

ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

601 GATEWAY BOULEVARD, SUITE 1000
SOUTH SAN FRANCISCO, CA 94080-7037

TEL: (650) 589-1660
FAX: (650) 589-5062

lmiles@adamsbroadwell.com

SACRAMENTO OFFICE

520 CAPITOL MALL, SUITE 350
SACRAMENTO, CA 95814-4715

TEL: (916) 444-6201
FAX: (916) 444-6209

DANIEL L. CARDOZO
THOMAS A. ENSLOW
TANYA A. GULESSERIAN
MARC D. JOSEPH
RACHAEL E. KOSS
LOULENA A. MILES
ROBYN C. PURCHIA

OF COUNSEL
THOMAS R. ADAMS
ANN BROADWELL
GLORIA D. SMITH

April 6, 2009

DOCKET	
08-AFC-5	
DATE	<u>APR 06 2009</u>
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Via Electronic Service

Robert B. Liden,
Executive Vice President
SES Solar Two, LLC
2920 E. Camelback Road, Ste. 150
Phoenix, AZ 85016
rliden@stirlingenergy.com

Re: SES SOLAR TWO PROJECT (08-AFC-5)
CURE Data Requests, Set One (Nos. 1-143)

Dear Mr. Linden:

California Unions for Reliable Energy (CURE) submits this first set of data requests to Stirling Energy Systems for the SES Solar Two Project, pursuant to Title 20, section 1716(b), of the California Code of Regulations. The requested information is necessary to: (1) more fully understand the project; (2) assess whether the project will be constructed and operated in compliance with all laws, ordinances, regulations and standards; (3) assess whether the project will result in significant environmental impacts; (4) assess whether the project will be constructed and operated in a safe, efficient and reliable manner; and (5) assess potential mitigation measures.

CURE reserves the right to submit additional data requests on topics that require further information. Our reservation is based in part on matters beyond our control; principally, the ongoing changes that SES Solar Two is making to the Project. For example, on March 26, 2009, SES Solar Two, LLC made substantial changes to the Project design that were disclosed within responses to Energy Commission and Bureau of Land Management data requests. SES Solar Two, LLC also stated that a draft Erosion and Sedimentation Control Plan and additional information about the Project's primary source of water will be submitted sometime

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around the 2nd quarter of 2009. Given that SES Solar Two, LLC itself has delayed this proceeding, further data requests would in no way harm SES Solar Two, LLC or otherwise prejudice any party to this proceeding.

Pursuant to section 1716(f) of the Energy Commission's regulations, written responses to these requests are due within 30 days. If you are unable to provide or object to providing the requested information by the due date, you must send a written notice of your objection(s) and/or inability to respond, together with a statement of reasons, to Commissioners Byron and Levin and to CURE within 20 days.

Please contact us if you have any questions. Thank you for your cooperation with these requests.

Sincerely,

/s/

Loulena A. Miles

LAM:bh

**STATE OF CALIFORNIA
California Energy Commission**

In the Matter of:

The Application for Certification
for the SES Solar Two Project

Docket No. 08-AFC-05

**CALIFORNIA UNIONS FOR RELIABLE ENERGY
DATA REQUESTS, SET ONE**

April 6, 2009

Marc D. Joseph
Loulena A. Miles
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
(650) 589-1660 Voice
(650) 589-5062 Facsimile
lmiles@adamsbroadwell.com
mdjoseph@adamsbroadwell.com

Attorneys for the CALIFORNIA UNIONS FOR
RELIABLE ENERGY

The following Data Requests are submitted by California Unions for Reliable Energy. Please provide your responses via email (if available) by May 7, 2009 to each of the following people:

Loulena A. Miles
Adams Broadwell Joseph & Cardozo
601 Gateway Blvd., Suite 1000
South San Francisco, CA 94080
(650) 589-1660
lmiles@adamsbroadwell.com

Tom Brohard
Tom Brohard & Associates
81905 Mountain View Lane
La Quinta, CA 92253
(760) 398-8885
tbrohard@earthlink.net

Matthew Hagemann
Soil Water Air Protection
Enterprise (SWAPE)
2503 Eastbluff Drive
Suite 206
Newport Beach, CA 92660
MFHagemann@aol.com

Scott Cashen
3264 Hudson Avenue
Walnut Creek, CA 94597
scashen@comcast.net

Please identify the person who prepared your responses to each Data Request. If you have any questions concerning the meaning of any Data Requests, please let us know.

**SES Solar Two Project
CURE Data Requests Set One (# 1-xxx)**

TRAFFIC AND CIRCULATION

Background: TRAFFIC CONDITIONS

Page 3-4 of the AFC states “The main entry for truck traffic to the Project Site during construction will be from Interstate 8 (I-8) to the Project entrance on Dunaway Road. Traffic will exit the Project Site at the north end of the Site onto the Evan Hewes Highway. During Project operation, the main access (entry and exit) to the Site will be from Evan Hewes Highway on the north side of the Project Site and to the east of the SDG&E transmission line. During Project operation, the secondary and emergency access will be from Dunaway Road.” Figure No. 1 and Figure No. 2 provide the site plans for Phase I and Phase II during construction, and Figure No. 3 provides the site plan for post construction.

In response to CEC Data Request 39, the Applicant provided a plan showing circulation and traffic signing. While this plan also shows a security check/shuttle stop as traffic leaves the construction staging area, it is not clear if construction workers will park in this construction staging area and then ride in a shuttle to the Project Site or if all construction workers will park west of Dunaway Road. While Section 5.11 of the AFC analyzes Project traffic impacts at five intersections in the area, no turning movement forecasts or analysis of these movements at the access driveways to the Project was provided.

Data Requests

1. Please provide additional information regarding the location of parking for construction workers and explain how construction worker traffic will enter and exit the Project Site.
2. Please provide forecast turning movements at the Project access driveways on Dunaway Road and on Evan Hewes Highway during both phases of construction and during post construction operating conditions.
3. Please provide an analysis of resulting traffic conditions and Level of Service at the two main Project access driveways on Dunaway Road and on Evan Hewes Highway during both phases of construction and during post construction operating conditions.
4. Please provide the expected queuing at each of the Project access points to ensure that adequate stacking and storage areas are provided, particularly if security check points are to be employed for entering construction worker traffic.

5. Please identify the level of traffic control that will be required to provide safe traffic conditions at both primary access driveways during Phase I and Phase II of construction, as well as during post construction operating conditions.
6. Please clarify whether the Applicant will install measures at the Project access driveways at its cost to mitigate any significant traffic and public safety impacts?

Background: TRAFFIC SAFETY AND MITIGATION

In response to CEC Data Request 39, a plan showing circulation and traffic signing was provided. This plan appears to show two entry driveways and an exit driveway serving the 25-acre construction staging area on the east side of Dunaway Road. It is not clear if this plan depicts traffic flow and signing during the construction phases or if it represents operating conditions after completion of construction.

Data Requests

7. Please provide plans showing traffic flow and traffic signing for both of the construction phases and for post construction operating conditions.
8. When the construction staging area is in use on the east side of Dunaway Road, please explain whether the Project will operate the crossing with flaggers or traffic control devices to ensure safe truck crossings from the construction staging area to the Project Site.
9. Please provide an analysis of the three closely spaced access points proposed on the east side of Dunaway Road for the construction staging area to determine the need for left and right turn acceleration and deceleration lanes at these three driveways.

Background: ACCESS DRIVEWAYS

A speed limit of 55 miles per hour is shown in Figure 5.11-3 of the AFC on both Dunaway Road and on Evan Hewes Highway. Acceleration and deceleration lanes may be needed to provide safe access to and from these roadways at the Project driveways. Stopping sight distance of westbound traffic on Evan Hewes Highway for vehicles exiting the Project Site appears to be limited by the horizontal curve on Evan Hewes Highway immediately east of this driveway.

Data Requests

10. Please provide an analysis of both primary access driveways for the need to provide left and right turn acceleration and deceleration lanes on both Dunaway Road and on Evan Hewes Highway during both of the construction phases, as well as during post construction operation of the facility.
11. Please provide the stopping sight distance at the proposed access driveway on Evan Hewes Highway to ensure that it is adequate to safely allow left turns out of the Project Site at this location.

Background: NEW RAILROAD CROSSING APPROVAL AND IMPACTS

Vehicle access to Evan Hewes Highway from the Project Site requires a new crossing of the Union Pacific Railroad (“UPRR”) tracks which parallel Evan Hewes Highway for the entire length of the Project Site. While new at-grade crossings of railroad tracks require review and approval by the California Public Utilities Commission (“PUC”), the AFC does not provide information regarding this necessary action.

Data Requests

12. Please provide the current status of and the schedule to obtain concurrence from the UPRR and the PUC for the new at-grade crossing of the railroad tracks just south of Evan Hewes Highway.
13. Please determine the appropriate level of protection for safety at the new at-grade vehicular crossing of the UPRR track just south of Evan Hewes Highway.
14. Please clarify whether the Applicant will install at-grade crossing protection measures, as required by the PUC, for the Project access driveway crossing of the UPRR.

Background: IMPACTS RELATED TO HEAVY AND OVERSIZED LOADS

According to Page 5.11-11 of the AFC, the delivery of materials and equipment occurs over 40 months during construction of the Project. These truck trips peak during Month 7 when 1,099 deliveries are forecast to occur. The AFC does not provide data regarding the number of truck deliveries that involve heavy or over sized loads that could damage the existing roadways in the area.

Data Requests

15. Please provide forecasts of the number of heavy truck deliveries to the Project Site during each month of the construction activities.
16. Please clarify whether the Applicant will monitor roadway conditions and repair all damage caused by heavy truck traffic to roadways in the vicinity of the Project Site.

Background: IMPACTS RELATED TO CONSTRUCTION OF LINEARS

Figures 3.1, 3.2, and 3.3 indicate an off-site water service will be constructed either along the south side of Evan Hewes Highway or within the UPRR right of way. Proposed transmission lines crossing Interstate 8 west of Dunaway Road within the jurisdiction of the California Department of Transportation are also shown in these Figures.

Data Requests

17. Please provide an analysis of the potential impacts to a) traffic using the Evan Hewes Highway roadway and b) UPRR operations during construction of the off-site water service.
18. Please provide an analysis of the potential impacts to traffic using Interstate 8 caused by construction of the transmission lines.

BIOLOGICAL RESOURCES

Background: IMPACTS TO THE FLAT-TAILED HORNED LIZARD

Surveys conducted for the Project identified flat-tailed horned lizards (*Phrynosoma mcallii*) within the Project site and along the proposed transmission line route.¹ The AFC indicates flat-tailed horned lizard (FTHL) surveys conformed to California Department of Fish and Game (CDFG) and Bureau of Land Management survey protocols.² Since these techniques were originally introduced, the FTHL survey protocol has been modified to accommodate improved survey techniques.³ For proposed project sites on federal lands, the Flat-tailed Horned Lizard Interagency Coordinating Committee (“ICC”) requires implementation of the “Project Evaluation Protocol” to determine appropriate mitigation and compensation for project impacts.⁴ This protocol requires road surveys (in addition to survey plots), and that only persons authorized by CDFG conduct surveys and handle FTHLs.

In 1997, the BLM was one of the signatories to a Conservation Agreement designed to conserve the FTHL.⁵ As a signatory, the BLM has agreed to implement the Flat-tailed Horned Lizard Rangewide Management Strategy, which includes provision of appropriate mitigation and compensation for projects on BLM land (and having FTHL habitat).⁶ The AFC fails to propose any specific compensation measures, and species-specific mitigation does not incorporate the measures mandated by the Rangewide Management Strategy.⁷

Data Requests

19. Please provide a copy of (or citation to) the FTHL survey protocol that was used for Project surveys.
20. Please provide the Project’s FTHL mitigation strategies that address the 10 measures outlined in the Rangewide Management Strategy.
21. Please clarify the geographic relationship between FTHL Management Areas and Project features (including transmission lines and water pipeline).
22. Please provide acreage values for Project impacts within and outside of a FTHL Management Area. For impacts within a management area, provide the

¹ AFC, p. 5.6-4.

² AFC, p. 5.6-6.

³ Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 80 pp. plus appendices.

⁴ *Id.*

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

requisite “multiplying factor” with supporting justification (i.e., factors used to calculate multiplying factor).⁸

23. Please provide the compensation proposal for Project impacts to the FTHL. If a compensation proposal is not yet available due to ongoing agency consultation, please provide an estimated date for submittal of the proposal.
24. Please provide justification for the assumed 25 percent detection rate for FTHL surveys used in the AFC.⁹
25. The AFC provides a FTHL occupancy estimate that appears to rely on FTHLs being uniformly distributed across the landscape. Please provide the calculations used, and scientific justification for, the AFC’s occupancy estimate of 20 to 30 FTHL within the Project site.¹⁰ Please include a discussion of the ICC’s home range estimate guideline.¹¹
26. Please clarify whether all three of the FTHL mitigation measures proposed in the AFC will be implemented, or only “one or more” (as currently proposed).¹²
27. Please provide the techniques that will be used to conduct the proposed FTHL clearance surveys.¹³
28. Please clarify whether proposed pre- and post-construction monitoring using mark and recapture techniques is a project-specific recommendation by the BLM or other resource agency. If not a requisite of the BLM or other resource agency, specify the purpose of conducting mark and recapture sampling, how results will be applied, and the level of effort that will be devoted.¹⁴ In addition, please justify the benefits of this proposed mitigation measure considering some level of mortality typically occurs when animals are captured and handled.
29. Please provide the Applicant’s verification that each member of the FTHL survey team received authorization from CDFG to conduct surveys, as required by the FTHL survey protocol.
30. Please provide the estimated completion date for the FTHL translocation plan referenced in the AFC.¹⁵

⁸ *Id.*

⁹ AFC, p. 5.6-10.

¹⁰ AFC, p. 5.6-10.

¹¹ For home range estimates, see: Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 80 pp. plus appendices.

¹² AFC, p. 5.6-21.

¹³ *Id.*

¹⁴ AFC, p. 5.6-22.

¹⁵ AFC, Draft Raven Management Plan: p 3-4.

Background: IMPACTS TO SPECIAL-STATUS PLANT SPECIES

The purpose of rare (i.e., special-status) plant surveys is to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities.¹⁶ To ensure adequate data on rare plant species occurrence and an accurate assessment of potential impacts, the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and California Native Plant Society (CNPS) have each developed protocols for conducting rare plant surveys. CEC siting regulation Appendix B (g)(13)(D)(i) requires adherence to one or more of these field survey protocols.^{17 18}

Rare plant survey protocols established by the USFWS, CDFG, and CNPS provide minimum standards for when a botanical survey is needed, who should be considered qualified to conduct such surveys, how field surveys should be conducted, and what information should be contained in the survey report. Both CDFG and CNPS recommend that lead agencies not accept the results of surveys unless they are conducted and reported according to established protocols.^{19 20}

Data Requests

31. Please provide the specific methods that were used to conduct focused surveys. Please include: (1) the total number of man-hours devoted to each survey day; (2) the role of each individual that participated; (3) spacing of transects (if implemented); and (4) whether surveyors worked independently or in teams.
32. Please provide information on the locations within the site where focused special-status plant surveys were conducted, by year (i.e., 2007, 2008). Please address any extra level of effort (e.g., closer transect spacing) that was devoted to washes or other potentially suitable habitats.
33. Please provide information on the floristic field survey experience of the individuals that conducted the surveys, including any past experience identifying the special-status species identified as having the potential to occur within the Project area.

¹⁶ California Department of Fish and Game. 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. (Revision of 1983 Guidelines) Sacramento, CA.

¹⁷ See AFC, Section 5: Data Adequacy Worksheet.

¹⁸ California Department of Fish and Game 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. (Revision of 1983 Guidelines) Sacramento, CA.

¹⁹ *Id.*

²⁰ California Native Plant Society. 2001. CNPS botanical survey guidelines. Pages 38-40 in Conservation and management of rare and endangered plants: proceedings of a California conference on the conservation and management of rare and endangered plants (T.S. Elias, editor). California Native Plant Society, Sacramento, CA, 630 pp.

34. Please provide 2007, 2008, and mean rainfall data obtained by the weather station(s) nearest the Project site.
35. Please provide information on the phenology of the special-status plant species identified as having potential to occur on the Project site.
36. Please discuss the effect rainfall had on the survey team's ability to detect special-status plant species during both 2007 and 2008.
37. If field survey techniques did not follow established protocols, please provide the Applicant's proposal to identify potential Project impacts to rare plant species (e.g., proposal for additional surveys) and the appropriate mitigation strategy.
38. Please provide scientific justification for the AFC's conclusion that only a low to moderate potential exists for special-status plant species to occur on-site due to sparse vegetation and moderate level of disturbance.²¹ Please clarify how this conclusion was reached considering the AFC also states: (1) the site is dominated by upland plant species that are sparsely distributed as is typical of this type of desert habitat, and (2) with the exception of the Plaster City plant just north of the Project, a maintained dirt access road along the transmission line, and several ORV trails, the Project Site is relatively undisturbed.^{22 23}

Background: IMPACTS TO THE AMERICAN BADGER

The AFC indicates American badgers (*Taxidea taxus*) have been documented at several locations around the Project site and that several potential badger burrows occur within the site.²⁴ The AFC also indicates American badgers were not observed during 2007 or 2008 surveys.²⁵

Although the AFC indicates American badgers have the potential to occur within the Project site, it fails to provide a discussion of potential Project impacts to the species and the corresponding mitigation measures that will be implemented to address impacts. Furthermore, the AFC seems to suggest badgers were not detected on the Project site despite survey efforts. Badger surveys are typically conducted using specialized techniques that include nighttime spotlight surveys; use of track plates; and systematic searches for hair, tracks, and scat.

²¹ AFC, p. 5.5-10.

²² AFC, Review of Federal and State Surface Waters: p. 2-1.

²³ AFC, p. 5.6-8.

²⁴ AFC, p. 5.6-5.

²⁵ *Id.*

Data Requests

39. Please provide a discussion of potential direct, indirect, and cumulative impacts to the American badger.
40. Please clarify the techniques used for documenting badger presence on the Project site.
41. Please provide mitigation measures for potential impacts to the American badger.

Background: IMPACTS TO WILDLIFE CORRIDORS

The AFC implies that the Project will not result in any significant impacts to wildlife corridors. Specifically, the AFC states, “[f]rom a regional context, wildlife have alternative routes available to access surrounding habitats without needing to use the Project Site itself as a movement route.”²⁶ However, the AFC contains no information to support its conclusion on a wildlife “movement route,” which conflicts with other information provided in the AFC. Specifically, according to AFC Figure 5.18-2, approval of pending projects (including Solar Two) would result in a contiguous, altered landscape between El Centro and the town of Ocotillo (which is bordered by the Jacumba Mountains to the west). These projects would effectively block any north-south movement routes for species intolerant of disturbance. Given that many species depend on movement and dispersal to maintain viable populations, the AFC must provide a detailed analysis of the direct, indirect, and cumulative impacts of the Project on wildlife corridors.

Data Requests

42. Please provide an analysis of the Project’s direct, indirect, and cumulative impacts on wildlife corridors.
43. Please use the map provided in AFC Figure 5.18-2 to depict the “alternative routes” available to wildlife.
44. Considerable efforts have been made into the recovery and monitoring of bighorn sheep (*Ovis canadensis*) in the Project region. Please provide any information that the Applicant has obtained on the occurrence and movement of bighorn sheep in the vicinity of the Project site and any analysis of the Project’s potential impacts on recovery of the species.
45. Please provide the Applicant’s plan to mitigate the Project’s impacts to wildlife corridors.

²⁶ AFC, p. 5.6-13.

Background: RAVEN MANAGEMENT

The applicant's consultant has developed a Draft Raven Management Plan to minimize the effects of common raven (*Corvus corax*) predation on flat-tailed horned lizard (*Phrynosoma mcallii*) and other native wildlife species in the Project vicinity as a result of the Project. Part of the management plan includes preventing raven access to water sources, such as evaporation ponds. The management plan initially states evaporation ponds will be covered to avoid use by ravens, but subsequently states ponds "could" be covered.^{27 28} The management plan also states ponds "could" be designed to discourage wildlife use.²⁹ To effectively evaluate the AFC's Raven Management Plan, clarification is required on which management strategies will be implemented, or what additional actions need to be accomplished (e.g., agency consultation) before strategies can be specified. Furthermore, the Draft Raven Management Plan indicates:

"A willingness to adopt new or experimental methods and measures is crucial for the effectiveness of any long-term raven management plan. The project owner will consult with the CDFG, BLM, and the USFWS prior to implementing adaptive management changes. The minimum two year monitoring period will be re-initiated following the implementation of any adaptive management changes."³⁰

There may be a financial disincentive for the project owner to re-initiate raven monitoring. Therefore, the management plan needs to provide a more definitive mechanism for determining whether adaptive management and additional monitoring are necessary.

Data Requests

46. Please clarify the management strategies that will be implemented to prevent raven use of evaporation ponds. If additional actions are needed before strategies can be specified, please provide an estimated schedule for the final management proposal.
47. Please specify the party or parties responsible for determining whether adaptive management and additional monitoring would be needed. If the project owner, please provide a mechanism that ensures an objective evaluation of need.

Background: IMPACTS TO THE BURROWING OWL

The Imperial Valley is regarded as a population stronghold for the burrowing owl.³¹ Surveys conducted for the Project identified burrowing owls (*Athene cunicularia*) along

²⁷ AFC, Draft Raven Management Plan: p 2-8.

²⁸ AFC, Draft Raven Management Plan: p 3-2.

²⁹ *Id.*

³⁰ AFC, Draft Raven Management Plan: p 3-5.

³¹ AFC, p. 5.6-11.

the off-site transmission line route and apparently active owl burrows within the Project site.³² To mitigate impacts to the species the AFC proposes a pre-construction burrowing owl survey, ground disturbance activities outside of the burrowing owl breeding season (where practicable), and passive relocation of any owls within impact areas.³³ In addition, the AFC proposes off-site mitigation for the permanent loss of burrowing owl habitat, although specific information on this mitigation is not provided.

The AFC fails to provide a meaningful assessment of Project impacts on burrowing owls and their habitat, or a mitigation proposal that will offset impacts to the species. In particular, surveys conducted for the Project did not follow protocol survey guidelines established by the California Burrowing Owl Consortium. The intent of the protocol is to meet the need for uniform standards when surveying burrowing owl populations and evaluating impacts from development projects.³⁴ Evaluation of impacts to the burrowing owl cannot be achieved through “incidental observations”, which is how the applicant’s consultant evaluated impacts and developed mitigation for the species.³⁵ The California Burrowing Owl Consortium Guidelines clearly state:

“Owls can be affected by disturbance and habitat loss, even though there may be no direct impacts to the birds themselves or their burrows. There is often inadequate information about the presence of owls on a project site until ground disturbance is imminent. When this occurs there is usually insufficient time to evaluate impacts to owls and their habitat. The absence of standardized field survey methods impairs adequate and consistent impact assessment during regulatory review processes, which in turn reduces the possibility of effective mitigation. These guidelines are intended to provide a decision-making process that should be implemented wherever there is potential for an action or project to adversely affect burrowing owls or the resources that support them.”³⁶

For an accurate evaluation of Project impacts to the burrowing owl, the AFC must provide information on burrowing owl abundance and site use (e.g., nesting, wintering, foraging) derived from focused (i.e., protocol) surveys. Detecting burrowing owls can be difficult and a pre-construction clearance survey does not constitute adequate mitigation for potential direct and indirect impacts. To avoid and minimize impacts to the species, the AFC must provide a revised assessment that has incorporated species-specific field survey methods, and that has incorporated mitigation guidelines provided by the California Burrowing Owl Consortium and CDFG.^{37 38}

³² AFC, p. 5.6-19.

³³ AFC, p. 5.6-22.

³⁴ The California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Available online at: <http://www.dfg.ca.gov/wildlife/species/docs/boconsortium.pdf>

³⁵ AFC, p. 5.6-6.

³⁶ The California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Available online at: <http://www.dfg.ca.gov/wildlife/species/docs/boconsortium.pdf>

³⁷ *Id.*

³⁸ State of California, Department of Fish and Game. 2005. Staff Report on Burrowing Owl Mitigation. Available at: http://www.dfg.ca.gov/hcpb/species/stds_gdl/bird_sg/burowlmit.pdf.

Data Requests

48. Please provide the survey methods that will be used to adequately identify Project impacts to burrowing owls.
49. Please discuss how the proposed pre-construction survey compares to the established Burrowing Owl Consortium survey protocol in identifying occupied burrows and territories, and the need for avoidance or passive relocation.
50. Please discuss whether the Applicant will follow all mitigation guidelines established by the California Burrowing Owl Consortium and adopted by the CDFG.
51. Please provide the written report required of the California Burrowing Owl Consortium and/or CDFG mitigation guidelines.
52. In accordance with CDFG mitigation guidelines, please provide a burrowing owl mitigation plan that includes a plan for offsetting loss to burrowing owl foraging and burrow habitat. In accordance with CDFG guidelines, discuss the plan for providing funding for long-term management and monitoring of the protected lands.

Background: IMPACTS TO NESTING BIRD SPECIES

Migratory birds have the potential to nest within the Project site. The Migratory Bird Treaty Act (Act) prohibits the “take” of migratory birds and their active nests containing eggs or young. The AFC has not demonstrated the Project will comply with the Act. Specifically, the AFC provides vague and contradictory information on when vegetation clearing will occur and how the Project will avoid take of migratory birds.

According to carrying capacity numbers provided in the AFC, the Project site has the potential to support over 5,700 bird nests.³⁹ Clearance surveys, as apparently proposed in the AFC, are not practical and do not constitute mitigation for nesting birds. Furthermore, clearance surveys would violate the Act by contributing to nest abandonment, increased mortality to young, or loss of eggs.

Research indicates locating landbird nests is extremely time consuming and labor intensive, and to do so effectively involves observing behavioral cues in addition to visual searches.^{40 41} As a result, compliance with the Act requires Staff to either limit Project ground disturbance activities to the non-breeding season, or enforce rigorous nest searching techniques based on research in comparable habitats. Recognizing it is impossible to locate all nests within a large project area, some State and Federal

³⁹ AFC, Table 5.6-5.

⁴⁰ DeSante, D.F. and G.R. Geupel. 1987. Landbird productivity in central coastal California: the relationship to annual rainfall and a reproductive failure in 1986. *Condor* 89:636-653.

⁴¹ Martin TE, Geupel GR. 1993. Nest-Monitoring Plots: Methods for Locating Nests and Monitoring Success. *J. Field Ornithol.*, 64(4):507-519.

agencies have elected to conduct ground disturbance activities only during the non-breeding season when compliance with the Act can be ensured.

Data Requests

53. Please clarify the months in which both initial and routine vegetation clearing activities will be conducted.
54. Please provide a discussion of how the Project will comply with the Migratory Bird Treaty Act.
55. Please provide information on any bird nests that were detected during Project surveys.

Background: IMPACTS TO THE LECONTE'S THRASHER, LOGGERHEAD SHRIKE, AND CALIFORNIA HORNED LARK

The AFC concludes impacts to the LeConte's thrasher, loggerhead shrike, and California horned lark would be adverse, but less than significant because "site clearing activities will be conducted during the non-breeding season within limited areas that would constitute only a very small portion of a bird territory or home range."⁴² This statement is confusing and does not demonstrate the Project will have a less than significant impact on these species.

Data Requests

56. Please clarify when site clearing activities will occur in areas having potential breeding habitat for the LeConte's thrasher, loggerhead shrike, and California horned lark.
57. Please clarify the intended meaning of the AFC statement that "site clearing activities will be conducted during the non-breeding season within limited areas that would constitute only a very small portion of a bird territory or home range."⁴³ Specifically, is the AFC indicating: (1) clearing may occur during the breeding season but only in very small areas; or (2) clearing activities will only impact small portions of territories or home ranges? If the former, please quantify clearing activities that will occur given the AFC indicates territories (or home ranges) of concern are as small as four acres (for the horned lark).⁴⁴ If the latter, please provide scientific support for the conclusion that the territories (or home ranges) of the three species identified can be reduced without affecting survivorship or nesting success.

⁴² AFC, p. 5.6-19.

⁴³ AFC, p. 5.6-19.

⁴⁴ AFC, Appendix Y: p. 21.

Background: IMPACTS TO OTHER BIRD SPECIES

To assess the effects of the Project on breeding bird habitat the AFC provides an estimate of carrying capacity for each bird species detected on-site.⁴⁵ These estimates were made based on perceived relative abundance, and on home range and breeding territory data obtained from literature.⁴⁶

The AFC fails to adequately document how carrying capacity numbers were calculated. It also fails to discuss the relative significance of these numbers other than to say some species may have a substantial reduction in site carrying capacity.⁴⁷ For example, the AFC indicates the Project site supports an estimated 1,600 pairs of breeding California horned larks (a California species of special concern), and that this carrying capacity may be substantially reduced by implementation of the Project.⁴⁸ The AFC needs to provide data and analysis of this impact and discuss the significance of the impact.

Data Requests

58. Please provide the calculations that were used to derive carrying capacity numbers provided in the AFC.
59. Please provide additional information on the methods used to determine “perceived” relative abundance.
60. Relative abundance can be used to make comparisons between time periods, species, or areas. Please clarify how the term is being applied in the AFC.
61. Please provide context to the information provided in the AFC by discussing the relationship among the carrying capacity numbers, site (habitat) quality, and the relative significance the Project will have on regional populations.
62. Please provide an assessment of how regionally available habitat for the species identified will be impacted, and the impacts the Project will have on critical factors necessary for a species to survive and reproduce successfully (at both the local and regional scale).

Background: PROJECT IMPACTS TO THE COLORADO DESERT FRINGE-TOED LIZARD

The Colorado Desert fringe-toed lizard (*Uma notata*) has been documented as occurring in the vicinity of the Project site.⁴⁹ The Colorado Desert fringe-toed lizard is listed as a BLM Sensitive species and a California Species of Special Concern. The AFC has not

⁴⁵ AFC, p. 5.6-19.

⁴⁶ *Id.*

⁴⁷ AFC, p. 5.6-20.

⁴⁸ *Id.*

⁴⁹ California Department of Fish and Game. 2009. CNDDDB Quick Viewer version 2.11 [database mapping program]. Available at: http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/app.asp.

provided any information on potential Project impacts to, and mitigation for, the Colorado Desert fringe-toed lizard.

Data Requests

63. Please provide an assessment of potential Project impacts on the Colorado Desert fringe-toed lizard.
64. Please discuss any proposed mitigation for Project impacts on the Colorado Desert fringe-toed lizard

Background: IMPACT OF PROJECT NOISE ON WILDLIFE

Animals rely on hearing to avoid predators, obtain food, and communicate. Noise has the potential to disrupt these activities, and otherwise reduce fitness through injury (e.g., hearing loss), energy loss (from movement away from noise source), reduction in food intake, and habitat avoidance and abandonment.⁵⁰ The AFC states operational noise from the Project would generate a greater level of noise than currently exists in the Project Site and vicinity, but that only a nominal amount of habitat outside of the Project Site would experience noise levels in the 60 A-weighted-decibel (dBA) equivalent sound level (Leq) contour.⁵¹ The AFC concludes the effects of increased noise levels on wildlife will not be significant because the species that occur in the Project vicinity are often found in disturbed or developed areas.⁵² This is not a scientifically-based (or even accurate) conclusion. For the inference to be considered valid, the AFC needs to demonstrate the correlation among disturbance; noise; and species occurrence, then establish that Project noise will be similar to observed relationships among these variables. For example, whereas kit foxes (*Vulpes macrotis*) have been known to occur at golf courses (i.e., disturbed areas), most golf courses are not noisy.

Studies have concluded that wildlife responses to noise vary among species and among individuals, and that some species never become habituated to consistent noise disturbance.⁵³ Information on the effects of noise on many species is lacking. However, of the sensitive species the AFC has identified as occurring or potentially occurring in the Project area, the following information is available:

- Flat-tailed horned lizard – Lizards (unspecified species) experienced temporary hearing loss when exposed to sounds at 95 dBA.⁵⁴

⁵⁰ National Park Service, 1994. Report to Congress, Report on effects of aircraft overflights on the National Park System.

⁵¹ AFC, p. 5.6-18.

⁵² *Id.*

⁵³ National Park Service, 1994. Report to Congress, Report on effects of aircraft overflights on the National Park System.

⁵⁴ Larkin R. 1996. Effects of military noise on wildlife: A literature review. USA CERL Technical Report [internet; cited 28 Sep 2008]. Available from: http://nhsbig.inhs.uiuc.edu/bioacoustics/noise_and_wildlife.pdf

- Burrowing owl - Relatively tolerant of lower levels of human activity.⁵⁵ Noise has potential to reduce the ability to detect prey by sound.⁵⁶
- Prairie falcon – Some evidence of susceptibility to noise disturbance, including fleeing parents knocking eggs from nest.⁵⁷
- LeConte’s thrasher – Susceptible to disturbance.^{58 59}
- Pallid bat and pocketed free-tailed bat - Noise has potential to reduce the ability to detect prey; research on bat response to noise detected changes in behavior, which reduced foraging opportunities.⁶⁰
- American badger – Somewhat tolerant of disturbance.⁶¹
- Bighorn sheep – Noise affected home ranges.⁶²

“Common” wildlife species identified as occurring in the Project area may also be affected by noise. Any effects of Project noise on these species may indirectly affect sensitive species populations (e.g., through reduction in prey resources). For example, research on desert kangaroo rats showed that these animals’ ability to detect predators at a distance via audition is significantly diminished for about three weeks after noise exposure.⁶³

The AFC has not demonstrated that Project noise will not have a significant adverse effect on wildlife species. As a result, additional information is required before this impact can be considered less than significant.

⁵⁵ Bates C. 2006. Burrowing Owl (*Athene cunicularia*). The Draft Desert Bird Conservation Plan: a strategy for reversing the decline of desert-associated birds in California. California Partners in Flight. <http://www.prbo.org/calpif/htmldocs/desert.html>

⁵⁶ Larkin R. 1996. Effects of military noise on wildlife: A literature review. USA CERL Technical Report [internet; cited 28 Sep 2008]. Available from: http://nhsbig.inhs.uiuc.edu/bioacoustics/noise_and_wildlife.pdf

⁵⁷ *Id.*

⁵⁸ California Wildlife Habitat Relationships System. 2005. California Department of Fish and Game. California Interagency Wildlife Task Group. CWHR version 8.1 personal computer program. Sacramento (CA).

⁵⁹ AFC, p. 5.6-12.

⁶⁰ Larkin R. 1996. Effects of military noise on wildlife: A literature review. USA CERL Technical Report [internet; cited 28 Sep 2008]. Available from: http://nhsbig.inhs.uiuc.edu/bioacoustics/noise_and_wildlife.pdf

⁶¹ California Wildlife Habitat Relationships System. 2005. California Department of Fish and Game. California Interagency Wildlife Task Group. CWHR version 8.1 personal computer program. Sacramento (CA).

⁶² Larkin R. 1996. Effects of military noise on wildlife: A literature review. USA CERL Technical Report [internet; cited 28 Sep 2008]. Available from: http://nhsbig.inhs.uiuc.edu/bioacoustics/noise_and_wildlife.pdf

⁶³ *Id.*

Data Requests

65. Please provide any scientific data supporting the conclusions that special-status species known to occur adjacent to the Project site will become accustomed to, and not adversely affected by, Project noise.
66. Please provide the mitigation measures for construction noise that cannot be found in Section 5.6.4 of the AFC, as indicated.⁶⁴

Background: COLLISION HAZARDS

The AFC indicates the receivers that are associated with the reflector bays may be used as perching sites for songbirds and raptors, but they are not expected to present a substantial collision hazard.⁶⁵ Furthermore, the 7.56-mile extension of the transmission line outside of the Project Site will not pose a collision hazard due to low use by sensitive species deemed most at risk for collision with transmission lines.

Avian collision with structures and power lines is a significant and ongoing problem in the United States. Collision with structures kills an estimated 550 million birds a year and power lines kill another estimated 130 million per year.⁶⁶ Avian mortality factors in power line collision have been summarized as the following:

“Factors that influence collision risk can be divided into three categories: those related to avian species, those related to the environment, and those related to the configuration and location of lines. Species-related factors include habitat use, body size, flight behavior, age, sex, and flocking behavior. Heavy-bodied, less agile birds or birds within large flocks may lack the ability to quickly negotiate obstacles, making them more likely to collide with overhead lines. Likewise, inexperienced birds as well as those distracted by territorial or courtship activities may collide with lines. Environmental factors influencing collision risk include the effects of weather and time of day on line visibility, surrounding land use practices that may attract birds, and human activities that may flush birds into lines. Line-related factors influencing collision risk include the configuration and location of the line and line placement with respect to other structures or topographic features. Collisions often occur with the overhead static wire, which may be less visible than the other wires due to its smaller diameter.”⁶⁷

⁶⁴ AFC. P. 5.6-18.

⁶⁵ AFC, p. 5.6-18.

⁶⁶ Erickson WP, GD Johnson, and DP Young. 2005. A Summary and Comparison of Bird Mortality from Anthropogenic Causes with an Emphasis on Collisions. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191.

⁶⁷ The Edison Electric Institute’s Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service, 2005, Avian Protection Plan (APP) Guidelines.

The AFC's assessment needs to address these three categories of factors before potential Project-related collision hazards can be inferred.

The AFC's conclusion that the transmission line will not pose a collision hazard due to low use by sensitive species deemed most at risk for collision with transmission lines is confusing and does not address the collision hazard for individuals not attempting to "use" it. Raptors and passerines, which are known to occur in the Project area, are especially susceptible to collisions with powerlines.⁶⁸ This includes horned larks, which constituted the majority of observed carcasses in one study.⁶⁹

Data Requests

67. Please discuss any Project-specific design measures that will be implemented to mitigate potential avian collision hazards with Project structures and the proposed transmission line.
68. Please clarify whether Suncatchers will reflect the surrounding landscape (especially when the sun is low on the horizon). If Suncatchers will reflect the landscape, discuss the potential for bird strikes (i.e., similar to what occurs with reflective windows) and any mitigation to reduce strike hazard.

Background: PROJECT COMPLIANCE WITH LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

The AFC indicates Project construction and operation will adhere to the laws, ordinances, regulations, and standards (LORS) pertinent to biological resources.⁷⁰ The BLM has approved and is implementing two habitat management plans that have jurisdiction over the Project vicinity.⁷¹ The AFC indicates these are the California Desert Conservation Area Plan (BLM 1980, as amended), and the Flat-Tailed Horned Lizard Rangewide Management Strategy (Flat-Tailed Horned Lizard Working Group 1997). The AFC concludes the Project is consistent with both of these BLM planning documents.⁷²

The AFC has not sufficiently demonstrated the Project will comply with all LORS. Specifically,

- I. According to the BLM, the Project will require an amendment to the California Desert Conservation Area Plan.⁷³

⁶⁸ Erickson WP, GD Johnson, and DP Young, 2005, A Summary and Comparison of Bird Mortality from Anthropogenic Causes with an Emphasis on Collisions. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191.

⁶⁹ *Id.*

⁷⁰ AFC, p. 5.6-23.

⁷¹ AFC, p. 5.6-25.

⁷² *Id.*

⁷³ BLM, California Desert District Office. News Release CA-CDD-09-10. Released on 17 Oct 2008. Available at: <http://222.energy.ca.gov/sitingcases/solartwo/>.

- II. The Desert Plan directed that habitat management plans be written for lands adjacent to Areas of Critical Environmental Concern (ACEC).⁷⁴ The Project site is located adjacent to an ACEC.⁷⁵ However, the AFC has not provided any information on an associated habitat management plan or the relationship between the proposed Project and any such management plan.
- III. BLM's participation in the 1997 Conservation Agreement provides flat-tailed horned lizard habitat outside of management areas (i.e., ACECs) with a degree of protection through mitigation and compensation. Specifically, the BLM has agreed to only authorize projects that provide effective mitigation and compensation (with compensation calculated in accordance with a standard formula).⁷⁶ The AFC has not demonstrated that the Project will comply with this requirement.
- IV. The AFC references the 1997 FTHL Rangewide Management Strategy instead of the more recent 2003 Strategy. The AFC needs to demonstrate it complies with the provisions of the current strategy.

Data Requests

69. Please provide a discussion of the Project's requirement to amend the California Desert Conservation Area Plan.
70. Please provide a discussion of the Project's compliance with any habitat management plan(s) prepared for site (as directed by FTHL Rangewide Management Strategy for lands adjacent to ACECs).
71. Please provide a discussion of how the Applicant will comply with the latest version of the FTHL Rangewide Management Strategy (i.e., provisions not present in the 1997 version). Please provide a mitigation and compensation plan that complies with guidelines presented in the 2003 Strategy.
72. Please discuss any anticipated indirect impacts of the Project on the bighorn sheep.

Background: IMPACTS TO WETLANDS

The AFC indicates the potential for Federal wetlands was evaluated based on the presence of wetland hydrology, wetland vegetation, and hydric soils pursuant to guidance from the Federal Manual for Delineating Wetlands (Corps 1987) as

⁷⁴ Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 80 pp. plus appendices.

⁷⁵ AFC, Review of Federal and State Surface Waters: Figure 1.

⁷⁶ Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 80 pp. plus appendices.

augmented by the Corps.⁷⁷ The Project team concluded the site does not exhibit features demonstrative of wetland hydrology, wetland vegetation, and/or hydric soils. Therefore, no wetland data points were selected and no wetland datasheets were recorded.⁷⁸

The AFC has not demonstrated the absence of wetland vegetation within areas that will be impacted by the Project. For example, the AFC indicates arrow-weed (*Pluchea sericea*), a Facultative Wetland species, occurs in areas along the canal and drain system, but not on the Project site.⁷⁹ However, the AFC's plant list indicates *Pluchea sericea* is present on the Project site.⁸⁰ Similarly, the AFC's plant list demonstrates other wetland indicator species are present on the site. For example, *Tamarix aphylla* (a Facultative Wetland species), *T. parviflora* (a Facultative species) and *T. ramosissima* (a Facultative species) occur on the site.⁸¹ These species are known to occur in features (including washes) where surface or subsurface water is available for most of the year.⁸²

Data Requests

73. Please provide information on the abundance and distribution of *Pluchea sericea* and *Tamarix* spp. within the site and discuss what actions were taken to determine whether their presence was indicative of a wetland feature.
74. Some species of *Eragrostis* and *Lepidium* are classified as wetland indicator species in California.⁸³ Please discuss why plants detected on-site and within these two genera were not identified to the species level (i.e., they were only identified to the genus level) and how they were determined to be upland indicator species.
75. Please provide the Wetland Delineation Report and results of the USACE verification.⁸⁴

⁷⁷ AFC, Review of Federal and State Surface Waters: p 3-3.

⁷⁸ *Id.*

⁷⁹ AFC, Review of Federal and State Surface Waters: p 2-1.

⁸⁰ AFC, Appendix Y: p. B-2.

⁸¹ US Fish and Wildlife Service. 1997. National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary, indicator by region and subregion. Available at: library.fws.gov/Pubs9/wetlands_plantlist96.pdf

⁸² Bossard CC, JM Randall, and MC Hoshovsky (eds.). Invasive plants of California's wildlands. University of California Press, Berkeley.

⁸³ US Fish and Wildlife Service. 1997. National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary, indicator by region and subregion. Available at: library.fws.gov/Pubs9/wetlands_plantlist96.pdf.

⁸⁴ SES Solar Two Response to CEC and BLM Data Request 1.

Background: OFFSITE WETLAND DELINEATIONS

The Applicant's response to CEC Data Request Set One includes a jurisdictional determination form, subject to Army Corps review, only for those potential jurisdictional wetlands located on the project site. No reference is made to potential jurisdictional wetlands located along the proposed 10-mile transmission line, the 7-mile water line, the access road, and for any other off-site areas impacted by the project. However, a Section 404 permit from the Army Corps may be required for these off-site areas. In addition, the Army Corps is required to grant a single Section 404 permit for the total project, and is prohibited from analyzing a unified project in discrete segments.

Data Request:

76. Please provide wetland delineations for all off-site areas to be impacted by the project.
77. Please provide a copy of all correspondence with the Army Corps regarding potential wetlands in these off-site areas.
78. Please provide a copy of the jurisdictional determination form provided to the Army Corps for these areas. If no jurisdictional determination from the Army Corps has been sought for these areas, please provide a copy of a statement from the Army Corps that it will not exercise jurisdiction over these off-site areas.

Background: INDIRECT AND CUMULATIVE PROJECT IMPACTS

CEC siting regulations require the AFC to provide a discussion of the expected indirect and cumulative impacts that would result from the Project. If indirect or cumulative impacts are potentially significant, the AFC must provide a discussion of how impacts will be mitigated.

The AFC provides virtually no discussion of indirect Project impacts on biological resources, and the discussion of cumulative impacts is extremely limited. With respect to the latter, the AFC acknowledges the Project would contribute to the loss and degradation of habitat, but concludes it would not contribute to a significant cumulative impact because it is outside of designated management areas.⁸⁵ This conclusion is based on circular reasoning, and it is critically flawed in part due to the interrelationship between indirect and cumulative impacts. That is, if the presence of designated management areas precludes cumulative impacts, but the Project indirectly impacts those management areas (which the AFC shows as being immediately adjacent

⁸⁵ AFC, p. 5.6-21.

to the Project area), then the value of management areas is diminished and cumulative impacts have been generated.⁸⁶

Data Requests

79. Please provide a discussion of expected indirect Project impacts on biological resources and the areas of environmental concern (i.e., management areas) adjacent to the Project.
80. Please provide a discussion of cumulative impacts that is based on valid deductive reasoning.
81. Please indicate the biological resources of management concern in the management areas depicted in Figure 1 of the AFC's *Review of Federal and State Surface Waters*. Please identify whether the Project has the potential to have an adverse effect on these biological resources of management concern (i.e., in addition to the already identified potential increase in raven abundance).
82. Please provide mitigation for any new, potentially significant indirect and cumulative Project impacts identified through consideration of the previous three data requests.

Background: CHARACTERIZATION OF BIOLOGICAL RESOURCES

Protocol survey guidelines have been developed for many taxa of management concern. The objective of these protocols is to ensure adequate data on occurrence and an accurate assessment of potential impacts. It appears that many of the surveys conducted for the Project did not follow established protocols.

Data Requests

83. Please provide the protocols that were used to survey for special-status plant and animal species in the Project area. For species that were not surveyed according to established protocol, please provide information on any correspondence with regulatory authorities that justify deviations from the protocols.
84. Please provide an evaluation of Project impacts to migrating birds, by migratory period (i.e., fall migration and spring migration). Please indicate the methods that were used in the evaluation, including any appropriately timed field surveys.
85. Please provide the results of any informal consultations with USFWS and CDFG on potential Project impacts to Federal or State listed species.

⁸⁶ AFC, Review of Federal and State Surface Waters: Figure 1.

Background: IMPACTS TO BIRDS FROM HEAT ENCOUNTERED

Fish and Game Code sections 3503.5 and 3513 do not allow “take” of birds-of-prey or migratory nongame birds. A 1986 study of avian mortality at a solar energy plant in the Mojave Desert concluded that the heat generated from the reflective surface of mirrors was high enough to kill birds.⁸⁷

The Project will develop 6,500 acres with 12,000 SunCatcher dishes in Phase I and 18,000 SunCatcher dishes in Phase II.⁸⁸ These dishes will cover large swathes of land with many rows of Suncatchers. The SunCatchers consist of an array of curved mirrors that, at 38 feet high and 40 feet across, track the sun to ensure that the sun is continuously focused on the dishes.⁸⁹ According to the AFC, several species of birds were observed within the project site study area.⁹⁰ However, the AFC failed to analyze potential impacts to birds from the heat that birds would encounter why flying between the SunCatchers.

Data Requests

86. Please provide a discussion of potential bird mortality from the heat generated by the Project’s collectors.
87. Please provide monitoring data from similar solar facilities.
88. If monitoring data is not available from similar facilities, please develop and describe a monitoring plan to analyze whether the heat will cause significant impacts to birds.
89. Please describe mitigation measures that the Project will employ to avoid impacts to birds from heat encountered while flying between the collectors and receivers.

Background: IMPACTS FROM PROJECT FENCING

The AFC states that a total of approximately 6,049 acres would be included within the fenced site.⁹¹ Fencing may restrict animal movement out of the Project site, including movement of special-status species such as the American badger. Animals trapped within the Project area may be subject to various types of direct and indirect mortality (e.g., collision with vehicles, loss of habitat). Similarly, fencing may serve as a barrier to animal movement into (or through) the Project site. This may result in impacts to species that require the Project site as habitat, or use it as a corridor for movement.

⁸⁷ McCrary, M. D., R. L. McKernan, R. W. Schreiber, W. D. Wagner, and T. C. Sciarrotta. 1986. Avian mortality at a solar energy power plant. *J. Field Ornithol.* 135-141.

⁸⁸ AFC p. 1-3.

⁸⁹ AFC p. 1-2.

⁹⁰ AFC p. 5.6-4 and 5.6-5.

⁹¹ AFC p. 5.6-1.

Data Requests

90. Please describe the type of fence that will be used and whether it will comply with the fence mitigation outlined in the Flat Tailed Horned Lizard Management Plan.⁹²
91. Please specify the timing of Project fence installation in relation to pre-construction surveys, proposed wildlife mitigation measures, Project construction, and any other Project activities that may affect resident wildlife species.
92. Please identify the wildlife species for which proposed fencing may act as a barrier.
93. Please identify potential impacts to biological resources from fencing.
94. Please discuss any measures that will be implemented to mitigate potential adverse impacts on biological resources from fencing.

⁹² Flat-tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-tailed horned lizard rangewide management strategy, 2003 revision. 80 pp. plus appendices.

WATER SUPPLY

Background: SEELEY WASTEWATER TREATMENT FACILITY

The water for the project is to be supplied by the Seeley Wastewater Treatment Facility. Currently, the Seeley Wastewater Treatment Facility is permitted to discharge a maximum of 250,000 gallons per day to the New River, a tributary to the Salton Sea. The Seeley Wastewater Treatment Facility has produced about 200,000 gallons of reclaimed water per day.⁹³

A National Pollutant Discharge Elimination System (NPDES) permit and Waste Discharge Requirements were established for discharge from the Seeley Wastewater Treatment Facility to the New River by the California Regional Water Quality Control Board (RWQCB), Colorado River Basin Region in 2007.⁹⁴ The Order referenced beneficial uses for the New River as established under the Basin Plan as follow:

- Fresh Water Replenishment of Salton Sea;
- Water Contact Recreation;
- Non-Contact Water Recreation;
- Warm Water Habitat;
- Wildlife Habitat; and
- Preservation of Rare, Threatened, or Endangered Species (RARE).

In the applicant's response to CEC Data Request 38, the applicant references a March 11, 2009 letter from the Seeley County Water District that commits them to provide up to 200,000 gallons of water per day (46 acre-feet per year), the historic production of the plant, to SES Solar Two.

As a result, treated wastewater discharge to the New River would be eliminated when discharge is routed wholly to SES Solar Two as would be necessary during construction which would require 132 acre-feet per year.⁹⁵ Even during operation, when water use is predicted to consume 43 acre-feet per year, discharge to the New River would be virtually eliminated.

According to our calculations, the current discharge of treated wastewater from the Seeley plant represents about 0.2% of the 200 ft³/sec flow of water in the New River

⁹³ In Response to CEC and BLM Data Requests 1-3, 5-10, 24-26, 31-33, 36-38, 44 and 11-127. March 19, 2009. p. SWR-9. http://www.energy.ca.gov/sitingcases/solartwo/documents/applicant/2009-03-23_Response_to_CEC_BLM_Data_Requests_TN-50625.pdf

⁹⁴ Waste Discharge Requirements for the Seeley County Water District, Seeley County Wastewater Treatment Plant. California Regional Water Quality Control Board, Colorado River Basin Region. Order No. R7-2007-0036, NPDES No. CA0105023. September 19, 2007. http://www.swrcb.ca.gov/rwqcb7/board_decisions/adopted_orders/orders/2007/07_0036seeley.pdf

⁹⁵ AFC, p. 4-30.

upstream from the Seeley Wastewater Plant⁹⁶ (200 ft³/sec x 1 gal/0.134 ft³ x 86,400 sec/day = 130 million gallons per day; discharge of 0.2 million gallons per day/ 130 million gallons per day = 0.16%).

The applicant's response to CEC Data Request 38 does not discuss the potential impact that would result from re-routing the treated wastewater on the beneficial uses of the New River, which includes fresh water replenishment of the Salton Sea. The response to Data Request 38 does not describe any communication with the RWQCB about the potential for re-routing the discharge to impact requirement of the NPDES permit and the waste discharge requirements.

Data Requests

95. Please provide an assessment of the reduced amount of discharge on the beneficial uses of the New River under construction and operation scenarios.
96. Please provide documentation of communication by Seeley County Water District with the RWQCB about any NPDES permit compliance issues that may result from re-routing treated wastewater discharge to the New River.

⁹⁶ Flow of New River at the California/Mexico Border from Wikipedia Last modified: April 4, 2009. [http://en.wikipedia.org/wiki/New_River_\(California\)](http://en.wikipedia.org/wiki/New_River_(California))

CULTURAL RESOURCES

Background: JUAN BAUTISTA DE ANZA NATIONAL HISTORIC TRAIL

Pursuant to the 1996 Management and Use Plan for the Juan Bautista de Anza National Historic Trail (“Bautista de Anza Trail”), the National Park Service, Pacific West Field Area (“NPS”), is charged with administering this historic corridor. This national trail right-of-way runs through the middle of the project site, and a significant portion of the project area is within this historic trail’s designated external boundaries. BLM manages these lands only; it has no discretionary approval authority over land use within the trail area. Pursuant to the 2006 Memorandum of Understanding 06-SU-11132424-196, among BLM, NPS, and other federal agencies (“Trail MOU”), the agency assigned by the Department of Interior to administer the trail – in this case, NPS – is responsible for resource protection.

Data Requests

97. Please provide a copy of all correspondence with NPS regarding the project’s impact on the Bautista de Anza Trail and/or pertaining to the permits and other approvals required from NPS for the project.
98. Please provide a copy of the application(s) to NPS for approval of the project as an activity within the Bautista de Anza Trail.
99. Please also provide a copy of all correspondence with any local, state, and federal agencies, including BLM, regarding the project’s potential impact on the Bautista de Anza Trail.

Background: NATIONAL TRAILS SYSTEM ACT

The National Trails System Act (“NTSA”) states that “[n]ational historic trails shall have as their purpose the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment.”⁹⁷ Because the project is incompatible with the purpose of the Bautista de Anza Trail, the trail must be relocated. The NTSA states that a “substantial relocation of the rights of way for such trail shall be by Act of Congress.”⁹⁸ All other right-of-way relocations are subject to the approval of NPS, as trail administrator.⁹⁹

⁹⁷ 16 U.S.C. 1241 at § 3(a)(3).

⁹⁸ NTSA § 7(b).

⁹⁹ Id.

Data Requests

100. Please describe proposed alternatives for the relocation of the Bautista de Anza Trail, including a description of all federal or private lands involved, and the ownership status of these private lands.
101. If these private lands are not owned by the Applicant, please provide a discussion of how rights over these lands have been or will be obtained. Please also describe the process that the Applicant will undertake if Congressional approval for this relocation of the Bautista de Anza Trail is required.

Background: ARCHEOLOGICAL SITES IN PROJECT VICINITY

The AFC states that the URS archaeological team identified 264 archaeological sites and isolated finds.¹⁰⁰ Due to the undisturbed nature of the area, the extremely high frequency of identified cultural resources on or adjacent to the proposed project site, and the potential for unidentified cultural resource sites, additional information is needed.

Data Requests

102. Please indicate whether the Applicant has been able to determine, subsequent to the filing of the AFC, that the Project would avoid any of the 264 archaeological sites and isolated finds, referenced in the AFC.¹⁰¹
103. If the Applicant has not been able to determine that the Project would avoid any of the 264 archaeological sites and isolated finds, referenced in the AFC, please recommend the California Register of Historic Resources (“CRHR”) eligibility of archaeological sites that cannot be avoided, based on extant surface observations or a further round of field observation.

¹⁰⁰ AFC p. 5.7-22.

¹⁰¹ Id.

TRANSMISSION PLANNING

Background: TRANSMISSION INTERCONNECTION

The AFC states that the Project will begin construction in late 2009 or early 2010.¹⁰² Although construction would take approximately 40 months to complete, renewable power would be available to the grid as each unit group is completed. The Project will be constructed in two phases.¹⁰³ Phase I will have a net nominal generating capacity of 300 MW. Phase II will expand the Project so that it will have a total net generating capacity of 750 MW. The project would include the construction of a new 230-kV substation approximately in the center of the project site, and would also be connected to the SDG&E Imperial Valley Substation via an approximate 10.3-mile, double-circuit, 230-kV transmission line. Other than this interconnection transmission line, no new transmission lines or off-site substations would be required for the 300-MW Phase I construction. The full Phase II expansion of the project will require the construction of the 500-kV Sunrise Powerlink transmission line project proposed by SDG&E.

The statements in the AFC do not appear to be a fair representation of the CAISO findings that are available publicly at the CAISO website.¹⁰⁴ Those ISO documents appear to indicate that delivery of the full output of both Phase I and Phase II would require a new 500/230 kV transformer at the Imperial Valley substation, as well as hundreds of MVar of new reactive capability. They also appear to indicate that delivery of the full capability of Phase II of SES would require a new transformer at the Sycamore Canyon substation, and reconductoring of the Sycamore-Chicarita 138 kV line. The questions below are intended to elucidate what the CAISO has actually told SES regarding interconnection requirements, whether the required facilities are part of the project for which a permit is being sought, and whether the required facilities will be available in a timely manner.

Data Requests (Phase I)

104. Please provide the completed SIS and FAS, and the executed Interconnection Agreement, for ISO queue project 78, the first 300 Mw of the SES project.
105. Please provide the expected interconnection date(s) to the CAISO grid for the first through 300th Mw of the SES #2 project.

¹⁰² AFC p. 1-3.

¹⁰³ *Id.*

¹⁰⁴ <http://www.caiso.com/202e/202e923d51d30.pdf> (regarding SES Phase I) and <http://www.caiso.com/202e/202e91f151400.pdf> (regarding Phase II).

106. If the expected interconnection date(s) to the CAISO grid for the SES #2 project is different from the 12/31/09 date shown for ISO queue project 78, please explain the basis for the difference(s).
107. Please provide copies of any communications between SES (or its affiliates, parent, or subsidiaries) and the ISO regarding the on-line date for SES and/or the interconnection date to the ISO for any part(s) of the SES project, whether part of ISO queue projects 78 or 124 or not.

Data Requests (Phase II)

Please provide the completed SIS and draft FAS, for ISO queue project 124, the next 600 Mw of the SES project after the first 300 Mw.

108. Please provide the expected interconnection date(s) to the CAISO grid for the 301st through 900th Mw of the SES #2 project.
109. If the expected interconnection date(s) to the CAISO grid for megawatts 301-900 of the SES #2 project are different from the January-March 2011 dates shown by the CAISO,¹⁰⁵ please explain the basis for the difference(s).
110. Please explain whether the ISO has been informed that SES is only seeking a CEC permit for a 750 Mw project, and not the 900 Mw requested by the combination of ISO queue requests 78 and 124. If the answer is yes, please explain how the size of ISO queue project 124 can be reduced by 25% (from 600 Mw to 450 Mw) without triggering a re-study under the ISO queue evaluation procedures.
111. Please identify all not-yet constructed transmission projects (such as the Sunrise Powerlink Project identified in the AFC) that would be part of the ISO grid or connected to the ISO grid which are not yet in service but are necessary to deliver generation from SES.
112. Please quantify how many Mw of SES project output will be deliverable to the ISO grid in the absence of the Sunrise Powerlink project.
113. Please quantify how many Mw of SES project output will be deliverable to the ISO grid in the absence of the new 500/230 kV transformer at the Imperial Valley substation identified as "IV Bank 82" in Table 13 on p. 32 of <http://www.caiso.com/202e/202e923d51d30.pdf>.

¹⁰⁵ <http://www.caiso.com/202e/202e91f151400.pdf>.

114. Please identify any additions to the current IID transmission system which will need to be in service in order to reliably deliver the full 750 Mw of SES generation to the ISO grid without impairing IID system reliability.
115. Please identify any additions to the current CFE transmission system which will need to be in service in order to reliably deliver the full 750 Mw of SES generation to the ISO grid without impairing CFE system reliability.
116. Please provide any studies other than those included in the SIS or FAS which address impacts on the IID and/or CFE systems from building and operating the full SES project.
117. Please explain how SES intends to address the various criteria violations and voltage support inadequacies identified by the ISO for Phase II of the SES project.¹⁰⁶
118. Please provide the schedule for construction of Bank 82 at the Imperial Valley Substation, taking into account the alleged 3-year period required for construction that is shown on the CAISO website.¹⁰⁷
119. The CAISO has indicated that the costs of the required reconductoring of the Sycamore-Chicarita 138 kV line from a 204 MVA rating to a 250 MVA rating will be largely included within SDG&E's Sunrise project. Please identify whether (and if so, where) the December 2008 CPUC decision approving Sunrise included any provision allowing or ordering SDG&E to re-conductor the Sycamore-Chicarita line to a 250 MVA rating.
120. To the extent SES is relying upon the Sunrise Powerlink project to enable delivery from SES Phase II, please provide the most recent schedule for Sunrise operation and indicate whether and how that schedule is consistent with the proposed SES schedule.
121. Please indicate whether the CAISO interconnection studies for SES Phase II (either the one at <http://www.caiso.com/202e/202e91f151400.pdf>, or any others) include a new 500 kV interconnection between SCE and SDG&E via the proposed "Lee Lake" substation.
122. To the extent the CAISO's interconnection studies for SES Phase II have assumed a new 500 kV line between SCE and SDG&E, please indicate whether

¹⁰⁶ See: <http://www.caiso.com/202e/202e91f151400.pdf>.

¹⁰⁷ <http://www.caiso.com/202e/202e91f151400.pdf>.

it will still be possible to deliver the full output of SES Phase II to SDG&E in the absence of that line, and provide any analyses which support your answer.

Background: SUNRISE DEIR/DEIS

The DEIR/DEIS for the Sunrise project contains extensive analysis of the likely environmental impacts of the SES project, and also contains proposed mitigation measures to address those impacts. For each of the categories of environmental impacts addressed in DEIR sections D.2 through D.15, there is a subsection addressing the impacts within that category due to “connected actions,” and the first subsection of that subsection deals specifically with SES. For example, section D.2.19.1 addresses biological impacts and mitigation for the SES project, section D.3.12.1 addresses visual impacts of the SES project, section D.4.12.1 addresses land use impacts of the SES project, and so on.

Data Requests

123. The DEIR/DEIS for the Sunrise project (California SCH #2006091071; DOI Control No. DES-07-58) describes the SES project as a “connected action” that is “likely to be built if the Sunrise Powerlink transmission line is constructed.”¹⁰⁸ The Sunrise DEIR/DEIS describes the SES project at pp. B-101 through B-111. Please identify any inaccurate or incorrect statements in the portions of the DEIR/DEIS describing the SES project.
124. For each section of the Sunrise DEIR/DEIS which specifically addresses impacts of the SES project:
 - a. Does the DEIR/DEIS have an accurate description of the SES impacts?
 - b. Please identify any inaccuracies in the Sunrise DEIR/DEIS.
 - c. Please indicate whether SES would agree to the proposed mitigation conditions contained in that section of the Sunrise DEIR/DEIS.
125. Please provide copies of any communications between SES (or its affiliates, parent, or subsidiaries) and either the BLM or the CPUC regarding:
 - a. The descriptions of SES in the draft Sunrise DEIR/DEIS.
 - b. The SES impacts described in the draft Sunrise DEIR/DEIS.
 - c. The proposed mitigation of SES impacts contained in the draft Sunrise DEIR/DEIS.
126. The AFC for the SES project is for a 750 Mw project. However, SDG&E has indicated (and the Sunrise DEIR/DEIS also indicates) that SES could be up to 900 Mw. Please provide a copy of the contract(s) with SDG&E to purchase

¹⁰⁸ Sunrise DEIR/DEIS, Executive Summary, Notice of Availability, p. 1.

generation from the SES project, including any approved or pending amendments. In responding to this request, prices may be redacted until such time as a mutually agreeable non-disclosure agreement is reached. Dates and schedules should not be redacted, nor should megawatt amounts, since they are both germane to the question of project size and timing, which is critical to analyzing the size and timing of environmental impacts.

VISUAL RESOURCES

Background: GLINT AND GLARE

The Project, when viewed from the south, is depicted to appear as below:



Figure 2. Photographic simulation of the proposed project after construction (AFC Figure 3-10C).

The AFC, in Section 5.13, provides simulated post construction views at five key observation points (KOPs). KOP #5 is located along Interstate 8 to the east of the project and is described as follows in the AFC:

KOP #5 represents the closest and most imposing view of the Solar Two Project of all KOPs; and

KOP #5 represents traveler views immediately adjacent to the Project. The potential for glint and glare from the mirrors at this location is higher than at the other KOP locations. However, due to the orientation of the mirrors, it is not anticipated that any distracting, blinding, or hazardous glint and glare effects will occur at this KOP location. Significant impacts to visual resources at this KOP are most likely to be related to the scale of Project features and the total area covered by the Project, while impacts resulting from glint and glare at this location are expected to be less than significant (p. 5.13-29).

The simulated view from KOP # 8 is as follows:



Figure 3. proposed view from KOP #5 (AFC Figure 5.13-26).

The simulated view at KOP #5 is not “immediately adjacent to the Project” as stated in the AFC (p. 5.13-29). The view from KOP #5 as measured on Figure 5.13-1 of the AFC is simulated from a vantage point located approximately 2000 feet to the east of the project site. We have prepared the figure below to depict the location of KOP #5. A location immediately adjacent to the project would be best represented from a location directly south of the Sun Catcher array as in the western portion of the project area where mirrors would be located within tens of feet from the Interstate 8 roadway (“recommended location”). We have reviewed the March 19, 2009 Draft Landscape Management Plan and have seen plans only for softening project features: no plans have been proposed to hide the solar array from passing motorists.¹⁰⁹

¹⁰⁹ Solar Two Draft Landscape Concept Plan. Prepared for: Stirling Energy Systems, Inc. Prepared by: URS. March 19, 2009, p. 1-2.

http://www.energy.ca.gov/sitingcases/solartwo/documents/applicant/2009-03-23_Draft_Landscaping_Plan_TN-50611.pdf

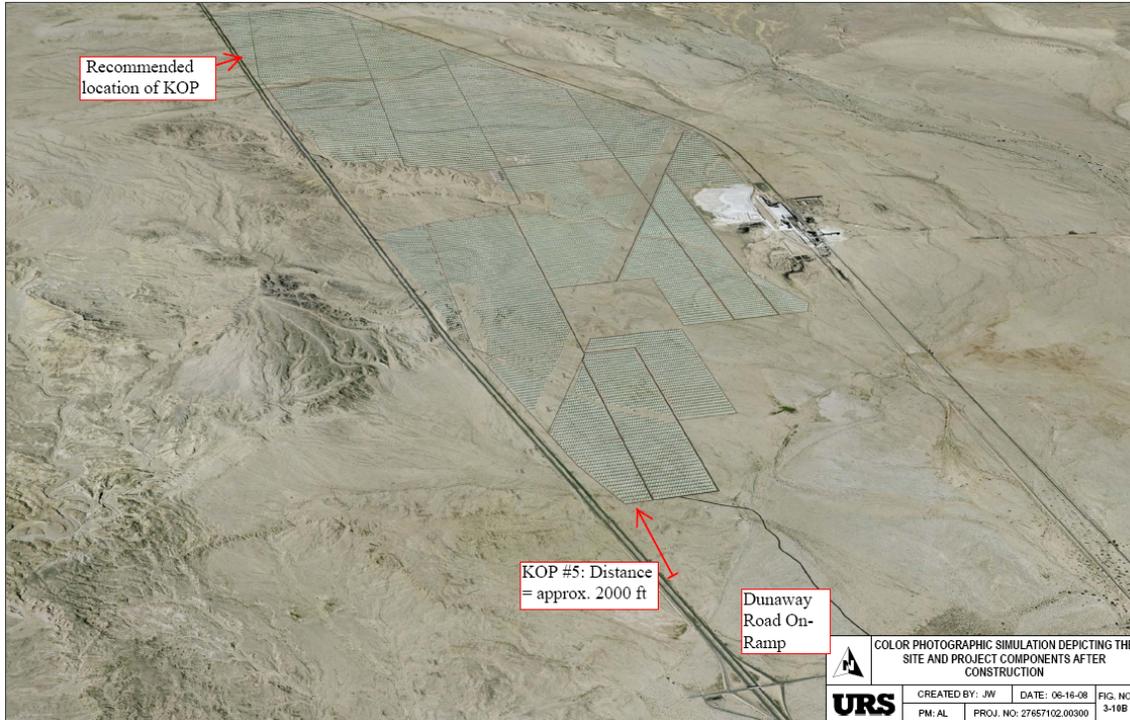


Figure 4. Recommend location of KOP and location of KOP# 5 (based on AFC Figure 3-10B).

Data Requests:

127. Please establish a key observation point directly south of the project near the western boundary where the mirror array will be closest to motorists and where, during mid-day low angle (winter) sun conditions, the potential for reflection and glint and glare would be greatest to passing motorists. Please provide simulations at the requested key observation point during different times of day and during different seasons to adequately predict impacts under a variety of conditions.
128. Please prepare a glint and glare study¹¹⁰ that would quantify the intensity of the reflected light on motorists, particularly horizontally directed glare at motorists during operation and during potential equipment maintenance and failure when mirrors may not be positioned at operational angles.
129. Please identify the graphics software and provide the data input files that were used for the Project's key observation point simulations.

¹¹⁰ See for example the Glint and Glare Study for the Carrizo Energy Solar Farm at http://www.energy.ca.gov/sitingcases/carrizo/documents/applicant/afc/supplement/CESF_Appendices_A-H.pdf

130. Please provide documentation of communication with Caltrans about the requested key observation point simulation and the requested glint and glare study for any input they may have about impacts of the project on passing motorists. If there has been no communication with Caltrans, please provide an explanation why not.

HAZARDOUS MATERIALS

Background: TRANSPORTATION AND STORAGE OF HYDROGEN GAS

A flammable gas, hydrogen, will be used in the Power Conversion Unit of the Stirling Cycle Engine as a working fluid. The AFC includes a discussion about the storage of hydrogen on site and the hazards associated with explosion from the use and storage of hydrogen for the Project.¹¹¹ A maximum of 100 k-bottles may be stored at the Main Services Complex at any one time. The total quantity of hydrogen storage onsite will be 6,319,600 million cubic feet or 32,862 pounds, which exceeds federal threshold quantities for risk management (above 10,000 pounds).¹¹²

Hydrogen cylinders will be stored outside and will be protected by bollards constructed of steel pipe filled with concrete.¹¹³ The AFC also states that the cylinders will be stored in a fenced area to protect against tampering and damage. The ambient temperatures in the storage area will not exceed 125 degrees Fahrenheit.¹¹⁴ The El Centro Fire Department will be called in the event of a fire or injury. An offsite consequence analysis was conducted for the storage and use of the hydrogen cylinders.

Data Requests

131. Please provide modeling and risk analysis data that has been performed to evaluate the potential impacts of transporting hydrogen for Project use.
132. Please explain how temperatures will be maintained 125 degrees Fahrenheit if the units are stored outside in the desert environment.
133. Please clarify whether bollards and fencing be used. Please provide a diagram and pictorial overview of the storage configuration.
134. Please provide any documentation of communication between SES Solar, LLC and the El Centro Fire Department concerning the hydrogen storage onsite.
135. Please provide a description of whether some of the El Centro Firefighters have special training and equipment to respond to a hydrogen explosion and related injuries.

¹¹¹ AFC p. 5.15-6.

¹¹² AFC p. 5.15-9.

¹¹³ Id.

¹¹⁴ AFC p. 5.15-7.

136. Please describe whether any modeling and analysis been done of onsite consequences for the use of hydrogen storage cylinders. If so, please provide the modeling and analysis.
137. Please provide documentation of communication with CalTrans concerning the transportation of hydrogen for the Project site.
138. Please explain whether any specific routes proposed for transporting hydrogen.
139. Please explain whether the Applicant considered avoiding highway segments located near sensitive receptors.

Background: PHASE I RECOMMENDATION

A Phase I Environmental Site Assessment (ESA)¹¹⁵ was prepared for the SES Solar Two site in March 2008 and was included as Appendix T to the AFC. When defining the boundaries of the project site, the Phase I ESA stated:

U.S. Gypsum Company (USG), a manufacturing facility of construction materials, is located adjacent to the central northern boundary of the site (p. 2-2).

As shown in the figure below, the USG plant is actually bordered on three sides by the project site.

¹¹⁵ Phase I Environmental Site Assessment: Solar Two Project Site, North And Adjacent To Interstate 8 at Dunaway Road, Plaster City, California 92259. Prepared for: SES Solar Two, LLC. Prepared by: URS. March 4, 2008. Included as Appendix T to the Application for Certification, June 2008. http://www.energy.ca.gov/sitingcases/solartwo/documents/applicant/afc/volume_02+03/

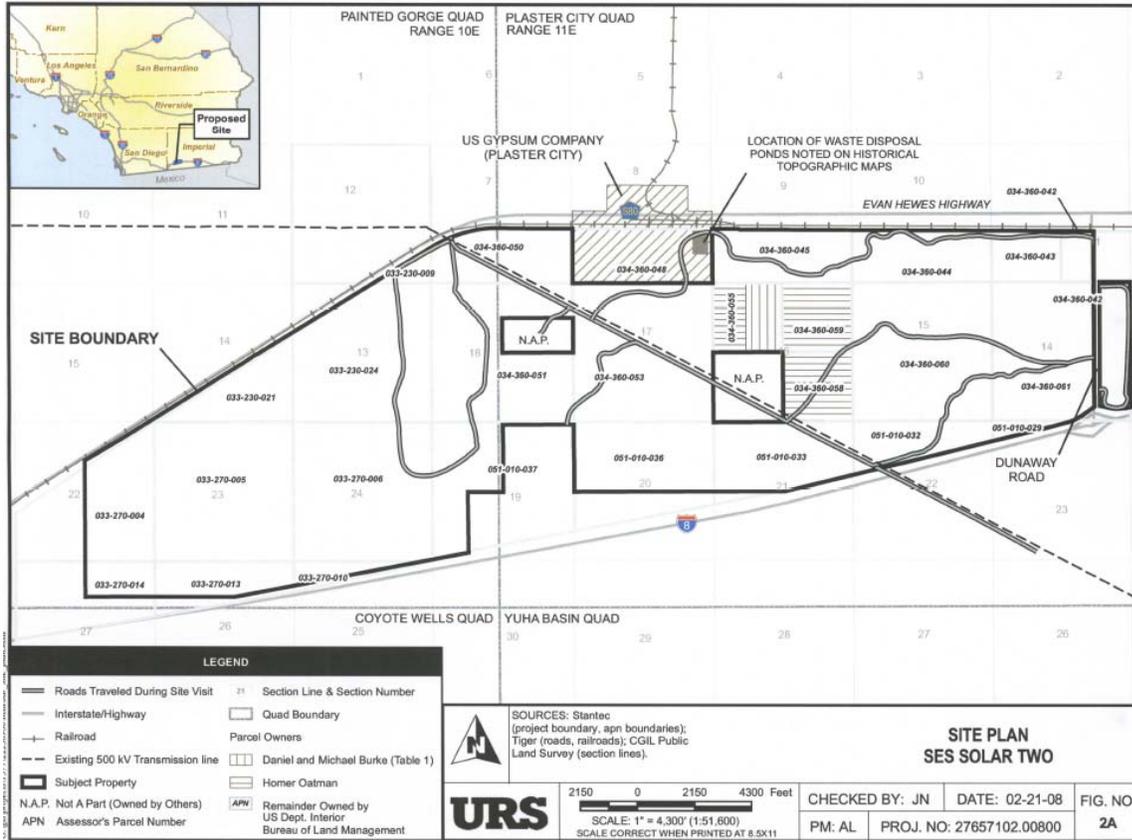


Figure 1. Site plan showing the location of the US Gypsum plant in relation to the SES Solar Two property (ESA Figure 2A).

The 2008 ESA refers to a Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) conducted in 2006 for the adjacent USG plant to describe operations at the USG facility:

[T]he USG facility has mined gypsum for the production of domestic building materials (wallboard, industrial and building plasters, raw gypsum products and stucco) since 1946 and gypsum has been mined at the Plaster City quarry since 1921. ... No specific plant operations regarding the use of hazardous materials or waste generation were addressed (p. 6-4).

The ESA identifies several waste disposal ponds on the USG property adjacent to the boundary it shares with the subject property and states that “potential overflow or leakage from the ponds on the USG facility appears to have potential to have entered or crossed a corner of the subject site.”¹¹⁶

¹¹⁶ ESA p. 4.2.

The ESA then concludes that

Based on the available information, URS considers the adjacent U.S. Gypsum Company plant to constitute a REC for the subject site.¹¹⁷

Finally, the ESA provides the following recommendation for further study at the USG facility:

One adjacent property, USG was identified as having potential to create a recognized environmental condition at the subject property. Further research of the operation of the USG facility is recommended to evaluate the potential for impact to soil or groundwater beneath a portion of the subject site.¹¹⁸

The AFC and supporting documents do not include a description of any further hazardous waste studies to have been conducted at the USG facility. The potential for contaminants to have flowed or blown onto the property may represent a potential health hazard for construction workers and for employees during operation of the project. Dust from the plant may affect operations of the SunCatchers.

Data Requests

140. Please provide all documents that may be available at regulatory agencies regarding the US Gypsum facility adjacent to the subject site that may include sampling data for soil, surface water and groundwater.
141. Please provide a detailed analysis and characterization of the type of waste disposed in the USG waste disposal ponds and the potential for contaminants to be present at the project site at concentrations that would pose a risk to human health. This discussion should include all sampling data collected at and in the vicinity of the ponds.
142. If documents described in Data Request 1 above cannot be provided that would adequately characterize the wastes disposed in the ponds and any resulting soil or groundwater contamination at the project site, please conduct an investigation as recommended in the Phase I ESA. Such an investigation should include groundwater, surface water, and soil sampling. We recommend any investigation be conducted under regulatory oversight.
143. Please provide the amount of particulate emissions and any other airborne emissions that will be generated by the US Gypsum plant and describe how these air emissions will affect the SunCatchers, especially the units nearest the plant.

¹¹⁷ ESA p. 6-4.

¹¹⁸ ESA p. 7-1.

Dated: April 6, 2009

Respectfully submitted,

/s/

Marc D. Joseph

Loulena A. Miles

Adams Broadwell Joseph & Cardozo

601 Gateway Blvd., Suite 1000

South San Francisco, CA 94080

(650) 589-1660 Telephone

(650) 589-5062 Fax

lmiles@adamsbroadwell.com

Attorneys for California Unions for Reliable
Energy

DECLARATION OF SERVICE

I, Bonnie Heeley, declare that on April 7, 2009, I served and filed copies of the attached CALIFORNIA UNIONS FOR RELIABLE ENERGY DATA REQUESTS, SET ONE, dated April 6, 2009. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: www.energy.ca.gov/sitingcases/solartwo. The document has been sent (1) electronically, and (2) via US Mail by depositing in the US mail at South San Francisco, California, with first-class postage thereon fully prepaid and addressed as provided on the attached Proof of Service list to those addresses NOT marked "email preferred." It was sent for filing to the Energy Commission by sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address shown on the attached Proof of Service list.

I declare under penalty of perjury that the foregoing is true and correct. Executed at South San Francisco, CA, this 7th day of April, 2009.

_____/s/_____
Bonnie Heeley

ROBERT B. LIDEN, EXECUTIVE VICE PRES.
SES SOLAR TWO LLC
2920 E. CAMELBACK RD., #150
PHOENIX, AZ 85016
rliden@stirlingenergy.com

KEVIN HARPER, PROJECT MGR.
SES SOLAR TWO LLC
2920 E. CAMELBACK RD. #150
PHOENIX, AZ 85016
kharper@stirlingenergy.com

ANGELA LEIBA,
SR. PROJECT MGR
URS CORPORATION
1615 MURRAY CANYON RD.,
#1000
SAN DIEGO, CA 92108
Angela_Leiba@urscorp.com

ALLAN J. THOMPSON, ESQ.
21 C ORINDA WAY #314
ORINDA, CA 94563
allanori@comcast.net

DANIEL STEWARD, PROJECT LEAD
BLM – EL CENTRO OFFICE
1661 S. 4TH STREET
EL CENTRO, CA 92243
Daniel_steward@ca.blm.gov

JIM STOBAUGH, PROJECT MGR
& NATIONAL PROJECT MGR
BUREAU OF LAND MANAGE-
MENT, BLM NEVADA STATE
OFFICE
PO BOX 12000
RENO, NV 89520-0006
Jim_stobaugh@blm.gov

JEFFREY D. BYRON
COMMISSIONER/PRESIDING MEMBER
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814
jbyron@energy.state.ca.us

JULIA LEVIN
COMMISSISONER/ASSOCIATE MEMBER
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814
jlevin@energy.state.ca.us

RAUL RENAUD,
HEARING OFFICER
CALIFORNIA ENERGY
COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814
rrenaud@energy.state.ca.us

CARYN HOLMES, STAFF COUNSEL
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814
cholmes@energy.state.ca.us

CHRISTOPHER MEYER, PROJECT MGR
CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814
cmeyer@energy.state.ca.us

PUBLIC ADVISER
CALIFORNIA ENERGY
COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814
publicadviser@energy.state.ca.us

PAUL F. FOLEY
PFOLEY@ADAMSBROADWELL.COM
(EMAIL ONLY)

CALIFORNIA ENERGY COMMISSION
ATTN DOCKET NO 08-AFC-5
1516 NINTH STREET
SACRAMENTO, CA 95814
docket@energy.state.ca.us

CALIFORNIA ISO
E-RECIPIENT@CAISO.COM
(EMAIL ONLY)