construction compliance are time-consuming processes. Therefore, this alternative partially meets the objective to be online by the end of 2014.
- Locate the facility in a high solar resource area? ~~Partially m~~**Meets objective.** The solar irradiance of this site resource is moderate rather than high, but would be greater than 5 would be approximately 5 to 6 kWh/m²/day, the established solar criteria by the National Renewable Energy Lab (NREL, 2008) which is lower than the solar irradiance at the Proposed Project site at (between 6 and 6.5 kWh/m²/day) (NREL, 2011). However, this reduction in solar irradiance would result in an estimated five to 10 percent reduction in efficiency (RETI, 2010)¹; as such, ~~and~~ use of this site would require a corresponding ~~5~~ five to 10 percent increase in the project footprint.
- Locate the facility on a site that has access to utility grade electrical transmission lines that do not require substantial upgrading to accommodate the additional energy generated? **UncertainPotentially meets objective.** Recent California Independent System Operator (CAISO) information indicates that the Westlands CREZ Alternative would not require substantial transmission infrastructure upgrade in order to deliver up to 800 MW to the regional grid (CAISO, 2010). Transmission studies would be required to determine what specific transmission upgrades would be required. However, use of this alternative may require construction of a transmission line corridor to access the available capacity from the existing transmission line, which has the potential to have more impacts related to construction than the Proposed Project, whether adequate transmission capacity exists, or whether new or upgraded transmission would be required.
- Locate the facility on land with compatible topography in a manner that minimizes environmental impacts? **Meets objective.** Although site-specific land surveys would be required for feasibility, the generally level terrain of this area appears to be suitable for project implementation.

¹ Based on information presented in the RETI Project Characteristics and Cost Calculator.



1:168,407



Transmission Lines
 Westlands CREZ Boundary - Boundary revised based on RETI Phase 2B Final Report, May 2010

Figure E-9
Alternative 6
Westlands CREZ

- Support goals stated in the San Luis Obispo County General Plan *Energy Element*, as well as other policies in the plan designed to protect San Luis Obispo County's environment and economy. ~~Does not meet objective~~ **Objective not applicable.** Alternative 6 Westlands CREZ would be located outside of the jurisdiction of San Luis Obispo County, therefore, the *Energy Element* would not be applicable.

Feasibility

This alternative appears to be feasible but a final determination would be dependent upon transmission interconnection, site evaluation, project design and permitting. Westlands Solar Park made a request for commercial development partners and interested experienced developers were encouraged to contact Westlands Solar Park prior to August 2010. Westlands requested energy developers with "real energy development experience, large financial backings, and capability for developments of 200 MW or larger." The Applicant could apply to be a development partner with Westlands Solar Park. The Applicant has noted that due to this alternative's lower site elevation, locating the project in the Westlands CREZ area could compromise feasibility due to an estimated five to ten percent solar resource loss. However, because biological constraints to development would be expected to be substantially lower in the Westlands CREZ, this alternative would be unlikely to require substantial habitat compensation as mitigation. Even with a 5 to 10 percent greater footprint to compensate for a loss in module efficiency, this alternative would likely result in a smaller acreage of land acquisition overall when compared to the Proposed Project. Therefore, the County considers this alternative to be potentially feasible.

Impact Analysis by Discipline

~~None of the environmental impacts of the Proposed Project in the Carrizo Plain would occur under The Alternative 6 Westlands CREZ (Westlands CREZ Alternative) would not have any environmental impacts in the Carrizo Plain; however, -However, many impacts similar to those caused by the Proposed Project in the Carrizo Plain for some resources would occur at the Westlands CREZ site because approximately 4,300 to 4,500 acres² would be required for a 550 MW PV solar project. Due to the increased acreage required at the Westlands CREZ site, impacts to some resources at this alternative site could be incrementally greater than at the Proposed Project site. The impacts associated with the construction of the Solar Switching Station, and possibly some aspects of the transmission upgrades, described in Appendix 4 (Analysis of PG&E Reconductoring) would not occur under the Westlands CREZ Alternative; however, similar types of transmission upgrades may be required in the vicinity of the Westlands CREZ. As related to the Proposed Project's significant and adverse unavoidable impacts, the impacts of Alternative 6 Westlands CREZ are discussed below.~~

Aesthetics

The Westlands CREZ region is surrounded by agricultural lands that are actively farmed. The majority of this site would be adjacent to existing agricultural access roads and active agricultural fields. The site would be prominently visible to travelers on Highways 41 and 198, public roads running through Kings County. As with the Proposed Project, building a 550 MW solar project at Alternative 6 Westlands CREZ site would introduce an estimated ~~4,300 to 4,500~~ 4,000 to 4,100 acre industrial-type facility in an agricultural landscape. However, because the Alternative 6 Westlands CREZ would be surrounded by

² As noted in the discussion of project objectives for this alternative, with a lower solar irradiance there would be an estimated 5 to 10 percent reduction in annual generation. This would mean that the size of the project would need to be 5 to 10 percent larger in order to obtain a comparable amount of annual generation (4,300 to 4,500 acres as opposed to 4,000 to 4,100 acres at the Proposed Project site). This is a worst- case assumption of 10 percent reduction.

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:
The Application for Certification
for the IVANPAH SOLAR ELECTRIC
GENERATING SYSTEM

Docket No. 07-AFC-5

Supplemental Testimony of Bill Powers, P.E.
Ivanpah Solar Electric Generating System
Docket 07-AFC-5

March 16, 2010

Bill Powers, P.E.
Powers Engineering
4452 Park Blvd., Suite 209
San Diego, CA 92116
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bpowers@powersengineering.com

Submitted by
Michael Strobridge

Carrizo Resident

I. Introduction

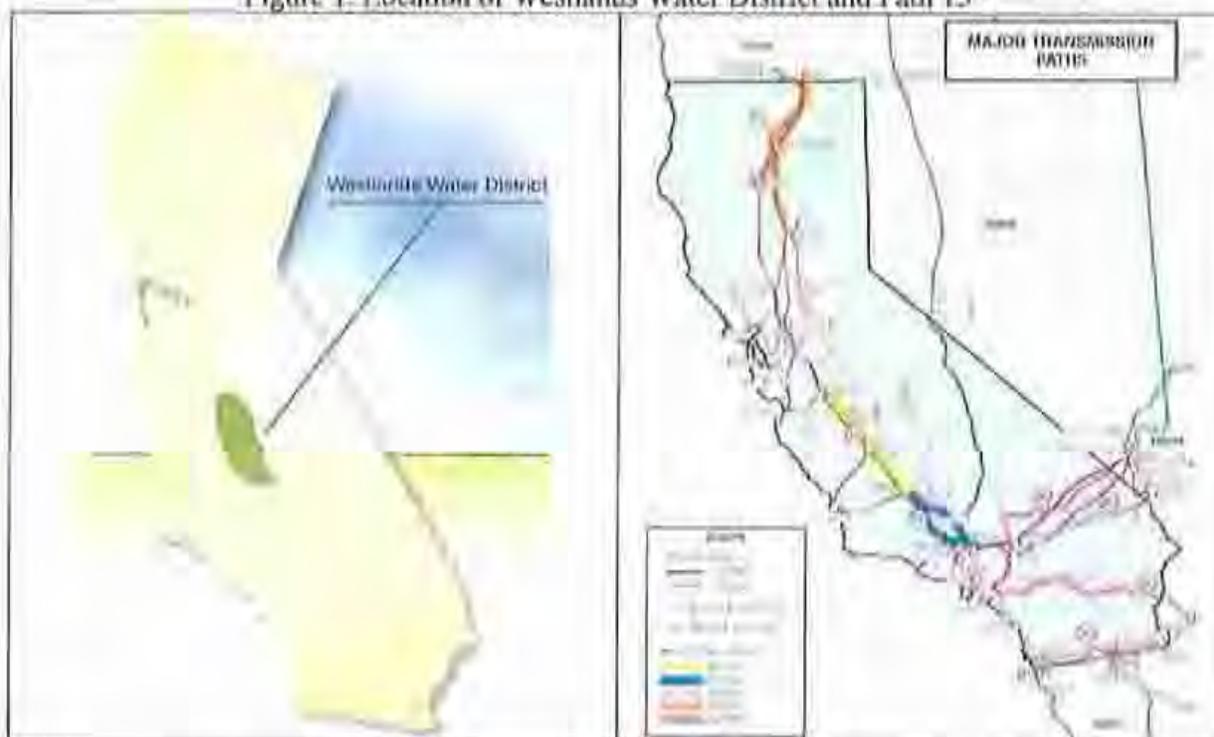
This testimony is offered as a supplement to my December 16, 2009 direct testimony.

II. Solar development in the proposed Westlands Water District CREZ would avoid the environmental problems of Ivanpah site

The Westlands Water District ("Westlands"), on the west side of the Central Valley, is undergoing study by the Renewable Energy Transmission Initiative (RETI) as a Competitive Renewable Energy Zone (CREZ) capable of providing 5,000 MW of utility-scale solar development. Westlands covers over 600,000 acres of farmland in western Fresno and Kings Counties. The proposed "Central California Renewable Master Plan" will utilize permanently retired farmlands in Westlands for solar development. An overview of this master plan is attached. As stated in the master plan overview, "Due to salinity contamination issues, a portion of this disturbed land has been set aside for retirement and will be taken out of production under an agreement between Westlands and the U.S. Department of Interior." Approximately 30,000 acres of disturbed Westlands land, equivalent to 5,000 MW of solar capacity, will be allocated for renewable energy development under the plan.

Transmission Pathway 15 passes through Westlands. Path 15 can transmit 5,400 MW from south-to-north.¹ The transmission capacity from north-to-south is 3,400 MW. The location of Westlands relative to Path 15 is shown in Figure 1.

Figure 1. Location of Westlands Water District and Path 15^{2,3}



¹ Transmission & Distribution World, California bulks up to provide more transmission capacity, June 1, 2009

² Anthem Group press release, Central California Renewable Master Plan, March 2010.

³ CEC, Strategic Transmission Investment Plan, November 2005, p. 11.

5,000 MW of solar power can be developed in Westlands with potentially no expansion of the existing Path 15 high voltage transmission capacity that serves Westlands now.

5,000 MW is half of the total remote in-state utility-scale solar currently contemplated in the CPUC 33 percent reference case.⁴ The remote in-state solar component of the reference case consists of 3,235 MW PV and 6,764 MW solar thermal.

Figure 2. Resource in CPUC 33 Percent RPS Reference Case

	Resource Mix – 33% RPS Reference Case				Total	
	In-State		Out-of-State			
	MW	GWh	MW	GWh	MW	GWh
Biogas	279	2,078	-	-	279	2,078
Biomass	361	2,737	87	610	478	3,349
Geothermal	1,430	11,027	68	485	1,497	11,511
Hydro - Small	25	111	18	48	40	177
Solar PV	3,235	6,913	-	-	3,235	6,913
Solar Thermal	6,764	16,652	534	1,301	7,298	17,953
Wind	7,573	22,869	3,309	9,809	10,872	32,700
Total	19,700	62,417	4,003	12,234	23,700	74,650

However, RETI has gradually dropped the amount of new renewable energy resources necessary to reach 33 percent by 2020 from 74,650 gigawatt-hours (GWh) per year as shown in Figure 2 to a current “low load” net short of 36,926 MW.⁵ The low load net short is one-half the net short used by the CPUC in June 2009 to estimate the cost of achieving 33 percent by 2020. The CPUC did not include either the 500 MW SCE urban PV project or the 500 MW PG&E distributed PV project in its reference case calculations.

The anticipated energy output of 5,000 MW of fixed PV in Westlands would be about 10,000 GWh/yr.⁶ 1,000 MW of urban and distributed PV from the SCE and PG&E projects would contribute another 2,000 GWh/yr. This is a total solar contribution of 12,000 GWh/yr. Substituting this 12,000 GWh/yr of solar for the 23,500 GWh/yr of remote in-state solar in Figure 2 results in the reference case results in a revised reference case production of 63,000 GWh/yr. 63,000 GWh/yr is far more renewable energy production than necessary to reach 33 percent by 2020. The entire in-state wind component could be deleted from the reference case and 40,000 GWh/yr would still be generated. 40,000 GWh/yr is greater than the low load net short of 36,926 MW. Prioritizing utility-scale solar projects like Ivanpah in Westlands, combined with utility-scale urban and distributed PV projects, would allow California to achieve its 33 percent by 2020 target with almost no environmental impacts related to the solar component.

⁴ CPUC, 33% RPS Implementation Analysis Preliminary Results, June 2009, Appendix C, p. 87.

⁵ RETI discussion draft, RETI Net Short Update - Evaluating the Need for Expanded Electric Transmission Capacity for Renewable Energy, February 22, 2010. Low load scenario, net short = 36,926 MW.

⁶ The reference case assumes 3,235 MW of solar PV will generate 6,913 GWh per year under ideal Southern California desert solar insolation conditions. This is a production ratio of 2,137 GWh per MW(ac). However, solar insolation in the Central Valley and California urban areas will be approximately 10 less than ideal desert sites. See Powers December 16, 2009 Direct Testimony, p. 15. For this reason a production ratio of 2,000 GWh per year per MW(ac) is assumed for the Central Valley and urban areas.

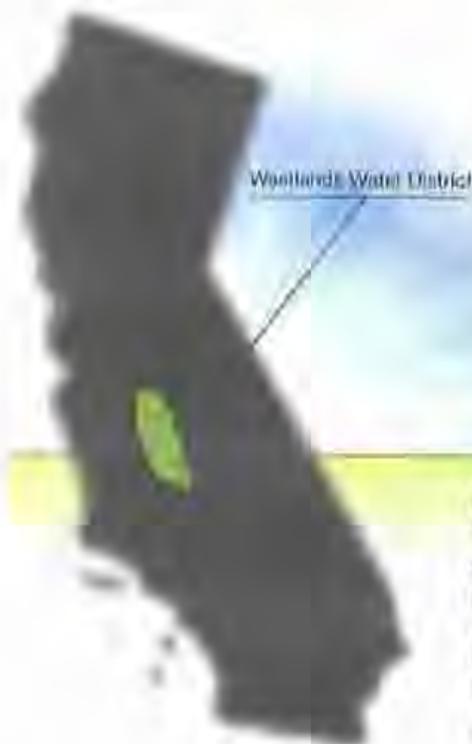
III. Conclusion

The Westlands Water District is a low impact "shovel ready" alternative to the Ivanpah site for utility-scale solar projects. Westlands requires no new high voltage transmission to move up to 5,000 MW of solar power to California load centers. This means solar projects in Westlands will not face project delays due to lack of high voltage transmission capacity. The steadily declining renewable energy net short to achieve the 33 percent by 2020 target, now as low as 36,926 MW, means fewer renewable projects overall are necessary to meet the 33 percent target. The CEC should not approve solar projects with unmitigatable impacts like Ivanpah when 5,000 MW of otherwise unusable disturbed land with no environmental issues and 5,000 MW of high voltage transmission capacity sit idle.

CENTRAL CALIFORNIA RENEWABLE MASTER PLAN

Putting California At The Forefront Of Global Clean Energy Production & Economic Opportunity

- Approximately 30,000 acres of disturbed and unusable farmland undergoing study as the Westlands Clean Renewable Energy Zone (CREZ) by the Renewable Transmission Initiative (RTI)
- Successful master planning sets the stage for California to meet its near and long term goals for the RPS, while providing certainty to future renewable development
- The broader Westlands area has an estimated potential of accommodating up to 5 GWs or more of renewable power by 2020
- Proximity to existing substations and transmission lines. The Westlands study area is strategically placed near a future planned foundation line corridor that will be designed to connect the different renewable zones in California
- The Central California Renewable Master Plan is a more efficient and generally superior alternative to permit for large scale solar than constructing in protected lands in remote desert areas
- Allows large scale solar energy to be produced within California



Solution: The Central California Renewable Master Plan

Westlands Water District (Westlands) covers over 600,000 acres of farmland in western Fresno and Kings Counties. Due to salinity contamination issues, a portion of this disturbed land has been set aside for retirement and will be taken out of production under an agreement between Westlands and the US Department of Interior. This situation positions the Central California Renewable Master Plan for permitting success, solving permitting challenges that are hindering most California projects.

The Central California Renewable Master Plan includes approximately 30,000 acres of disturbed land for renewable development. This acreage is within close proximity to existing transmission corridors and substations, as well as future planned foundation line corridors. The master planning of thousands of acres for utility scale solar generation is a relatively new concept for energy developers but the environmental community and California policymakers are starting to see its benefits. This type of planning better aligns the generation and transmission planning for renewables, resulting in more efficiently developed projects with a better chance for long-term success.



➤ Gaining Major Environmental Support

The Central California Renewable Master Plan is undergoing study as a CREZ in the RTI Phase 2A updates. Westlands and the Arthen Group are working with environmental groups to identify the Westlands study area as a critical renewable energy zone in order to meet California's renewable goals.



➤ A Solution For Today And Tomorrow

The far-reaching benefits of this project enables California to set up a process for planning transmission system upgrades and new corridors that will create billions in economic development for California. The template laid out in the Central California Renewable Master Plan provides regulatory and permitting confidence for developers and utilities to safely construct transmission and generation over a 10-year horizon to meet the 50% by 2020 RPS goal.



➤ Linking California To A Greener Future And Economic Vitality

Led by the Arthen Group, the Central California Renewable Master Plan represents the most viable opportunity for California to advance its renewable energy goals. Over a 30-year horizon the potential estimates of total project investment for the 5 GW solar plant could reach well over \$10 billion and will provide California with a much-needed economic boost.

CENTRAL CALIFORNIA RENEWABLE MASTER PLAN

For more on the Arthen Group or (916) 209-9289, info@arthen.com or PO Box 782044 Elk Grove, CA 95758-0051 for questions or inquiries on the this project.

Appendix RTC-D

Attachments to Topaz Solar Farms, LLC
Comment Letter

Exhibit B

Truescape Visual Simulations

Depicting Project Layout 3B.1



Viewpoint 01: (Blue Star Memorial Highway 58) - 1.0 miles north west from Bitterwater Road - Showing proposed Alternate 3B.1 revised layout

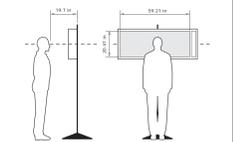
Viewpoint 01
(Blue Star Memorial Highway 58) - 1.0 miles north west from Bitterwater Road

- Viewpoint Location
- Study Area Boundary
- Existing Transmission Line
- Perimeter Fence
- Proposed 34.5 kV Collection System Line
- Proposed underground wire
- Substation, Switching Station and Maintenance Facility
- PV Array



Easting Position (California Zone 5, NAD 83) : 5934544.3
 Northing Position (California Zone 5, NAD 83) : 2330295.3
 Elevation of Viewpoint Position (NAD 83 / ft) : 2094.6
 Height of Camera Above Ground (ft) : 5.4
 Date of Photography: 14 October 2010 at 1:51 p.m.
 Orientation of View: E
 Horizontal Field of View: 124°
 Vertical Field of View: 55°

Correct Viewing of TrueView™2
Photosimulations



NOTES:
 Viewpoint locations have been precision surveyed by
Wallace Group
 612 Clifton Court
 San Luis Obispo, CA 93401
 No part of this photosimulation shall be altered in any way.
 Visual Assessments should be made from the full size TrueView™2 only.

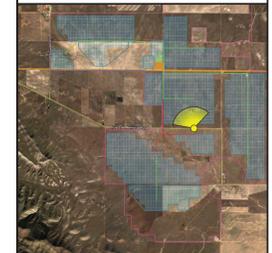


Viewpoint 03: Carrisa Highway (Blue Star Memorial Highway 58) - 0.4 miles west from Tracy Lane - Showing proposed Alternate 3B.1 revised layout

Viewpoint 03

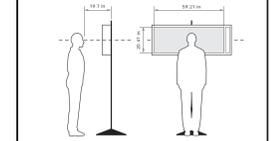
Carrisa Highway (Blue Star Memorial Highway 58) - 0.4 miles west from Tracy Lane

- Viewpoint Location
- Study Area Boundary
- Existing Transmission Line
- Perimeter Fence
- Proposed 34.5 kV Collection System Line
- Proposed underground wire
- Substation, Switching Station and Maintenance Facility
- PV Array



Easting Position (California Zone 5, NAD 83) : 5950667.7
 Northing Position (California Zone 5, NAD 83) : 2325779.5
 Elevation of Viewpoint Position (NAD 83 / ft) : 2019
 Height of Camera Above Ground (ft) : 5.4
 Date of Photography : 14 October 2010 at 4:18 p.m.
 Orientation of View : NW
 Horizontal Field of View : 124°
 Vertical Field of View : 55°

Correct Viewing of TrueView™2 Photosimulations



NOTES:
 Viewpoint locations have been precision surveyed by
Wallace Group
 612 Clarton Court
 San Luis Obispo, CA 93401
 No part of this photosimulation shall be altered in any way.
 Visual Assessments should be made from the full size TrueView™2 only.



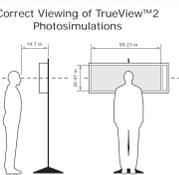
Viewpoint 05: Corner of Tracy Lane and Carrisa Highway (Blue Star Memorial Highway 58) - Showing proposed Alternate 3B.1 revised layout

Viewpoint 05
Corner of Tracy Lane and Carrisa Highway (Blue Star Memorial Highway 58)

- Viewpoint Location
- Study Area Boundary
- Existing Transmission Line
- Perimeter Fence
- Proposed 34.5 kV Collection System Line
- Proposed underground wire
- Substation, Switching Station and Maintenance Facility
- PV Array



Easting Position (California Zone 5, NAD 83) : 5963247.1
 Northing Position (California Zone 5, NAD 83) : 2325677.6
 Elevation of Viewpoint Position (NAD 83 / ft) : 2022.5
 Height of Camera Above Ground (ft) : 5.4
 Date of Photography: 14 October 2010 at 11:57 a.m.
 Orientation of View: E
 Horizontal Field of View: 124°
 Vertical Field of View: 55°



NOTES:
 Viewpoint locations have been precision surveyed by
Wallace Group
 612 Clifton Court
 San Luis Obispo, CA 93401
 No part of this photosimulation shall be altered in any way.
 Visual Assessments should be made from the full size TrueView™2 only.

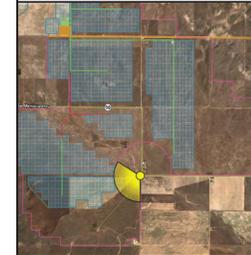


Viewpoint 08: Carrisa Highway (Blue Star Memorial Highway 58) - On Corner near Carrisa Plains Elementary School - Showing proposed Alternate 3B.1 revised layout

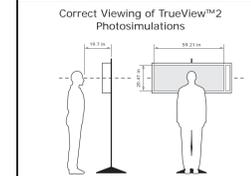
Viewpoint 08

Carrisa Highway (Blue Star Memorial Highway 58) - On Corner near Carrisa Plains Elementary School

- Viewpoint Location
- Study Area Boundary
- Existing Transmission Line
- Perimeter Fence
- Proposed 34.5 kV Collection System Line
- Proposed underground wire
- Substation, Switching Station and Maintenance Facility
- PV Array



Easting Position (California Zone 5, NAD 83) : 5953165.3
 Northing Position (California Zone 5, NAD 83) : 2320529.3
 Elevation of Viewpoint Position (NAD 83 / ft) : 2003.7
 Height of Camera Above Ground (ft) : 5.4
 Date of Photography: 14 October 2010 at 11:21 a.m.
 Orientation of View: SW
 Horizontal Field of View: 124°
 Vertical Field of View: 55°



NOTES:
 Viewpoint locations have been precision surveyed by
Wallace Group
 612 Clifton Court
 San Luis Obispo, CA 93401
 No part of this photosimulation shall be altered in any way.
 Visual Assessments should be made from the full size TrueView™2 only.