Mr. John Woolard, Chief Executive Officer
Solar Partners, LLC
1999 Harrison Street, Suite #500
Oakland, California 94612

DOCKET
07-AFC-5
DATE MAY 8 2008
RECD. MAY 8 2008

May 8, 2008

Dear Mr. Woolard:

DATA REQUESTS 117 THROUGH 151 FOR THE IVANPAH SOLAR ELECTRIC GENERATING SYSTEM (ISEGS) (07-AFC-5)

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission and Bureau of Land Management staff is asking for the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This second set of data requests (#117-151) is being made in the areas of air quality, alternatives, biological resources, closure and restoration plan, cultural resources, project description, soil and water resources, and visual resources. In addition to the Data Requests regarding Biological Resources staff has provided comments (i.e., revisions needed and requests for more information on the project's draft Biological Assessment. Additionally staff is awaiting complete responses to the first set of data requests. Written responses to the enclosed data requests and the complete responses to the Round #1 Data Requests are due to the Energy Commission and Bureau of Land Management staff on or before June 9, 2008, or at such later date as may be mutually agreeable.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both Commissioner Jeffery Byron, Presiding Committee Member for the Ivanpah Solar Electric Generating System project, and to me, within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions, please call me at (916) 651-0965, or email me at cmcfarli@energy.state.ca.us.

Sincerely,

Che McFarlin, Project Manager
California Energy Commission

Enclosure
cc: Tom Hurshman, BLM
Docket 07-AFC-5

PROOF OF SERVICE (REVISED 1/4/08) FILED WITH ORIGINAL MAILED FROM SACRAMENTO ON 5/8/08
MS

Technical Area: Air Quality
Author: Ken Downing/ Tom Hurshman (BLM)

BACKGROUND

The January 14 responses to air quality data requests 11 and 12 refer to letters of coordination with Mojave Desert Air Quality Management District (MDAQMD). These letters, in general, seem to indicate that only developed or proposed projects in the California side of Ivanpah Valley have been considered. Several existing developments in the Ivanpah Valley on the Nevada side of the State line have the ability to contribute to the cumulative impacts and should be considered, i.e., proposed and existing power plants.

DATA REQUEST

117. Please clarify responses to Data Request 11 to include consideration of developments in Nevada. Specifically, address the existing power plant at Primm.

Technical Area: Air Quality
Author: Tuan Ngo (CEC)

BACKGROUND

Facility Emission Impacts May Be Underestimated

Calculations of criteria air contaminants, provided in the August 2007 Application for Certification (AFC) and its appendices, for the facility appear to underestimate emissions. Page 5.1-27 of the AFC states that the construction of each phase of the facility would last approximately 24 months, and that overlapping of construction of the three phases would occur. The air quality impact analysis, contained in the AFC, includes two distinct, separate phases of construction and operation as if they are not overlapping with each other or operation. Because of this, staff believes that the facility operational emission impacts may be underestimated. Staff asked for this information in the initial set of data requests (as Data Request No. 9) and have not yet received a response.

DATA REQUEST

118. Please provide a revised air quality impact analysis to identify the facility's impacts for the special cases:

    a. If and when Ivanpah 1, 2 or 3 construction activities overlap;

    b. When Ivanpah 1 is in operation and Ivanpah 2 and/or 3 are under construction; and

    c. Ivanpah 1 and 2 are operational and Ivanpah 3 is under construction.

BACKGROUND

Construction Activities' Emissions and Mitigations

The AFC, page 5.1-44, states that construction equipment and activities may cause up to 386 pounds (lbs) per day of ozone precursors (363 lbs of oxides of nitrogen (NOx) and 22.96 lbs of organic compounds (VOC)), and 190 lbs per day of particulate matter (PM10/PM2.5) during construction of the project. It also states that the construction activity related emissions are "…short term"; to imply that offset mitigation may not be needed. According to the same AFC, page 5.1-27, the construction of the facility can last from four to six years. During this time, the facility construction emissions (ozone precursors and particulate matter) can contribute to the existing violations in the Mojave Desert air district of the state ozone and PM10/2.5 air quality standards.

DATA REQUEST

119. Please identify additional mitigation, such as emission reduction credits or offsets, that could address the residual impacts of construction and operation related NOx, VOC and PM 10/2.5 emissions.

BACKGROUND

Mitigation Measures

Section 5.1.8 of the AFC states that the Ivanpah project represents a net emission reduction of all air contaminants because its electrical power would displace new fossil-fuel based power plants. Therefore, the AFC implies that no offset mitigation is needed for the project. Staff has concerns with this argument because of several unsupported assumptions, including that new electrical power would have been generated from fossil-fueled type power plants, and that these fossil-fueled plants would have been located in the Mojave Desert air district. Additionally, if the Ivanpah project displaces existing fossil-fueled generation, the potential emission reductions may not be permanent or enforceable, and may not be in a region that the reductions provide net air quality benefits.

DATA REQUEST

120. Please identify measures including, but not limited to, offsets designed to mitigate the project impacts on the local and regional ozone and particulate matter air quality standards. These could include enforceable electricity "displacements" that provide air basin specific emission reductions.

Technical Area: Alternatives
Author: Susan Lee (CEC)

BACKGROUND

Alternatives

In Section 6.0 Alternatives, page 6-8, Section 6.2.2, Alternatives Carried Forward for Further Analysis of the Application for Certification (AFC) four alternative sites are considered as well as the proposed Ivanpah SEGS site. Each alternative site is described very generally and all are shown on a single large scale map (Figure 6.1-1 General Locations of Alternative Sites).

In late March of 2008, PG&E issued a press release stating that it has entered into a contract with BrightSource Energy to purchase power from the ISEGS Project and a future project at Broadwell Lake east of Barstow in San Bernardino County. BrightSource is apparently pursuing permitting of the Broadwell Lake site with the Bureau of Land Management, so is likely acquiring environmental baseline information for that site.

DATA REQUEST

121. Please provide a detailed map (at least 1:24,000) showing the most likely project boundaries for the Siberia and Broadwell Lake Alternative sites described in AFC Section 6.2.2.

122. Please provide a detailed map (at least 1:24,000) showing the linear components and access roads that would be associated with the Siberia and Broadwell Lake Alternative sites described in AFC Section 6.2.2.

123. Please provide copies of all baseline environmental information you have acquired for the Siberia and Broadwell Lake Alternative sites described in AFC Section 6.2.2, particularly in the following subject areas:

    a) Biological Resources: AFC Section 6.2.3.2 states that the Broadwell Lake and Siberia Alternative sites are expected to contain similar habitat conditions as the Proposed Project site. It also states that a California Natural Diversity Database (CNDDB) search was performed at a 10-mile radius from these alternative sites and revealed several special-status species. Please provide the results of the CNDDB search for the Broadwell Lake and Siberia Alternative sites and evaluate the potential for occurrence of each species as well as any other biological background materials you have available.

    b) Cultural Resources: AFC Section 6.2.3.3 states that the proposed site and four alternative sites carried forth for further analysis would have similar potential for cultural impacts. Table 6.2-3 further states that a cultural resource database search was not conducted for the Siberia and Broadwell Lake Alternative sites. Please provide a Clearinghouse search (Class I) for recorded sites identified within the potential Siberia and Broadwell Lake sites, as well as any cultural resource research materials available.

c) Water Resources: AFC Sections 6.2.2.4 and 6.2.2.5 say that little is known about water resources in either the Siberia or Broadwell Lake site areas. Please provide any information about water resources at these two sites that has been acquired since the submittal of the AFC.

Technical Area: Biological Resources
Author: Charles Sullivan (BLM)

BACKGROUND:

Data request 17 stated: Provide status and progress updates on the anticipated schedule (including estimated dates) for submitting the Biological Assessment (BA) and consulting with the California Department of Fish and Game (CDFG) regarding rare plant and desert tortoise impacts. The data request response stated: A draft BA was prepared by CH2M HILL and submitted to the BLM on October 30, 2007. The BA will be submitted to the United States Fish and Wildlife Service (USFWS) by the BLM upon the completion of their review of the document. Meetings with CDFG will be scheduled within 60 days of submittal.

BLM has reviewed the draft BA submitted on October 30, 2007. In general, BLM has determined that more effects analysis is needed, and specifically, protective measures for the desert tortoise on the gas pipeline and water pipeline portions of the project are lacking incomplete, inaccurate, or confusing. Also, the desert tortoise protective measures need to be organized to reflect whether or not they apply to construction, or to operations and maintenance. Applicant will need to incorporate the protective measures into the proposed action. BLM is concerned other agencies such as the US Army Corps of Engineers and the State Water Resources Control Board (SWRCB) may require additional mitigation measures or changes to the project that will affect the project footprint therefore changing the proposed action. Changes to the project proposed action must all be made prior to submission of the BA to the USFWS.

DATA REQUEST:

124. The following requests are based on BLM review of the Draft Biological Assessment for the Ivanpah Solar Electric Generating System Project (October 2007); hereinafter referred to as the ISEGS draft BA:

    - Change use of the word “will” in this document to “would.
    - This consultation is on the *desert tortoise*. Refer to this species as such throughout the document. Please replace “covered species” with “desert tortoise” throughout the document..
    - Update the BA as outlined in attachment #1, Biological Assessment Comments. Please coordinate with Charles Sullivan (BLM Needles Field Office) concerning questions on these sections of the BA that require modification.

ATTACHMENT #1

BIOLOGICAL ASSESSMENT BLM COMMENTS

At Page 2-1. **Section 2.1 Introduction to Description of Proposed Action,** reference is made to applications to BLM for 7,040 acres, while only approximately 3,400 acres would be fenced. USFWS will need to know exactly what the project site is and where it is; this is what USFWS will refer to as the "action area" in the Biological Opinion (BO). The BA must identify the exact footprint and acreage we are consulting on which is currently the 3,400 acre footprint. Refer to Data Request # 130-132 where BLM requires Applicant to modify the BLM ROW application to address the project footprint and tie-down the exact project description including any disturbances that will result outside the fenced area for related facilities. The 7,040 figure will not be included in the BA and consultation. In summary, the "action area" is the 3,400 acre project footprint that must include all related facilities.

At Pages 2-6 to 2-7, **Section 2.2.5 Fuel System**, describes the natural gas source, which would be a tap from the Kern River Gas Transmission pipeline south for a distance of 5.3 miles. The portion of the new pipeline north of Ivanpah 3 to the Kern River Gas Transmission pipeline does not appear to be included in the affected acreage as part of the "action area".

Similarly, at Pages 2-7 to 2-8, **Section 2.2.6 Water System**, does not appear to include affected acreage to install the new water pipeline from the two proposed new wells east of Ivanpah 2 as part of the "action area".

Section 2.4 Facility Maintenance.

The effort to describe Class I through Class 5 categories of maintenance activities is reminiscent of routine operations and maintenance for gas pipelines, but gas pipelines (or the new water pipeline) are not mentioned. With respect to the desert tortoise, these 5 classes of activities would only apply to activities *outside* of the fenced areas; the habitat within the fenced areas would be lost to the desert tortoise and would have been swept of desert tortoises during the construction phase(s). No special effort would be needed to conduct operations and maintenance within the fenced areas because desert tortoises would be excluded from these areas anyway. The classes of O&M activities are described but the reader doesn't know to *what* these categories would apply---would it be gas pipelines, water lines, roads, the perimeter fence, other? This needs to be clarified.

Once the site rehabilitation plan has been developed, whatever portion of it that would affect desert tortoises needs to be added to the proposed action for analysis.

For USFWS to render a biological opinion on the proposed action, the protective measures must already *be part of the proposed action* presented in the BA. Protective measures cannot be something that are developed 30 days prior to the start of construction. Many of the 22 items listed on pages 2-16 to 2-21 would be acceptable protective measures for the desert tortoise during the construction phase(s); these need to be made part of the protective measures *in the proposed action*.

Item 5 about authorized biologists and biological monitors should be the lead in or "preamble" to the protective measures. The titles should be changed to reflect the qualifications for these positions as follows, which can be found at the USFWS Ventura Field Office web site:

DESERT TORTOISE MONITOR AND BIOLOGIST RESPONSIBILITIES AND QUALIFICATIONS

DESERT TORTOISE MONITOR -- Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of noncompliance in accordance with a biological opinion or permit, move desert tortoises from harm's way when desert tortoises enter project sites and place these animals in "safe areas" pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as "apprentices" to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; "directly supervised" means the Authorized Biologist is direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST – Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologist must have thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearth and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

At the end of the preamble, the BA needs to identify by name, the individuals the proponent wants approved to be desert tortoise monitors or authorized to be authorized biologists. The qualifications for each individual, compiled and organized per USFWS Ventura Field Office's desert tortoise qualifications web site, would then be placed in the appendix.

Following the preamble, present the desert tortoise protective measures. Items 6 through 22 provide a framework of protective measures to use, but need to be presented differently:

Item 6 should be broken into several subparts (a., b., etc.) or entirely new items. Specify if each solar site will have a separate fence or if a single fence encloses all three sites. What size mesh of hardware cloth would be used? The specifications for the temporary fencing to be used on the gas pipeline installation are described; describe the permanent fence specifications also---do not defer this to BLM or USFWS. <u>The clearance surveys should be a separate protective measure.</u>

Item 7 (desert tortoise relocation plan) needs to be submitted with the proposed action, not deferred until later. USFWS must analyze the relocation plan. Desert tortoise **will not** be marked using a numbering scheme or PIT tag unless USFWS

terms and conditions BLM to do so. Cite the 1999 version of *Guidelines for Handling Desert Tortoises During Construction Projects*.

Item 9 (Trash) receptacles should be emptied and removed daily. The receptacles should have self-locking lids to prevent entry by common ravens or coyotes.

Item 12 The requirement to check under vehicles should have no time limit. Check under every vehicle, every time.

Item 13 The term "corridors" should not be used and replaced with the phrase right-of-way (ROW). For example, all construction activities will be limited to pre-approved ROW locations. Applicant must identify and request a sufficiently wide construction ROW for the pipelines or other linear features, for instance, and will not be allowed to go outside of the ROW for some "unforeseen circumstance." Applicant needs to avoid expansions to the project that could trigger re-initiation of formal consultation or at the very least a suspension of activities to amend the biological opinion.

Item 14 Trenches, bores, and excavations must be included in the project footprint and the disturbances apply to desert tortoise. Again, this item refers to identifying any disturbance outside the 3400-acre area enclosed by the perimeter fence(s). The action area and project footprint all must be identified in the BA.

Item 15 Capping pipes needs to be clarified. The construction area will have to be cleared of desert tortoise and fenced prior to ongoing construction of the project. Once cleared, there would be no need to cap pipes in the cleared and fenced areas. Otherwise, the pipes should be stored in cradles above-ground, or capped.

Item 16 Spill notification to the BLM needs to be immediate, not within 24 hours, per the project Hazardous Materials plan.

Item 17 Notification procedures need to be re-written. Obviously, the protective measures are designed to minimize take of the desert tortoise. Unless federally listed plant species somehow become part of this formal consultation, there is no need to offer to protect listed plants. There is no take of listed plants rather it can be referred to as "reducing to possession". Please use the following USFWS definitions:

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Endangered Species Act prohibit the take of endangered and threatened species, respectively, without special exemption. **Take** is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. **Harm** is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. **Harass** is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. **Incidental take** is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency

action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

Remove Item 18 from the protective measures. "Emergency response situations" would be handled, as needed, under emergency section 7 consultation procedures.

Item 19 Watering needs to be re-worded such that to reduce attraction of desert tortoises to the construction site(s), minimal water would be applied to meet safety and air quality standards, and such that puddles are not created.

Item 20 Compensation acreage for Desert Tortoise must include all disturbance areas involved in the action area or footprint. Cite the Northern and Eastern Mojave (NEMO) Plan (2002) for the 1:1 ratio applicable to non *desert wildlife management area (DWMA)* desert tortoise habitat.

Item 22 Annual reporting is not a protective measure. Place this language somewhere else in the proposed action.

Section 2.8 Maintenance Avoidance and Minimization Measures

This section should describe what actually might need to be maintained, or repaired, or replaced as part of the facilities "routine operations and maintenance (O&M)" program at ISEGS. This part of the BA would describe what BLM would be permitting; this part of the proposed action would be what the "programmatic" portion of the BO would be about (whereas the rest of the BO would apply to constructing the facility). This section should also segregate activities that would occur within the cleared and fenced areas from further discussion; only the classes of activities outside the cleared and fenced areas would need to implement the desert tortoise protective measures that would follow.

There should be a sub-section that describes desert tortoise measures that would be "common to all" classes of O&M activities. Then the protective measures truly unique to each class could then be listed with the discussion of each class of activities.

Re. 2.8.1 *Class I Normal maintenance activities* *that do not result in new surface disturbance*:

Clarify **items 3 and 7** to mean *outside* the cleared and fenced areas.

Item 4 need not restrict "routine road surface maintenance activities" to the "season of least desert tortoise activity."

Reword **Item 5** the same as the construction phase trash removal protective measure.

Item 8 Specify that unused materials include piles of soil and rocks.

Item 9 (bios) is somewhat repetitive. The preamble to the overall proposed action protective measures would apply to the O&M protective measures as well.

Item 10 Notification would be a “common to all” protective measure.

Re. 2.8.2 Class II *Maintenance activities* *that result in surface disturbance during the season with typically the least desert tortoise activity*: Reword this Class to read, “Activities that result in minimal surface disturbance.” Describe what types of O&M activities could result in minimal surface disturbance; describe in linear feet or acres (whichever is more appropriate) what would be considered minimal disturbance (as opposed to “major”).

Item 11 A list of planned activities is not needed for this project.

Item 15 Field contact representative (FCR) is a “common to all” protective measure. Reword the passage about FCR being able to *halt all **non-emergency** activities that are in violation of the measures.* The FCR must be able to halt any activities in any situation. Refer to the desert tortoise rather than *listed species*.

Item 16 Parking, staging material, etc. needs to be a “common to all” protective measure. Remove the statements, *All surface-disturbing activities outside the permanently fenced sites were conducted in a manner that reduces, as much as possible, the potential for take of desert tortoises. Impacts to habitat will also be minimized to the maximum extent possible.* This is given and applies to the entire project (construction and O&M).

Item 17 The area of disturbance is common to all but Class I activities. BLM believes it would be better to have the ROW and consultation include= a small (perhaps up to 150-foot wide) “possible zone of disturbance” that would parallel the project perimeter fence(s) rather than have to do additional separate consultations for otherwise routine O&M activities outside the fences. Then all BLM would have to do is request concurrence that these activities are within the scope of the biological opinion.

Item 18 Eliminate use of the term “Corridor” and replace it with ROW. Take Item 17 from the protective measures and put it in the proposed action as part of the requested ROW grant.

Item 19 The trenches and excavations measure, as some previously, needs to be put into context. When would this be needed? Specify when trench work would be needed outside the cleared fenced areas. Temporary desert tortoise fencing is a good protective measure, as are on-site authorized biologists or desert tortoise monitors. Generally, there is no need for both.

Item 20 Speed limits are a “common to all” protective measure.

Item 21 Authorized work areas would be a “common to all” protective measure. It needs to be changed to indicate that work areas would be clearly marked to prevent vehicles or personnel from exiting the authorized work area(s).

Item 22 Disturbed area restoration should be part of the noxious weed control plan and the restoration plan rather than a desert tortoise protective measure.

Item 23 Post-reporting is not a protective measure. Make it part of the proposed action.

Re. 2.8.3 Class III *Maintenance activities that result in surface disturbance during the season with typically the most desert tortoise activity***: Reword this class to read, "Activities that result in major surface disturbance." Describe what types of O&M activities could result in major surface disturbance; describe in linear feet or acres what would be considered major disturbance.

Item 25 (bios) should be a "common to all" protective measure.

Remove **Item 26** on desert tortoise removal. There should be little need to remove desert tortoises for O&M activities. On the other hand, a desert tortoise may need to be removed from an O&M project that requires minimal disturbance. A "common to all" item for O&M projects would be to adhere to the *Guidelines for Handling Desert Tortoises During Construction Projects*. (Desert Tortoise Council 1999). There would be no relocation or translocation plan for O&M projects (whereas relocation or translocation of desert tortoises during the construction phase(s) would be a more rigorous endeavor subject to the project "Relocation Plan."

Re. 2.8.4 Class IV *Maintenance activities* *that may extend outside the existing project boundary into undisturbed soils and vegetation.* Change the title of this Class to read, "Activities that may extend outside the project ROW."

Remove **Item 27**. There would be no "regular" O&M activities that would extend outside the ROW. Regular O&M would be Class I, Class II, or Class III activities.

Re. 2.8.5 Class V *Emergency situations*. Reword this Class to read "Emergency Repairs."

Item 28 Reword this item to indicate immediate notification. Note that depending on the nature of the emergency and amount of habitat that may be affected, BLM may invoke emergency section 7 consultation with USFWS. Otherwise, Class III (and as needed Class IV) O&M protective measures would apply.

At Page 3-6, **Section 3.2.2 *Projects That Are Not Reasonably Foreseeable***. AT&T Fiber Optic and OptiSolar are reasonably foreseeable.

At Pages 4-2 through 4-3 **Section 4.1.3 *Protocol Survey Methodology***. Do not put biologist names here. Put the USFWS 1992 protocol in the Appendix, or merely cite it and move on. There is no need to place it in the text. The correct way to refer to desert tortoise critical habitat is to call it just that. Once the reader understands that the discussion only refers to the desert tortoise, calling it "critical habitat" will suffice. As the project is in the NEMO planning area, the more up-to-date way to refer to desert tortoise habitat is either DWMA or non-DWMA.

At Page 5-1 (and as needed throughout the document), **Section 5.2 *Direct Effects***. 22 *live* desert tortoises were located.

Technical Area: Closure and Restoration Plan
Author: Tom Hurshman (BLM)

BACKGROUND

Section 5.2.11.1, Mitigation Measure 1 – Site Rehabilitation Plan, addresses closure of the project following the cessation of facility operations and discusses elements of a closure plan. Data Request 30 asked for description of the likely components of a closure plan addressing decommissioning methods, timing of any proposed habitat restoration and restoration performance criteria. Applicant's response suggests that each project owner file a closure plan for review and approval at least 12-months prior to commencing the closure activities. BLM believes that the applicant must prepare a plan that addresses closure and restoration activities and that waiting to address the issues at the end of the useful life of the facility, will not ensure satisfactory restoration of the site in the fragile desert environment. In addition, the project design and footprint may need to accommodate vegetation salvage and/or propagation study plots. Further, the plan needs to recognize that closure activities may not only occur at the end of a 30 or 50 year life of the facility, but could happen at intermediate times during the project life.

DATA REQUEST

125. BLM requests the applicant develop a plan that will guide site restoration and closure activities. Initially the plan will describe the anticipated methods applicant proposes for revegetation of disturbed areas using native plant species including perennials,,and will include methods used to monitor restoration of and evaluate success of revegetation efforts. The initial site restoration and closure plan will evaluate existing information gathered by applicant and other relevant studies to determine if existing data is sufficient to guide restoration of disturbed lands or if additional research is necessary to determine the most effective means to restore and revegetate the site at closure.. The plan must address preconstruction salvage and relocation of succulent vegetation from the site to either an onsite or nearby nursery facility for study and propagation of seed sources to reclaim the disturbed area. In the case of unexpected closure, the plan should assume restoration activities could possibly take place prior to the anticipated lifespan of the plant. Specifically the closure and restoration plan must address the following:

- Develop a revegetation research program based on information provided by a qualified expert in desert flora and revegetation. The program would include a review of available materials describing methods and success rates of revegetation programs in the Eastern Mojave Desert at similar elevations.
- A program to evaluate existing native plant vegetation data from the current inventories and identify proposed representative study plot locations within and adjacent to the project area for each of the four vegetative community subtypes cited in the AFC, Appendix 5.2B. This data will be used to identify dominate species to be used in revegetation. Baseline vegetation measurements from the project area and from surrounding non-disturbed areas must be established prior to any surface disturbing activities and will be used to evaluate and monitor vegetation trends and changing conditions over

the life of the project that could be considered impediments to restoration activities (e.g. sustained drought) . Prepare and submit a protocol to identify study plots and methodology to evaluate trends to BLM for review and approval prior to beginning studies..

- Identify the extent of succulent plant species to be salvaged and maintained in nursery areas either on site or in close proximity, that would be used for future transplanting and/or in propagation studies for seed sources.
- Monitoring and treatment of invasive species over the life of the project.
- Ground preparation procedures that would be needed to effectively reclaim the area.
- Implementation of monitoring programs after closure to verify revegetation results based upon the established goals for density and diversity.
- Provide yearly updates to agencies of progress achieved in connection to revegetation research.
- Identify, with justification, the vegetation considered unnecessary for revegetation or reclamation research that would be lost during construction that could be made available for public collection through plant salvage sales conducted by BLM.

Technical Area: Cultural Resources

Authors: Michael D. McGuirt (CEC) and Sarah C. Murray (BLM)

BACKGROUND

The California Register of Historical Resources (CRHR) eligibility status of and the proposed project's effects on the Boulder Dam-San Bernardino 115-kV line, CA-SBR-10315H, and related cultural resources have been the subject of an ongoing discussion among the applicant and the staffs of both the Energy Commission and the Bureau of Land Management (12/12/07 Data Requests 36–39 (CEC Log No. 43714), 5 February 2008 Energy Commission Staff Comment on Response to Data Request 37, and 6 February 2008 BLM Staff Comment on Applicant's Draft Survey Report). The BLM and the State Historic Preservation Officer concluded a consensus determination on 22 October 1993 that the subject transmission line was eligible for inclusion in the National Register of Historic Places, and, as a consequence of this consensus determination, pursuant to 14 CCR § 4851(a)(1), it was automatically listed in the California Register of Historical Resources.

It is the opinion of the Energy Commission and BLM staffs that the interconnection of the proposed project to the transmission line could cause a substantial adverse change in the ability of the CRHR-listed line to convey its historical significance, which constitutes a significant impact under CEQA. Energy Commission staff needs a CRHR eligibility status assessment that is less than five years old for the Boulder Dam-San Bernardino 115-kV transmission line, so the line's eligibility needs to be reassessed, including an evaluation of the physical integrity of the line, the project's impacts on the line's ability to convey its significance, and the possibility that the line is one element of a historic district that encompasses multiple linear facilities within the entirety of the original BLM Right-of-Way (R.O.W.) Grant No. R 01730 to the Southern Sierras Power Company.

To accurately gauge the project's potential impact on the Boulder Dam-San Bernardino 115-kV transmission line, staff needs a detailed description of the precise character of the project's interconnection to this line. The description of the interconnection to the transmission line and to the larger R.O.W. historic district needs to provide sufficient detail for staff to assess the scale of the effect on both resources and to develop appropriate mitigation measures, if that effect is ultimately found to be a substantial adverse change in the significance of one or both resources.

DATA REQUEST

126. Please have a qualified architectural historian assess whether the Boulder Dam-San Bernardino 115-kV line (CA-SBR-10315H) and linear archaeological feature CA-SBR-12574H are resources that share a historical association as contributors to a potential BLM R.O.W. Grant No. R 01730 Historic District, and whether other such elements may also exist in the project area, including:

    a. If the above resources share a historical association, a formal CRHR evaluation of the historic district;

b. A historical context for the historic district

127. Please have a qualified architectural historian formally reassess the CRHR status of CA-SBR-10315H as both an element of the above historic district and as a individual historical resource, including:

a. The historical significance of the Boulder Dam-San Bernardino 115-kV transmission line;

b. A historical context for the Boulder Dam-San Bernardino 115-kV transmission line;

c. An assessment of all seven aspects of the line's integrity—location, design, materials, workmanship, setting, feeling, and association.

128. Please have a qualified architectural historian assess impact of the proposed project's interconnection on the Boulder Dam-San Bernardino 115-kV line, and, on the potential BLM R.O.W. Grant No. R 01730 historic district, including:

a. A precise physical description of the proposed project's interconnection to the transmission line;

b. An assessment of the significance of the interconnection's impact on the Boulder Dam-San Bernardino 115-kV line relative to the portion of the that line extant in the project area;

c. A justification of the above recommendation;

d. Mitigation measures proposed to reduce any substantial adverse impact.

129. Please provide the qualifications of the architectural historian addressing these data requests, indicating that he/she meets the Secretary of the Interior's Professional Standards for an Architectural Historian.

Technical Area: Project Description
Author: Tom Hurshman (BLM)

BACKGROUND

Data Requests #1-3 asked for justification for requesting the 7,040 acre footprint in the BLM ROW applications when 3,400 acres were identified for plant construction and operations in the AFC. The requests also asked for identification of detailed construction, ground disturbance and reclamation measures on the other 3,640 acre footprint. Responses from the applicant did not answer the questions and asserted the lands could be utilized for unforeseen circumstances that may arise during licensing. This answer does not satisfy BLM. Only lands proposed for use by project facilities will be carried forward in the joint analysis. Other lands need to be dropped from the BLM ROW application.

DATA REQUEST

130. Provide an amended project description that addresses only those lands used for the footprint of the project.

131. Adjust all acreage calculations and legal land descriptions for the area required for the project.

132. File an updated/amended SF-299 with the BLM Authorized Officer with updated legal descriptions.

.

Technical Area: Soil and Water Resources
Author: Ken Downing (BLM)

BACKGROUND

Groundwater in the Ivanpah basin is regulated under a San Bernardino County ordinance and federal right-of-way grants have been approved where wells are located on public lands. The Primm Valley Golf Course has historically produced an estimated average 1827 acre-feet/year, principally from two wells known as Colosseum #1 and #2. Colosseum #1 is located in the NW¼SW¼ of Section 35, T. 17 N., R. 14 E. Colosseum #2 is located in the NW¼NW¼ of Section 2, T. 16 N., R. 14 E. Proposed monitoring well locations have been authorized by BLM through issuance of right-of-way grants. There is some question if monitoring wells have been constructed but none the less, they are a valid existing authorization that must be recognized by construction plans proposed by the applicant.

The applicant has proposed the installation of two water wells in the SE¼ of Section 34, T.17 N., R. 14 E., less that one half mile from the Colosseum wells and within the proposed monitoring well pattern. BLM believes that the ISEGS proposed well locations would interfere with monitoring and regulation of the Colosseum wells. In addition, the increased cumulative drawdown effect of the two existing and two proposed water production wells could accelerate deformation of the brackish water interface surrounding the playa. This cumulative effect could lead to a more rapid interception of the brackish water interface with resulting decrease in water quality. Three Primm Valley Golf course water wells located in Section 36 approximately 1 mile east of the Colosseum wells currently produce only about 12 Acre-feet/year due to substantially lower water quality (2-3 times higher total dissolved solids (TDS)).

Two water wells (WP5 & WP6) located approximately three miles due north of the Colosseum wells (NW¼SW¼ Section14 and NW¼SW¼ Section 23, respectively) are authorized under federal ROW grants and permits issued by San Bernardino County. These wells provide municipal water for Primm, NV, and are permitted for 751 acre-feet/year. The Molycorp water wells located to the southeast have averaged approximately 800-1000 acre-feet/year with highest production rates at about 1200 acre-feet /year. Under California water law, Molycorp has probably established a water right of at least 1000, and perhaps 1200, acre-feet per year.

DATA REQUEST

133. Please provide alternate proposed locations for water wells that will minimize impacts on existing water wells.

134. Please revise any analyses that assume a future Molycorp water production rate of 420 acre-feet/year using a more realistic figure of at least 1000 acre-feet/year.

135. Please discuss the cumulative impact to groundwater physically and chemically by all groundwater users in the project vicinity.

BACKGROUND

Data request #7 states, in part: "Please provide a description of the facility maintenance activities, including but not limited to" The January 14 response did not completely address the requested data. These concerns are not necessarily related as much to an air quality issue as they are the project design and long term maintenance requirements for the project. Water from bi-monthly washing will likely promote vegetation growth, particularly for noxious and invasive species. BLM does not believe it is reasonable to assume that tractor/trailer pulling for heliostat washing over the 50 (or more) year life of the facility will eliminate the need for vegetation suppression. It is also not reasonable to assume that there will be no need for grading or maintenance access routes as part of an ongoing maintenance plan for the facility. Tractor and wash trailer routes will require some level of maintenance over the term of an authorization. In the sandy soils across the project area, BLM is concerned about the need for surfactants for dust suppression and stabilization of these routes.

DATA REQUEST

136. Provide a discussion of long term facility maintenance requirements that address cleaning heliostats, vegetation suppression including treatment of noxious and invasive species, long term maintenance requirements on access routes, reapplication of dust suppression on all disturbed surfaces that receive repeated use, and the expected number and size of the fleet of maintenance equipment that will be used for all maintenance activities in the facility.

BACKGROUND

The heliostat washing results in nearly all groundwater produced dripping onto the ground and thereafter evaporating into the atmosphere. At first the increased water would likely promote plant growth which will include weeds. We are also concerned about the weed control program and that it include an approved herbicide treatment, which could be mobilized by heliostat wash water.

Through time as that water evaporates salts are left behind which will ultimately result in reduced permeability and reduced ability of the soils to support vegetation particularly post-project. ISEGS has also identified that chemicals will be added during the de-ionization process to prevent scaling and corrosion.

DATA REQUEST

137. What will be the chemical constituents and concentrations of water used to wash heliostats? Discuss and quantify the buildup of these constituents in the soils through the life of the project and how the impact would be mitigated and the lands eventually reclaimed and rehabilitated.

138. Please discuss heliostat wash water in terms of a waste stream.

Technical Area: Soil and Water Resources
Author: Christopher Dennis, P.G.

BACKGROUND

In the Mojave Desert, rainfall usually occurs during brief but intense storms. An average of three inches per year of rainfall can be expected at the project site. The water that does not infiltrate into the ground or evapotranspire flows as surface runoff and at times can result in flash flood conditions. Conditions at the site indicate past surface flows have had enough energy to transport gravel and cobbles across the project site. The plants on the grade of the bajada (coalescing alluvial fans), on which the project is proposed, help retain sediment and reduce erosion potential from runoff. Removing all the vegetation to the root system would dramatically alter the surface runoff pattern that has naturally developed and likely allow transport and deposition of coarser material on distal portions of the fan and ultimately the Ivanpah Dry Lake bed. At such a large scale, up to 3,400 acres of vegetation removal and ground disturbance, management of the surface water flows will require extensive engineering. The project applicant has already stated they would supply a final grading plan.

DATA REQUEST

139. As part of the final grading plan, please describe in detail, using illustrations and written descriptions as necessary, the following:

    a. How sheet and channel flow across the project site, over roads, around the heliostats, and off the site would be managed through engineering controls.

    b. Calculations showing the stormwater engineered controls have sufficient capacity for a 100-year, 24-hour storm event.

    c. Erosion and deposition predictions on the up-slope and down-slope sides of the projects.

    d. Please describe the engineering controls in the event of a hazardous or non-hazardous spill.

    e. Please explain in writing and with illustrations how the principles of Low Impact Development would be integrated into the final grading plan.

BACKGROUND

Some elements of Data Request 58, the Drainage Erosion and Sediment Control Plan (DESCP), were not answered.

DATA REQUEST

140. Please provide a final DESCP with all elements answered, including those itemized below.

    a. Typical best management practices (BMPs) were provided in the draft DESCP. Due to the size of the project site, site-specific BMPs for both the construction and operation phases need to be identified on topographic maps

for all areas except the power block area where BMPs have already been identified on topographic maps. Please provide these site-specific BMPs for the construction and operation phases.

b. In Section 4.0 of the draft DESCP, a timing and maintenance schedule was provided, but only a general level of detail. A detailed schedule of the timing of the BMPs to be employed and a maintenance schedule for all BMPs needs to be provided for each phase of the project construction and operation. Please provide this detailed schedule.

c. Page 9 of the draft DESCP mentions that concrete holding basins would be used for the discharge of water (if uncontaminated) used for hydrostatic testing of the natural gas pipeline.

   i. Where would these basins be located?

   ii. What would be the size of the basins?

   iii. Please provide supporting calculations that show the size of the basins is sufficient to contain the potential volume of water that could be discharged (up to 400,000 gallons).

d. Page 10 of the draft DESCP, Table 3.4-1, cut volumes of soil are greater than the fill volumes. The text states that there will be no soil exported offsite. This apparent difference needs to be reconciled and explained.

e. Page 17 of the draft DESCP states that there will be a concrete washout area used during construction. The location and size of this washout area need to be shown on a map of the project site and discussed in the text.

f. Figure 3-9 of the draft DESCP has errors in the form of seemingly random lines on the figure. It appears to be the result of a printing malfunction or error in the graphic computer file. Please correct this figure.

BACKGROUND

A Federal Clean Water Act section 401 certification may be required. If there are potential impacts to surface waters (perennial or ephemeral) of the State and/or Waters of the United States, such as drainages, streams, washes, ponds, pools, or wetlands, this certification will be required by the Central Valley, Regional Water Quality Control Board (RWQCB).

DATA REQUEST

141. Please discuss in detail whether 401 certification would be required.

142. If 401 certification would be required, please discuss compliance with the 401 certification requirement and include a copy of the 401 application and a schedule for completion of the certification.

BACKGROUND

Sinkholes are present in the Ivanpah Dry Lake bed both north and south of Interstate 15. The reason for the formation of these sinkholes is under investigation. The sinkholes may be developing due to regional subsidence occurring as a result of groundwater extraction or possibly due to chemical dissolution.

DATA REQUEST

143. Please discuss whether the project is designed to account for the possibility of sinkholes developing in the project area.

144. If the project is designed for the possibility of sinkholes developing in the project area, please discuss this design in detail.

BACKGROUND

In response to Data Requests 63, the applicant provided a map of proposed stockpile locations to be used during construction. The stockpile locations for storing cut soil seem too small given the size of the project and the expected volume of soil and vegetation expected to be generated.

DATA REQUEST

145. Please provide calculations supporting that the size of the stockpile locations are sufficient to support the volume of soil and vegetation expected to be generated.

Technical Area: Visual Resources
Authors: William Kanemoto (CEC) and Mona Daniels (BLM)

BACKGROUND

In response to Data Request (DR) 105, requesting information on frequency, duration, or intensity of anticipated dust reflection of sunlight, applicant stated that no modeling was performed, and that no model for this purpose had been identified.

The applicant was diligent in identifying and representing the effect of sunlight reflected by ambient dust in the simulations in the AFC. Staff assumes that the condition depicted in those is a worst-case scenario. Staff also appreciates the difficulty involved in attempting to quantify this effect. Nevertheless, it is very difficult for anyone to truly understand or adequately evaluate the potential visual effects of the project without some better understanding of the likely frequency and brightness of this effect.

Applicant's response refers to DR 90, which addresses potential issues of safety with regard to the dust-created glare. The concern of DR 105 however was not only safety, but also visual prominence and potential impact on motorists and recreationists in the viewshed. Reflected glare from airborne dust could presumably be among the most substantial visual impacts of the project – more than visual prominence of the solar collector towers. Without additional information from other past projects, however, this impact remains an essentially unknown effect, and staff lacks an adequate means to evaluate potential visibility and impact of the project. Staff believes some observations from past projects must be available, however.

Again, the concern in this request is not safety, but rather characterization of visual prominence, frequency of visibility, etc. for purposes of evaluating potential visual impact to motorists, recreationists, and other sensitive visual receptors.

DATA REQUEST

146. Please provide additional information, evidence or observations from other past or present projects utilizing the same technology, on frequency, brightness, duration of dust-reflected glare, including:

    a. anecdotal information or evidence on frequency, duration and intensity of dust-reflected glare from other past or present projects, including the Solar 1 experimental project, or projects in other countries

    b. photographic documentation of this effect from such projects

    c. expert testimony on this phenomenon with respect to the proposed project technology, if available

BACKGROUND

CEC and BLM staff continue to be concerned about potential visual effects to recreational visitors within the project viewshed, which includes the Ivanpah dry lakebed, Joshua Tree Highway, and heavily used recreational destinations within the Mojave National Preserve. BLM staff have identified a list of sensitive recreational key points of observation (KOPs) for purposes of analysis in the Staff Assessment/EIS.

DATA REQUEST

147. Please provide visual simulations, utilizing 'normal' (50 mm equivalent or approximately 40-degree angle of view), of the following new recreational KOPs:

    a. Umberci Mine Sec 9, T27S, R14E, (from hill top in NW corner, above mine looking down on site)

    b. Benson Mine Sec23, T28S, R13E, (from hill top above mine looking down on site, (via Colosseum Road)

    c. I-15 & Nipton Rd. Sec 35,T28S, R14E, (from I-15 off-ramp)

    d. Nipton Store, Nipton Sec 32, T28S, R16E, SBM

    e. Ivanpah Dry Lake (East) Sec 32, T27S, R15E, SBM

    f. Ivanpah Dry Lake (West) Sec 19, T27S, R15E, SBM

    g. Whiskey Pete's Sec 8, T27S, R15E, SBM

Note that due to the unusually large scale of the proposed project and the high level of topographic exposure of the site over a large viewing area, KOPs extend beyond typical middle-ground distances. A map is attached to indicate recommended locations for KOPs e. and f.

148. Please provide candidate KOP photographs of the above sites for staff review, prior to development of the simulations.

BACKGROUND

The proposed solar receiving towers are up to 371 feet in height, and could presumably be located near flight paths for the proposed Ivanpah Airport. FAA safety lighting and painting requirements would represent additional visual effects of the project and affect visual impact evaluation.

DATA REQUEST

149. Please confirm whether FAA safety lighting and painting would be required for the towers. If so, please provide a description of the required lighting or painting.

BACKGROUND

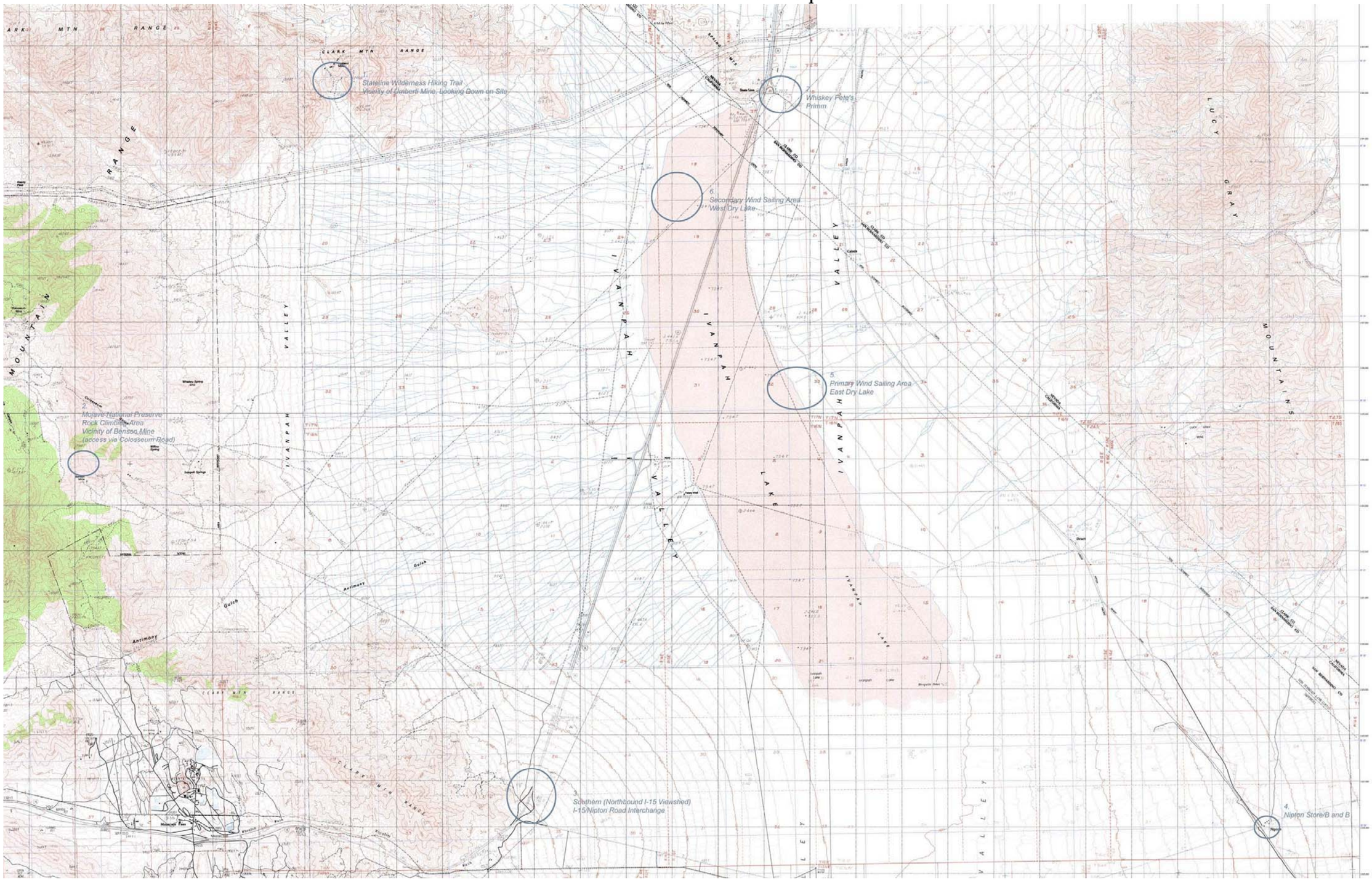
The proposed ISEGS project would require a very large area of grading for site preparation, all or most of it exposed to sensitive viewers in various locations throughout the viewshed. Color contrast of disturbed soil with surrounding undisturbed soil surfaces due to grading, however, is frequently among the greatest visual effects of infrastructure projects in desert areas, and is often difficult and slow to remediate.

DATA REQUEST

150. Please provide information on the color characteristics of the soil substrate of the ISEGS site, compared to the existing color characteristics of the undisturbed soil surface visible now.

151. Please provide proposed mitigation measures for addressing visual impacts resulting from site grading.

New Recreational KOP's for Data Requests #147-148



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE *IVANPAH SOLAR ELECTRIC GENERATING SYSTEM*	DOCKET NO. 07-AFC-5 PROOF OF SERVICE (Revised 4/1/08)

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-5
1516 Ninth Street, MS-14
Sacramento, CA 95814-5512
docket@energy.state.ca.us

APPLICANT

Solar Partners, LLC
John Woolard, Chief Executive Officer
Alicia Torre, Project Manager
1999 Harrison Street, Suite #500
Oakland, CA 94612
ATorre@BrightSourceEnergy.com

Steve De Young
Ivanpah solar Electric Generating System
Project Manager
4155 Arbolado Drive
Walnut Creek, CA 94598
steve4155@astound.net.

APPLICANT'S CONSULTANTS

John L. Carrier, J. D.
2485 Natomas Park Dr. #600
Sacramento, CA 95833-2937
jcarrier@ch2m.com

COUNSEL FOR APPLICANT

Jeffrey Harris
Ellison, Schneider & Harris L.L.P.
Attorneys at Law
2015 H Street
Sacramento, CA 95814-3109
jdh@eslawfirm.com

INTERESTED AGENCIES

Larry Tobias
Ca. Independent System Operator
151 Blue Ravine Road
Folsom, CA 95630
LTobias@caiso.com

Tom Hurshman, Project Manager
Bureau of Land Management
2465 South Townsend Ave.
Montrose, CO 81401
tom_hurshman@blm.gov

Sterling White, Field Manager
Bureau of Land Management
Needles Field Office
1303 South Highway 95
Needles, CA 92363
Sterling_White@blm.gov

INTERVENORS

California Unions for Reliable Energy ("CURE")
Tanya A. Gulesserian
Marc D. Joseph
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
tgulesserian@adamsbroadwell.com

ENERGY COMMISSION

JEFFREY D. BYRON
Commissioner and Presiding Member
jbyron@energy.state.ca.us

JAMES D. BOYD
Commissioner and Associate Member
jboyd@energy.state.ca.us

Paul Kramer
Hearing Officer
pkramer@energy.state.ca.us

* Che McFarlin
Project Manager
Cmcfarli@energy.state.ca.us

Dick Ratliff
Staff Counsel
dratliff@energy.state.ca.us

Public Advisor
pao@energy.state.ca.us

DECLARATION OF SERVICE

I, Maria Sergoyan, declare that on May 8, 2008, I deposited copies of the attached Data Requests 117 Through 151 For The Ivanpah Solar Electric Generating System (ISEGS) (07-AFC-5) in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed in Dockets
Maria Sergoyan