CALIFORNIA ENERGY COMMISSION
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October 22, 2009

Mr. Emiliano Garcia Sanz
Abengoa Solar Inc.
11500 W 13th Ave.
Lakewood, CA 80215

DOCKET
09-AFC-5
DATE OCT 22 2009
REC'D OCT 22 2009

RE: ABENGOA MOJAVE SOLAR (09-AFC-5)
DATA REQUEST SET 1 (nos. 1-93)

Dear Mr. Garcia:

Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks 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 set of data requests (nos. 1-93) is being made in the areas of Air Quality (nos. 1-39), Alternatives (nos. 40-47), Biological Resources (nos. 48-74), Geological Hazards (no. 75), Hazardous Materials (nos. 76-77), Land Use (nos. 78-82), Public Health (nos. 83-88), Reliability (no. 89), Transmission System Engineering (nos. 90-91), Worker Safety and Fire Protection (nos. 92-93) and Attachment 1. Written responses to the enclosed data requests are due to the Energy Commission staff on or before November 23, 2009, or at such later date as may be mutually agreeable.

A second data request set is currently being prepared and will be submitted at a later date. This second data request set will include data requests for Cultural Resources, Soil and Water Resources, Visual Resources, Visual Plume and Waste Management.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to both the Committee and me within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, and the grounds for any objections (see Title 20, California Code of Regulations, Section 1716 (f)).

PROOF OF SERVICE (CREATED 10/21/09) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 10/22/09
AA

If you have any questions, please call me at (916) 654-4781 or email me at choffman@energy.state.ca.us.

Sincerely,

Original signed by:
Craig Hoffman
Project Manager

Enclosure

Technical Area: Air Quality
Author: Tao Jiang and William Walters

BACKGROUND: BASELINE SITE CONDITIONS

In order to evaluate the air quality impacts from this project the baseline conditions of the project need to be understood.

DATA REQUESTS

1. Please describe the types of activities that currently emit combustion and fugitive dust emissions on the site and the quantities of those emissions that occur from those activities.

2. Please describe whether those activities will be permanently discontinued when the project is completed and estimate the reductions from the current onsite baseline emissions.

BACKGROUND: FUGITIVE DUST EMISSIONS ESTIMATION – MRI CALCULATION PROCEDURE

The Application for Certification (AFC) uses a simplified construction fugitive dust emission calculation procedure from a study that is not supported for use by the South Coast Air Quality Management District (SCAQMD) who funded the study. Staff prefers a fugitive dust calculation that estimates emissions based on the site specific construction activities, and other specific factors such as actual soil silt content, at the site. The Midwest Research Institute (MRI) study that is used as a reference provides several methods, or levels, for calculating emissions based on the extent of available construction detail. Staff needs the applicant to explain the specific emission factor approach, or the MRI level, that was selected in order to ensure that this calculation basis does not significantly underestimate or significantly overestimate the fugitive dust emission potential during construction.

DATA REQUEST

3. Please explain the MRI level 2 fugitive dust emission calculation approach and provide information that clearly shows that this emission estimation method does not significantly underestimate or overestimate emissions in comparison with a calculation approach for fugitive dust emissions based on a more detailed activity by activity analysis.

BACKGROUND: FUGITIVE DUST EMISSIONS ESTIMATION – EMISSIONS FROM WIND EROSION

The AFC does not appear to provide wind erosion fugitive dust emissions from the large amount of disturbed land during operation. Staff believes that this emission source, if greater than background site conditions, needs to be included in the operation emissions estimate and be included in the operations dispersion modeling impact analysis.

DATA REQUEST

4. Please indicate the increase or decrease in the acreage of non-stabilized disturbed land within the project site during operation and estimate the corresponding increase in wind erosion fugitive dust emissions at the site.

BACKGROUND: FUGITIVE DUST UNPAVED ROAD EMISSIONS CALCULATIONS

The emission calculations in Appendix Table C.1-7 assume a very low silt content (silt content value of 5.3 percent) during operation without an explanation of how this will be ensured considering that the limited sieve data in Appendix B of the AFC shows that near surface silt content averages approximately 14 percent. Staff needs additional information that supports the lower silt content value used in the calculations, or needs the construction and operation fugitive dust emission calculations to be revised, as appropriate, to incorporate a defensible site specific soil silt content value.

DATA REQUESTS

5. Please identify if the applicant is willing to stipulate to graveling the onsite unpaved roads during construction before they are sealed to reduce the silt loading, or provide additional surface soils sieve data that shows that the 5.3 percent silt content assumption is representative of the site.

6. Please revise the fugitive dust calculations to reflect the available on-site surface/near surface silt content data.

7. Please revise the fugitive dust emission calculations to reflect the operations mitigation measure of stabilizing the onsite unpaved roads using durable non-toxic soil binders.

BACKGROUND: CONSTRUCTION – OFF-ROAD VEHICLE USE AND EMISSION CALCULATION ASSUMPTIONS

Staff has questions regarding the emission calculation assumptions for the off-road vehicles to be used during construction. Some of the assumptions used and units provided in the Appendix C.5 tables are unclear. Additionally, the worst-case daily emissions for the off-road equipment appear to be very low in comparison with other large solar projects and the daily construction schedule is much longer than average (20 hours per day). Staff needs additional information to verify the applicant's construction emission calculations and resulting dispersion modeling impact assessment.

DATA REQUESTS

8. Please provide the electronic versions of the emission spreadsheets with the embedded calculations.

9. Please identify the units for the values provided in the "Number Used Each Month" column in Table C.5-6. Please note that using the apparent meaning of the column staff cannot match the total horsepower hours calculated for each equipment type.

10. Please provide the original equipment usage estimates provided by the applicant to the applicant's air quality consultant.

11. Please indicate if a 20 hour/day construction schedule, as modeled, is feasible given potential noise impacts to the adjacent residences, and local noise standards/limits.

12. Please re-evaluate the off-road equipment schedule to provide a corrected worst-case, not average case, daily onsite emissions estimate.

BACKGROUND: CONSTRUCTION EMISSIONS - ON-ROAD VEHICLE USE ASSUMPTIONS

Staff has questions regarding the validity of the vehicle use assumptions in the construction emission estimate. The information provided by the applicant in the AFC is not adequate to complete an assumption validity review. Staff needs more information regarding the categorized trip and emission estimates for different types of vehicles, including heavy duty delivery trucks, light service and delivery trucks, personal vehicles and buses, etc. For example there is a very large number of cement truck trips, assumed to mean concrete truck trips, that seems unreasonably high, while there are no trips identified for the transport of vast amount of structural steel and other Solar Collector Array (SCA) structural components.

The AFC does not provide backup on the methods used to estimate the paved and unpaved road trip distances used in the emission calculations. The assumed trip length values are critical to the PM10 and PM2.5 emission estimates for construction. Additionally, the fugitive dust emissions calculations only include the calculations of 1 mile of paved road travel. Staff needs the emission estimates for the entire set of round trips including unpaved road travel necessary for site construction. Finally, the construction traffic assumptions indicate all traffic emanates out of Barstow. Staff needs to confirm the validity of this assumption. Staff needs more information to confirm that the assumptions used do not underestimate or overestimate the paved and unpaved travel required for construction and the corresponding fugitive dust emissions estimates.

Please note that staff believes the trip lengths for the delivery vehicles and construction employee vehicles/buses to be underestimated. It seems unlikely that Barstow would be the origination point for major equipment items (SCAs, structural steel, etc.), and unlikely that Barstow has the population base to staff the hundreds of construction employees necessary.

DATA REQUESTS

13. Please describe how the trip distance assumptions for construction were determined for each vehicle type/use.

14. For each of the construction materials delivery/waste removal truck trip types, please provide the following information:

    A. The types and quantities of construction materials delivered to the site and wastes hauled from the site,

    B. The types of delivery trucks that will be used to deliver these materials,

    C. The number of delivery trucks on a daily basis for each of these materials, and

D. The number of miles traveled round trip daily for each vehicle used for project construction within the Mojave Desert Air Quality management District (MDAQMD) jurisdictional portion of San Bernardino County, for each of these materials.

15. Please include the personal vehicle trip mileage, necessary for construction employees to get to the assumed construction employee busing locations, in the construction emission estimate.

    A. Please estimate the on-site whole round trip travel including unpaved road travel and corresponding emissions for all on-road construction vehicles, including heavy duty delivery trucks, light service and delivery trucks, personal vehicles and buses, etc. necessary to complete the construction activities throughout the project site.

    B. Please correct, based on revisions to the round-trip distance assumptions, the on-road (paved and unpaved) vehicle tailpipe and fugitive dust emissions.

16. Based on any revisions in the calculations of vehicle types, number of vehicles and vehicle miles traveled within the MDAQMD jurisdictional portion of San Bernardino County completed for the above data requests, please provide the revised criteria pollutant and Greenhouse Gas (GHG) emissions associated with these vehicle emissions.

BACKGROUND: CONSTRUCTION EMISSIONS DISPERSION MODELING

The applicant's construction emissions dispersion modeling uses the same small area sources for both short-term and long-term modeling. However, construction over a year should include emissions over a much larger area of the site than is modeled. Therefore staff needs the applicant to either explain the rationale for the location of the volume sources and extent of the area sources used in the annual impact modeling for construction, or provide a revised analysis that includes a reasonable and conservative set of volume and area source locations that would correspond to annual construction.

DATA REQUEST

17. Please explain the rationale as to why the locations for the volume and area source emission inputs did not change from short-term to annual modeling, or please provide annual construction modeling that matches the extent of annual construction activities.

BACKGROUND: OPERATING EMISSIONS – ON-SITE VEHICLE USE ASSUMPTIONS

Staff cannot determine how the number of on-site operating vehicles and their daily use, as presented in Appendix C.1 Table C.1-7 and Support Data for Table C.1-7, were derived. Staff needs to understand these variables to ensure that the operating emissions are adequately determined.

DATA REQUESTS

18. Please describe the assumptions used to determine the number of operating maintenance vehicles, maintenance schedule and their daily paved and unpaved vehicle miles traveled.

19. A. Please describe in detail the specific design of the diesel-fueled trucks which will be used for cleaning the SCAs.

    B. Describe whether water will be towed behind the vehicle, or whether the trucks will carry the water and the cleaning apparatus equipment will be attached to the water tanks on the vehicles.

20. Please describe the SCA washing requirements including:

    A. How the SCAs are washed, both for normal and mechanical washes;

    B. Time of day for washing;

    C. How the washing frequency is determined;

    D. How long it takes each SCA row, or other specified length of SCA, to be washed;

    E. The amount of SCAs that can be washed per hour or shift for each mirror washing tanker truck crew;

    F. The size of each wash crew; The assumed frequency for SCA washing over the course of a month and year, and

    G. The basis for this frequency including assumptions for seasonal weather variation.

BACKGROUND: OPERATING EMISSIONS - VEHICLE EXHAUST EMISSIONS AND MITIGATION MEASURES

Staff is concerned that the criteria pollutant air quality benefit of the proposed project's solar energy production is being partially offset by the unmitigated maintenance vehicle emissions. Additionally, the emission factors assumed in the applicant's emission calculations appear to be overly conservative as staff will recommend a condition requiring that all site dedicated vehicles be new model year vehicles, which meet model year California emission standards, at their time of purchased/lease/etc. Additionally, staff needs to understand what additional dedicated onsite vehicle mitigation the applicant would be willing to stipulate to, assuming such mitigation is available and cost effective.

DATA REQUESTS

21. Please revise the emissions calculations for the onsite dedicated vehicle exhaust emissions assuming only new model year vehicles are used.

22. A. Please identify if the applicant would be willing to stipulate to a condition of certification that would require a review of available alternative low-emission vehicle technologies, including electric and hydrogen fueled vehicles.

    B. Discuss the feasibility (i.e., availability and cost) of using the above, or other low emissions technologies to replace the diesel and gasoline fueled vehicles proposed for operations maintenance if lower emission alternative technology vehicles become available.

    C. If the alternative vehicles are used, please indicate the associated fueling logistics.

BACKGROUND: OPERATIONS EMISSIONS – OFFSITE VEHICLES

The applicant has not provided an emission estimate that includes the offsite vehicle use during the operations phase, such as heavy duty delivery and waste haul trucks, light service and delivery trucks, and personal vehicles, etc. Staff needs the applicant to estimate the offsite trips and provide corresponding emission estimates.

DATA REQUESTS

23. Please estimate the whole round trip travel including any onsite unpaved road travel.

24. Provide an itemized list indicating the type, number, and purpose of offsite vehicles expected to be used.

25. Provide corresponding criteria pollutant and GHG emissions for all offsite operational vehicle trips, including heavy duty delivery and waste haul trucks, light service and delivery trucks, and employee personal vehicles.

26. Please provide rationale for the round trip distances selected for each trip type.

BACKGROUND: COOLING TOWER EMISSIONS ESTIMATE

The cooling tower emission estimate appears to use inappropriate assumptions that have led to an unrealistically low result. First, the calculation uses an inappropriate reference to assume 31 percent of the recirculating flow produces drift, which is not a factor in the calculation. This calculation should assume that the high efficiency drift eliminator reduces drift to 0.0005 percent of the recirculating water flow based on the vendor guarantee, regardless of the initial drift percentage.

Second, an inappropriate Air Resources Board (ARB) factor is used to assume that only 60 percent of the PM10 emissions are PM2.5. This assumption comes from the ARB California Emission Inventory Development and Reporting System (CEIDARS) database “unspecified” category that has not been rigorously determined to be appropriate or technically justified for cooling tower use. Staff believes that all particulate from cooling tower drift should be assumed to be both PM10 and PM2.5. Staff needs the applicant to revise the cooling tower emission calculations and determine if any additional MDAQMD regulations would apply based on the increase in calculated cooling tower emissions.

DATA REQUESTS

27. Please recalculate the cooling tower particulate emissions using the mist eliminator drift guarantee of 0.0005 percent of recirculating water flow, and with the assumption for worst-case emission impacts estimating purpose that all particulate emissions are both PM10 and PM2.5.

28. Please identify any changes in MDAQMD rule applicability and rule compliance based on the revised cooling tower particulate emission levels.

BACKGROUND: OPERATIONS EMISSIONS DISPERSION MODELING

The applicant's operations emission dispersion modeling only includes modeling of the stationary emission components of the project. The on-site project emissions also include ongoing maintenance activities that will last the life of the project. Staff requires that the applicant model these emissions to determine the total operation impacts from the proposed project.

DATA REQUEST

29. Please provide a revised operations modeling analysis, which includes all on-site operations emission sources including the facility operations maintenance emissions and fugitive dust emissions as well as any revisions to the onsite operation emissions determined through the response to the other air quality data requests.

BACKGROUND: EMISSIONS OF VOLATILE ORGANIC COMPOUNDS (VOCS) FROM THE HEAT TRANSFER FLUID (HTF) - EMISSION CONTROLS AND EMISSIONS ESTIMATE

The heat transfer fluid (HTF) Therminol® venting emissions for this project appear very high in comparison with other proposed solar trough projects using Therminol® (Beacon, Blythe, Palen, and Ridgecrest), primarily due to the fact that this project, unlike the other four projects, is not proposing add-on controls to reduce the HTF vent emissions. Staff believes that HTF vent controls, similar to those included in the project design of the other four proposed solar trough projects, are reasonable and need to be added to control the HTF expansion system VOC emissions for this project. Additionally, the HTF VOC emissions estimate does not include the piping component HTF leakage and resulting fugitive VOC emissions.

DATA REQUESTS

30. Please identify whether the applicant is willing to stipulate to the incorporation of a carbon adsorption, or other VOC control system, to control VOC emissions from the HTF expansion system venting by at least 98 percent. If unwilling to stipulate to this condition, please identify the basis for this position.

31. Please estimate the piping component HTF leakage and resulting fugitive VOC emissions, including providing a piping component count.

BACKGROUND: GREENHOUSE GAS ANALYSIS

Sulfur hexafluoride (SF_6) is one of the most potent greenhouse gases (GHG). SF_6 is often used for insulating and cooling of electrical equipment such as transformers and switchgear. The project is identified to have a significant number of electrical equipment that could use SF_6. While some of the electrical equipment is noted to be air cooled, the AFC GHG analysis does not include comprehensive information for all electrical equipment regarding if or how much SF_6 would be used. Staff needs to understand if SF_6 is a potential GHG emission from this project and the emission inventory of SF_6.

DATA REQUEST

32. Please provide an estimate of the SF_6 onsite inventory and leakage emissions both in operation and construction phases to complete the GHG emission estimates.

BACKGROUND: NATURAL GAS AND PROPANE USE

The AFC provides conflicting information on natural gas and propane use. Staff needs additional information to understand the explicit operational uses for each of these two fuels.

DATA REQUESTS

33. A footnote to AFC Table 5.2-1 notes that the annual boiler fuel use in that table is based on 4,380 hours of operation at 50 percent load. Please confirm that the footnote is incorrect and the fuel use basis is in fact, consistent with the emission calculations, based on full load operation.

34. Table 5.2-10 notes that propane will be the fuel used in the boiler while in other areas, such as Sections 2.1 and 2.5, it seems clear that natural gas will be the boiler fuel. Please confirm the primary fuel type proposed for the boiler, Please also indicate if there will be a backup fuel source and the expected frequency of backup fuel use.

35. Table 5.6-3 indicates that there will be 5,000 gallons of propane storage at the facility.

    A. Please indicate all of the equipment that will use propane;

    B. The annual estimate of propane use; and

    C. Estimate the criteria pollutant and GHG emissions from propane use.

BACKGROUND: GASOLINE STORAGE

The AFC does not show any gasoline storage for operations, but the AFC shows that a number of dedicated site vehicles will be gasoline fueled. Staff would like to confirm that the applicant does not plan to store gasoline at this relatively remote site.

DATA REQUESTS

36. Please confirm that there will be no gasoline storage at the site and that either fuel/lube trucks will be used for onsite refueling or vehicles will have to drive to the nearest gasoline station, which is over 30 miles from the site, to refuel. If gas

storage is used at the site, please provide information for any proposed onsite gasoline storage including throughput information and permitting requirements.

37. Please indicate if the additional fuel/lube truck mileage or gasoline vehicle mileage required for refueling is considered in the total vehicle miles estimates and emissions estimates, or please correct the estimates accordingly.

BACKGROUND: CUMULATIVE IMPACTS ANALYSIS

The applicant states that a cumulative impacts analysis is not necessary, which has not been adequately established. Staff needs the cumulative modeling analysis to complete the staff analysis for cumulative air quality impacts.

DATA REQUEST

38. Please provide a cumulative air quality impacts analysis, or information from the MDAQMD that indicates that there are no other proposed projects within six miles of the proposed project site which have received construction permits but are not yet operational, or are in the permitting process.

BACKGROUND: AIR QUALITY PERMIT APPLICATION PROCESS

A Determination of Compliance (DOC) analysis from the MDAQMD will be needed for staff's analysis. Staff will need to coordinate with the applicant and MDAQMD to keep apprised of any air quality issues determined by during MDAQMD's permit review.

DATA REQUESTS

39. Please provide copies of any official submittals and correspondence to or from the District within 5 days of their submittal to or their receipt from the District.

Technical Area: Alternatives
Author: Suzanne Phinney (CEC)

BACKGROUND

In AFC Section 4.4.2 on page 4.0-5, Project Site Area Alternatives, six site locations are identified as possible alternatives to the proposed project. The site locations are described as follows:

- Superior Dry Lake – U.S. Bureau of Land Management (BLM), U.S. Department of Defense (DOD) and private land in the vicinity of Superior Dry Lake
- Coyote Dry Lake – BLM and private land in the vicinity of Coyote Dry Lake
- Bristol Dry Lake – BLM property near Bristol Lake
- Imperial Valley – Private property south of the Salton Sea
- Imperial Valley East – BLM property east of Imperial Valley
- Northwest of Blythe – BLM property northwest of Blythe

These very general location descriptions do not allow staff to confirm the size of the site, land ownership, location of existing and projected transmission lines, and environmental suitability, among other attributes (see Data Request 42).

DATA REQUEST

40. In order to facilitate preparation of the SA document and allow further analysis and comparison of the project site with alternative sites, please provide the exact locations of the six alternative sites (Township/Range/Section and/or parcel numbers).

41. Please identify the size (total acreage) and dimensions of each alternative site.

42. Please indicate the number of individual landowners comprising ownership of the Superior Dry Lake, Coyote Dry Lake, and Imperial Valley East sites, and the acreage of each separate parcel and landowner.

43. For BLM-administered land, please indicate if the BLM has received a right-of-way application for use of any of the alternative sites on BLM land.

BACKGROUND

The discussion of environmental impacts associated with each alternative site (AFC Table 4-2, pages 4.0.5 and 4.0.6) is very limited and focused solely on whether the site is disturbed or not. The environmental suitability of a site encompasses many more attributes. Section 4.2.2, page 4.0-2, identifies the issues with the greatest potential for impacts that were used as a basis for alternatives screening as: biological, cultural and paleontological resources; water resources; traffic and transportation; and visual resources. Other than the limited reference to biological resources in Table 4-2, the other issue areas are not discussed or referenced.

The environmental community has recently developed renewable siting criteria to provide ecosystem level protection to the California Desert Conservation Area (CDCA). A list of participants and siting criteria is included as Attachment 1 to the data requests. In general, the criteria gives preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. Understanding how the project site and the alternative sites compare in terms of these criteria will help determine the appropriateness of both the proposed project site and the alternative site locations identified in Section 4.4.2.

DATA REQUEST

44. Please provide information on the biological, cultural, paleontological, water resource, traffic and transportation and visual resource attributes/impacts of each alternative site and how this information was used as a basis for alternatives screening.

45. Please fill in Table 1 below to compare the alternative sites with the proposed project.

BACKGROUND

In AFC Table 4-2, the solar resource for the Imperial Valley East and Imperial Valley East sites is identified as marginal but no values are provided. Without more information, staff cannot verify this statement or compare solar insolation among the sites.

DATA REQUEST

46. Please identify the solar insolation for each of the six alternative sites, as well as for the proposed site.

BACKGROUND

In AFC Table 4-2, the reasons for dropping the six alternative sites are presented. The Imperial Valley site, like the proposed project site, is disturbed and the AFC states that there would be no environmental advantage to selecting the Imperial Valley site over the proposed site. Without more information, staff cannot evaluate and verify this statement.

DATA REQUEST

47. Please provide the results of a California Natural Diversity Data Base (CNDDB) search for the Imperial Valley alternative site.

Alternatives Data Request – Table 1

Environmental Criteria	Proposed Project Site	Superior Dry Lake Site	Coyote Dry Lake Site	Bristol Dry Lake Site	Imperial Valley Site	Imperial Valley East Site	Northwest of Blythe Site
Is site mechanically disturbed?							
Is site located adjacent to degraded and impacted private lands?							
Is site a Brownfield?							
Is site located adjacent to urbanized areas (indicate distance)?							
Does site require the building of new roads (indicate length)?							
Could site be served by existing substations (indicate name and distance)?							
Is site located proximate to sources of municipal wastewater (indicate name and distance)?							
Is site located proximate to load centers (indicate name and distance?)							
Is site located adjacent to federally designated corridors with existing transmission lines?							

Environmental Criteria	Proposed Project Site	Superior Dry Lake Site	Coyote Dry Lake Site	Bristol Dry Lake Site	Imperial Valley Site	Imperial Valley East Site	Northwest of Blythe Site
Does site support sensitive biological resources, including federally designated and proposed critical habitat; significant populations of federal or state threatened and endangered species, significant populations of sensitive, rare and special status species and rare or unique plant communities?							
Is site within an Area of Critical Environmental Concern, Wildlife Habitat Management Area, proposed HCP and NCCP Conservation Reserves?							
Does site contain land purchased for conservation including those conveyed to BLM?							

Environmental Criteria	Proposed Project Site	Superior Dry Lake Site	Coyote Dry Lake Site	Bristol Dry Lake Site	Imperial Valley Site	Imperial Valley East Site	Northwest of Blythe Site
Does site contain landscape-level biological linkage areas required for the continued functioning of biological and ecological processes?							
Is the site within Proposed Wilderness Area, proposed National Monuments, and Citizens' Wilderness Inventory Areas?							
Does the site contain wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands?							
Is the site a National Historic Register eligible site and does it contain other known cultural resources?							
Is the site located directly adjacent to National or State Park units?							

Technical Area: Biological Resources
Author: Heather Blair

BACKGROUND

Potentially jurisdictional waters of the U.S and State were identified within the proposed project area. In order to assess potential impacts to these resources, staff requires the following information.

DATA REQUESTS

48. Please provide the jurisdictional delineation report, referenced in the AFC as EDAW 2009d, Mojave Solar Project Jurisdictional Letter Report. June 2009.

49. Wetland delineation maps in Data Adequacy Supplement Attachment D, show 2.02 acres of potential State-jurisdictional waters (riparian extent; tamarisk scrub) occurring in the proposed project area; this is contradictory to the 1.74 acres presented in Table 5.3-8 of the AFC. Please explain this discrepancy and provide an updated Table 5.3-8 (and Table 5.3-7) and/or wetland delineation maps.

50. Please provide the following communications between or submittals to permitting agencies regarding waters of the U.S. and State:

    A. Any records of conversation with the U.S. Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), and Regional Water Quality Control Board (RWQCB), as applicable, regarding wetlands/waters permitting;

    B. Letter of concurrence from USACE that a Clean Water Act (CWA) Section 404 permit is not required (as stated in AFC Table 5.3-11), or the projected date of its receipt by the applicant; and

    C. Draft Streambed Alteration Notification(s) as submitted to CDFG, or the projected date of submittal.

BACKGROUND

The discussion of impacts to waters of the U.S. and State (AFC Section 5.3.6.2.4) identified that direct and indirect impacts to waters of the U.S and State may occur from construction of the proposed project and directed the reader to Section 5.3.11 for additional information on project design features and impact avoidance and minimization measures that would be implemented to “fully mitigate” impacts.

This discussion regarding impacts to jurisdictional waters requires clarification and additional information. First, the section referenced should have been Section 5.3.8.2.3 (Avoidance and Minimization for Jurisdictional Waters). Second, there is no discussion of waters of the U.S. in Section 5.3.8.2.3. Third, there are no specific measures identified to mitigate impacts to waters of the State; rather, the AFC states that these measures would be developed in consultation with CDFG. As listed below, staff requires detailed information regarding impacts to jurisdictional waters of the U.S and State and proposed project design features, impact avoidance and minimization measures, and mitigation to offset potential impacts.

DATA REQUESTS

51. A. If impacts to jurisdictional waters would be avoided by drainage outlet design modifications and placement of facility structures (as stated on AFC pg. 5.3-39), please provide a map, at appropriate scale, that shows the location of the drainage outlet and facility structures in relation to jurisdictional waters.

    B. Describe how impacts are avoided.

52. Please provide a detailed description of proposed avoidance, minimization, and mitigation for direct, permanent impacts to a minimum of 12.5 acres of State-jurisdictional waters (which include Waters of the U.S.), as referenced in Avoidance and Minimization measure WATER-1 (AFC pg. 5.3-51), including:

    A. Proposed project design features that would avoid impacts to State-jurisdictional waters;

    B. Proposed avoidance and minimization measures applicable to State-jurisdictional waters; and

    C. Proposed mitigation for direct impacts to a minimum of 12.5 acres of State-jurisdictional waters and supporting records of conversation with CDFG.

    D. If habitat compensation is proposed, please provide proposed impact-to-compensation ratios and proposed locations for habitat acquisition. This should also be detailed in the Draft Streambed Alteration Notification(s).

53. Please provide an expanded assessment of impacts to 1.32 acres of Waters of the U.S., including:

    A. An explanation of why a CWA Section 404 permit is not required for direct impacts to 1.32 acres of Waters of the U.S.;

    B. Proposed project design features that would avoid impacts to USACE-jurisdictional waters;

    C. Proposed avoidance and minimization measures applicable to USACE-jurisdictional waters; and

    D. Proposed mitigation for direct impacts to USACE-jurisdictional waters (as applicable) and supporting records of conversation with USACE.

BACKGROUND

Harper Dry Lake marsh is located at the northeast corner of the proposed Beta site. Historically, this marsh was one of the largest desert marshes in California, the result of agriculture run-off. Decrease in agriculture operations in the past two decades has severely impacted the water flow to the marsh, and subsequently the marsh habitat. Construction of the proposed project would retire 128 acres of active agriculture. The marsh habitat adjacent to the proposed Beta site is primarily contained within an Area of Critical Environmental Concern (ACEC) and Watchable Wildlife Area, both under the jurisdiction of BLM. Both of these areas provide important habitat for a variety of

resident and migratory birds. The proposed project includes construction of a drainage channel to covey stormwater runoff to the marsh. Although the baseline functions and values of the Harper Dry Lake marsh are detailed in the Harper Dry Lake Wetlands Functions and Values Assessment (AFC Appendix F.1, Attachment 6), it is not clear whether construction of the proposed project would reduce or otherwise affect water delivery/conveyance to the marsh. Staff requests the following information to assess potential impacts to this sensitive habitat.

DATA REQUEST

54. Please provide detailed information regarding the proposed project's effect on current water delivery/conveyance to the marsh, including, but not limited to:

    A. The estimated reduction of water runoff to the marsh from retirement of active agricultural land within the proposed Beta site;

    B. Total estimated reduction of water runoff to the marsh from construction of the proposed project (also considering reductions from retirement of agricultural lands within the project area); and

    C. A discussion of the effects the proposed drainage system would have on current water delivery/conveyance to the marsh.

55. Please provide a quantitative assessment of the change in sediment load to the marsh during project construction and operation.

BACKGROUND

The Harper Dry Lake Wetlands Functions and Values Assessment (Attachment 6 to the Abengoa Mojave Solar Biological Technical Report) concludes that "the Proposed Project can implement selected on-site features, which could protect the remaining (and potentially restored) wetlands" at Harper Dry Lake by reducing or preventing the movement of sediment and filter or settle out pollutants from runoff water into the wetlands (pg. 61). Applicant-provided examples of these features include vegetated buffers between the project area and Harper Dry Lake wetlands (e.g., vegetated barriers and grassed waterways with vegetated filters). However, no additional information was provided regarding these "proactive mitigation measures". Staff requires the following information to assess the effectiveness of the applicant-proposed measures in avoiding or mitigating impacts to Harper Dry Lake.

DATA REQUESTS

56. Please provide a detailed description of the on-site features that could potentially improve the water quality of stormwater runoff before reaching the marsh.

57. Provide a map, at appropriate scale, showing the location of these buffer features relative to the proposed project and the Harper Dry Lake wetlands. Provide additional detail maps if the scale proves to be too large.

BACKGROUND

The proposed project may result in permanent and/or temporary impacts to state and federally protected species, including desert tortoise (*Gopherus agassizii*; federally Threatened, State Threatened) and Mohave ground squirrel (*Spermophilus mohavensis*; State Threatened). Although preliminary contacts with USFWS and CDFG have been initiated and appear to be ongoing, further agency consultation regarding these species will be required. Staff requests an update on agency coordination and permit acquisition.

DATA REQUESTS

58. Please identify the federal permit process for incidental take (e.g., Section 7 or Section 10), the steps the applicant has taken, and the schedule for obtaining the federal incidental take permit. To this end, please also provide:

    A. Any supporting documents (letter or record of conversation) that result from communication with USFWS regarding Endangered Species Act permitting; and

    B. The Abengoa Mojave Solar Biological Assessment or Habitat Conservation Plan, as appropriate, for review by USFWS and the Energy Commission staff.

59. Please provide a copy of the Abengoa Mojave Solar Section 2081 incidental take permit application as submitted to CDFG, or the projected date of its submittal.

60. Please provide any supporting documents (letter or record of conversation) that result from communication with USFWS and/or CDFG regarding compensatory mitigation, including identified lands potentially suitable/acceptable as mitigation for impacts to desert tortoise, Mohave ground squirrel, and western burrowing owl.

BACKGROUND

Harper Dry Lake marsh provides important habitat for migratory and resident birds, including but not limited to western snowy plover, Virginia rail, cinnamon teal, and black-necked stilt. Construction activity noise and lighting have the potential to impact nesting birds or other sensitive wildlife. It is not clear when construction, and the associated increases in noise and lighting, would occur in a 24-hour period. Staff requests the following information in order to complete the assessment of these potential impacts.

DATA REQUESTS

61. Please provide an anticipated daily construction schedule (e.g., projected start and stop times).

62. If construction at night is required, please describe during what time of year night lighting would occur, expected duration, and any measures to avoid or minimize impacts to nocturnal animals or other sensitive wildlife associated with the marsh.

63. Please provide ambient noise levels along the southern shoreline of Harper Dry Lake (in A-weighted decibels [dBA]) between 35°02’22.35” N/ 117°19’31.63” W and 35°00’48.36” N/ 117°16’14.20” W. The data set should include ambient noise levels at the Harper Dry Lake marsh habitat, northeast of the Beta site.

64. A. Please provide estimated worst-case construction and operation noise levels (in dBA) along the southern shoreline of Harper Dry Lake between 35°02'22.35" N/ 117°19'31.63" W and 35°00'48.36" N/ 117°16'14.20" W. The data set should include estimated worst-case construction and operation noise levels at the Harper Dry Lake marsh habitat, northeast of the proposed Beta site.

    B. Provide a map of noise contours extending from the project noise source to Harper Dry Lake marsh and into the Harper Dry Lake bed.

65. A. Provide the expected schedule for the loudest construction activities;

    B. Indicate the resultant worst-case noise levels at the Harper Dry Lake marsh; and

    C. Note any measures that would be implemented to limit these elevated noise levels.

BACKGROUND

The proposed project would require four, five-acre evaporation ponds (a total of 20 acres) (AFC, pg. 2.0-19). Evaporation ponds are of significant concern to CDFG, USFWS, and staff because they attract ravens, which prey on desert tortoise, and could also harm waterfowl, shorebirds, and other resident or migratory birds due to elevated levels of selenium and/or hyper-saline conditions. Staff requests the following information in order to complete the assessment of potential impacts to wildlife from the proposed evaporation ponds.

DATA REQUESTS

66. Please provide proposed evaporation pond design specifications, including but not limited to, surface area, minimum and maximum operational capacity depth, expected maximum depth, and slope of banks.

67. Please provide specific design, construction, and operation elements (e.g., netting) to be implemented that would discourage wildlife use of the evaporation ponds.

68. Please quantify the expected concentrations (in mg/L) of water quality constituents (to include selenium, sodium, arsenic, boron) proposed for discharge to the evaporation ponds.

69. Please develop and provide a detailed draft Evaporation Pond Monitoring/ Remediation Action Plan for review by the Energy Commission staff, USFWS, and CDFG. The plan should expand on the components outlined in Avoidance and Minimization Measure AVIAN-2 (AFC, pg. 5.3-49), to include:

    A. A discussion of the frequency and nature of the monitoring;

    B. The elements that will be monitored (e.g., selenium, sodium);

    C. Remedial actions if the ponds become a hazard for wildlife; and

    D. The triggers/thresholds for implementation of remedial actions.

70. Please provide a feasibility assessment of alternatives to the use of evaporation ponds (e.g., zero liquid discharge system).

BACKGROUND

Construction and operation of the proposed project could provide new sources of food, water, and nesting sites that would attract desert tortoise predators such as the common raven. Additionally, the area encompassing the MSP is already subject to elevated raven predation pressure from raven subsidies, (food and litter),at the Harper Lake SEGS; therefore, MSP may potentially contribute to a cumulative impact. Staff requests the following information to assess whether potential impacts of the project on desert tortoise from raven predation can be mitigated to a less-than-significant level.

DATA REQUESTS

71. Please develop and provide a detailed draft Common Raven Monitoring, Management, and Control Plan (Raven Control Plan) for review by the Energy Commission staff, USFWS, and CDFG. The plan should expand on the components outlined in Avoidance and Minimization Measure DT-18 (AFC, pg. 5.3-45), to include:

    A. Conditions associated with the project that might provide raven subsidies or attractants;

    B. Management practices to avoid or minimize conditions that might increase raven numbers and predatory activities;

    C. Control practices for ravens;

    D. Raven monitoring strategies during construction and for the life of the project; and

    E. Reporting strategies.

72. To address potential cumulative impacts to desert tortoise, staff is also supportive of the applicant contributing to USFWS's regional raven monitoring and control plan. In coordination with USFWS, please provide details on the proposed funding mechanism (e.g., payment of an in-lieu fee to a third-party account established by the USFWS). This should also be incorporated into the draft Common Raven Monitoring, Management, and Control Plan described above.

BACKGROUND

Certain common California desert plants are protected under the California Desert Native Plants Act and San Bernardino County Development Code. If it were not for the Energy Commission's exclusive authority to license the project per the Warren Alquist Act, the project would require a permit from the Agricultural Commissioner or other applicable County Reviewing Authority prior to removal of these plants. In the proposed project area these include, but are not limited to, cacti, Joshua tree (*Yucca brevifolia*), and any creosote bush (*Larrea tridentata*) rings with a diameter of 10-feet or greater. The following information is required to assess compliance with the California Desert Native Plants Act and San Bernardino County Development Code.

DATA REQUESTS

73. Please identify any plants in the proposed project area that are regulated under the California Desert Native Plants Act (California Food and Agricultural Code § 80071-80075) and San Bernardino County Development Code (§88.01.060).

74. Provide a description of the proposed project's conformance with the California Desert Native Plants Act and the San Bernardino County Development Code, including a plot plan for removal of regulated native plants, expected impacts, and specific mitigation, as necessary.

Technical Area: Geology and Paleontology
Author: Michael S. Lindholm, P.G.

BACKGROUND

The Paleontological Resources section of the AFC and the Paleontological Resources Assessment report attached in the appendix indicate that several paleontological archival records searches were conducted for the Mojave Solar Project by the San Bernardino County Museum and the Los Angeles County Natural History Museum. These reports provide an inventory of paleontological resources in the museum's collection from the proposed plant site and project linear facilities, as well as from geological units in the surrounding area that are present on the site. The reports also give independent assessments of the paleontological sensitivity of geological units and the potential for impacting any paleontological resources.

DATA REQUEST

75. Please provide a copy of the archival records search reports prepared by the San Bernardino County Museum and the Los Angeles County Natural History Museum.

Technical Area: Hazardous Materials Management
Author: Dr. Alvin Greenberg

BACKGROUND

Table 5.6-3 does not include any small-quantity hazardous materials (less than 55 gallons) or Chemical Abstract Service (CAS) numbers or the regulatory Reportable Quantity (RQ). In order to properly assess hazards posed to workers at the site and the off-site public, staff needs further information on all hazardous materials proposed to be used on-site.

DATA REQUEST

76. Please provide a list of all hazardous materials proposed to be used on-site and include their CAS numbers, quantities and concentrations used, and the listed RQ, if any. Some small quantity hazardous materials can be described as a group such as “paint and paint thinners”, “lab reagents”, “lab gases”, or “cleaning chemicals”.

BACKGROUND

Hazardous Materials transport is an important impact for staff to assess. The AFC states that more than 2,000,000 gallons of Heat Transfer Fluid (HTF) will be transported to the site but no information is provided on the frequency of delivery or type of vehicle used. However, the proposed transportation route is provided (p. 5.13-7). In order to properly assess hazards posed to workers at the site and the off-site public, staff needs further information on the transport of the HTF which is a hazardous material.

DATA requestS

77. A. Please provide the frequency of delivery of the HTF in trips per month and per year.

    B. Discuss whether the HTF will be transported in barrels, totes, or tankers.

    C. Discuss the type of vehicle used to transport the HTF if transported in a tanker truck. In that one of the Air Quality data requests addresses the number and type of trucks to be used for deliveries during the Operations phase, the response to this item may be incorporated by reference in the Air Quality response.

Technical Area: Land Use
Author: Negar Vahidi

INTRODUCTION

The Abengoa Mojave Solar project (AMS or Project) is a solar electric generating facility proposed on approximately 1,765 acres in unincorporated San Bernardino County, California approximately nine miles northwest of Hinkley, CA.

San Bernardino County has adopted a "one-map approach" for both the General Plan land use designations and zoning classifications to assure land use consistency between the county's General Plan and its zoning code. The land use and zoning designations for the Project site are RL (Rural Living).

BACKGROUND

The land use and zoning designations for the Project site are RL (Rural Living), which allows the following uses: 1 unit per 2-1/2 acres with a 2-1/2 gross acre parcel size; 20 percent maximum building coverage; and a 35-foot height limit. In addition, RL is a zone that allows agricultural and open space uses (AFC page 5.7-8).

According to AFC Section 2.1 (page 2.0-1), the Project would have two independently-operable solar fields (i.e., plants) identified as Alpha and Beta, which will be 884 and 800 acres, respectively. AFC page 2.0-5 further states, "…[e]ach plant site utilizes approximately 710 acres of the total land for solar thermal collector arrays." The plant sites exceed the 20 percent maximum building coverage for the RL zone.

In addition, AFC Section 2.6.2.1 (page 2.0-32), states,

> *…[t]he entire length of the transmission gen-tie line is located on the Project site and will be installed on approximately 23 new steel/concrete mono-poles from the Alpha Plant site and approximately nine poles from the Beta Plant site. The poles are expected to average approximately 80 feet in height (maximum pole height of 110 feet).*

These tower heights exceed the 35-foot height limit of the RL zone.

Electric power generation is listed as a use that requires a conditional use permit (CUP) [San Bernardino County Development Code, Table 82-7], and a General Plan Amendment to apply the Energy Facilities (EN) Overlay. As stated in Section 85.06.010(a) of the San Bernardino County Development Code, "[a] Conditional Use Permit provides a process for reviewing uses and activities that may be appropriate in the applicable land use zoning district, but whose effects on a site and surroundings cannot be determined before being proposed for a specific site." A General Plan Amendment requires the county to make findings and decisions in compliance with San Bernardino County Code Section 86.12.060(a) (Findings for General Plan, Community Plan or Area Plan Amendments).

In the AFC (on page 5.7-7), the applicant states, "…[t]he EN Overlay does not apply to generation and transmission facilities that are regulated by state and federal agencies."

However, as required by California Code of Regulations, Title 20, Section 1744, Energy Commission staff evaluates the information provided by the project owner in the AFC (and any amendments), project design and operational components, and siting. The staff is required to determine if elements of the Project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project, or that would normally have jurisdiction over the project except for the Energy Commission's exclusive authority (Pub. Resources Code, §§25500-25543). This includes all applicable federal, state, and local laws, ordinances, regulations, and standards. As part of the licensing process, the Energy Commission must determine whether a proposed facility complies with all applicable state, regional, and local LORS (Pub. Resources Code, §25523[d][1]).

As such, for the Land Use Staff Assessment, Energy Commission staff needs information regarding the County of San Bernardino's interpretation of its own policy guidance documents, including its General Plan and Development Code. As acknowledged by AFC Mitigation Measure LAND-1 (AFC page 5.7-20), the applicant intends to work with the county to resolve any land use conflicts and comply with county CUP requirements.

DATA REQUEST

78. Please provide information on how the applicant plans to resolve conflicts with the height and building coverage requirements of the RL zone, and San Bernardino County's position on these zone inconsistencies, and a related schedule.

79. Please provide information from San Bernardino County regarding the Conditional Use Permit (CUP) findings it would make for the Project, but for the exclusive authority of the Energy Commission, and the conditions San Bernardino County would attach to this Project, were it the permitting agency. Any conditions recommended by the county as part of a CUP would be considered by Energy Commission staff for inclusion in the conditions of certification for the Project.

80. Please provide the county's position on the proposed project's overall consistency with its General Plan and Zoning Ordinance.

81. Please submit a request to San Bernardino County regarding the General Plan Amendment (GPA) required for the Project.

82. Energy Commission s staff will be sending a letter to San Bernardino County requesting detailed information regarding the proposed project's compliance with county LORS and the conditions the county would attach to this Project, were it the permitting agency. Please provide Project information to San Bernardino in order to facilitate the county's input regarding LORS conformance, conditions, and the required GPA.

Technical Area: Public Health
Author: Dr. Alvin Greenberg

BACKGROUND

Fugitive losses from the heat transfer fluid (HTF) system are assumed to be made up of 27% biphenyl. The potential for emission of other toxic thermal degradation products from the HTF system is not evaluated in the AFC. This issue has been addressed in the AFC documents submitted for three other proposed solar facilities (Solar Millenium Blythe, Palen and Ridgecrest, 09-AFC-06, 09-AFC-07 and 09-AFC-09, respectively). Benzene was identified as a thermal degradation product of HTF and determined to account for 69-87% of total operations risks.

DATA REQUEST

83. Please describe and discuss the potential for all toxic thermal degradation products of HTF.

84. Please provide emission factors and a health risk assessment on the emissions of toxic thermal degradation products of HTF.

BACKGROUND

The AFC did not provide diesel particulate matter (DPM) emission factors for equipment and vehicles that will be used during construction activities nor was a health risk assessment prepared for diesel emissions from construction activities. While staff understands that project construction emissions are short-term and may indeed pose an insignificant risk to public health as the AFC states, staff needs to verify this by reviewing the DPM emission factors and health risk assessment for construction activities.

DATA REQUEST

85. Please provide DPM emission factors from construction activities and a health risk assessment for diesel construction equipment emissions.

BACKGROUND

In determining risks due to operational activities at the proposed project, the AFC did not include diesel emissions from on-site vehicles such as the diesel trucks that will be used to carry wash-water for the cleaning of the mirrors. In order to properly assess the risk posed to workers at the site and the off-site public, staff needs further information on all emissions from all vehicles proposed to be used on-site.

DATA REQUESTS

86. Please provide DPM emission factors for on-site solar field and equipment maintenance activities in pounds per day and tons per year. This value can be submitted as a single number estimate of total emissions from all vehicular sources used on-site.

87. Please conduct a health risk assessment for diesel emissions from vehicles involved in on-site solar field and equipment maintenance activities during plant operations.

88. Please provide a cumulative PM2.5 emissions estimate on a daily and yearly basis when fugitive dust emissions are added to the DPM emissions from the above stationary and mobile sources, assuming that all DPM from diesel engines are PM2.5.

Technical Area: Reliability – Power Plant
Author: Erin Bright

BACKGROUND

To ensure that a project will operate reliably, a quality control program is often applied to the project to make certain that appropriate quality measures are applied to all systems and components of the project. The project owner would typically perform receipt inspections, test components, and administer independent testing contracts. Staff expects implementation of this program to yield typical reliability of design and construction. The objective of these measures is assurance that desired reliability and availability is achieved.

DATA REQUEST

89. Please describe the quality control program that would be utilized for the project, including examples of appropriate controls that would be applied to each of the stages of project development.

Technical Area: Transmission System Engineering
Author: Ajoy Guha, P. E. and Mark Hesters

INTRODUCTION

Staff needs to determine the system reliability impacts of the project interconnection and to identify the interconnection facilities including downstream facilities needed to support the reliable interconnection of the proposed Abengoa Mojave Solar (AMS) project. The interconnection must comply with the Utility Reliability and Planning Criteria, North American Electric Reliability Council (NERC) Planning Standards, NERC/Western Electricity Coordinating Council (WECC) Planning Standards, and California Independent System Operator (California ISO) Planning Standards. In addition the California Environmental Quality Act (CEQA) requires the identification and description of the "Direct and indirect significant effects of the project on the environment."

For the compliance with planning and reliability standards and the identification of indirect or downstream transmission impacts, staff relies on the System Impact Study (SIS) and Facilities Study (FS) as well as review of these studies by the agencies responsible for insuring the interconnecting grid meets reliability standards, in this case, the Southern California Edison Company (SCE) and California ISO. The studies analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause the transmission to violate reliability requirements the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include modification and construction of downstream transmission facilities. The CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed project.

BACKGROUND

The June 27, 2009 Interconnection SIS performed by the California ISO in coordination with SCE shows reliability violations for new overloads on the existing SCE Kramer-Lugo #1 & #2 230 kV lines under 2013 summer peak and 2013 light spring normal (N-0) system conditions resulting from the interconnection of the proposed MSP. In order to eliminate the identified overloads, the preferred mitigation is the construction of a new 37-mile double-circuit 230 kV transmission line with the installation of one initial circuit between the existing SCE Cool Water and Desert View 230 kV substations. This new line would be considered an indirect project impact.

In addition, the short circuit duty results indicate an incomplete analysis for modeling reasons for interconnection of the proposed AMS. The SIS is considered incomplete without a complete short circuit analysis (Interconnection System Impact Study report dated June 17, 2009).

DATA REQUESTS

90. For the environmental settings and impacts, provide a general environmental analysis and any recommended mitigation measures sufficient to meet CEQA requirements for direct and indirect project impacts resulting from the construction of a new 37-mile (approximately) double-circuit 230 kV transmission line between

the existing SCE Cool Water and Desert View 230 kV substations with a bundled 1590 Kcmil steel reinforced aluminum conductor (ACSR) or equivalent

91. Provide a complete short circuit duty analysis for three-phase-to-ground and single-phase-to-ground faults for interconnection of the proposed MSP and include proposed mitigation measures for any short circuit duty criteria violations. Provide the study results in a table format with pre and post-project fault currents at selected substations with the existing breaker fault interrupting current duties.

Technical Area: Worker Safety/Fire Protection
Author: Dr. Alvin Greenberg

BACKGROUND

All power plants licensed by the Energy Commission have more than one access point to the power plant site. This is sound fire safety procedure and allows for fire department vehicles and personal to access the site should the access point be blocked. Section 2.4.5.8 appears to address this requirement in describing that two paved access roads would be provided - one per power island - and that “fair weather crossings” (consisting of dirt roads) would provide access to the solar fields. However, this description is confusing. In order to properly assess fire protection for the proposed power plant, staff needs to know the location of all site access points.

DATA REQUEST

92. Please provide clarification of the AFC’s description above and identify all access points, whether for vehicles or personnel.

93. Include the method of gate opening and securing and whether the access roads are paved, gravel, or dirt.

Attachment 1

Audubon California * California Wilderness Coalition * Defenders of Wildlife
Desert Protective Council * Mojave Desert Land Trust
Natural Resources Defense Council * Sierra Club * The Nature Conservancy
The Wilderness Society * The Wildlands Conservancy

Renewable Siting Criteria for California Desert Conservation Area

Environmental stakeholders have been asked by land management agencies, elected officials, other decision-makers, and renewable energy proponents to provide criteria for use in identifying potential renewable energy sites in the California Desert Conservation Area (CDCA). Large parts of the California desert ecosystem have survived despite pressures from mining, grazing, ORV, real estate development and military uses over the last century. Now, utility scale renewable energy development presents the challenge of new land consumptive activities on a potentially unprecedented scale. Without careful planning, the surviving desert ecosystems may be further fragmented, degraded and lost.

The criteria below primarily address the siting of solar energy projects and would need to be further refined to address factors that are specific to the siting of wind and geothermal facilities. While the criteria listed below are not ranked, they are intended to inform planning processes and were designed to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. They were developed with input from field scientists, land managers, and conservation professionals and fall into two categories: 1) areas to prioritize for siting and 2) high conflict areas. The criteria are intended to guide solar development to areas with comparatively low potential for conflict and controversy in an effort to help California meet its ambitious renewable energy goals in a timely manner.

Areas to Prioritize for Siting

- Lands that have been mechanically disturbed, i.e., locations that are degraded and disturbed by mechanical disturbance:
  - Lands that have been "type-converted" from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).[1]
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:[2]
  - Allow for the expansion of renewable energy development onto private lands.
  - Private lands development offers tax benefits to local government.
- Brownfields:
  - Revitalize idle or underutilized industrialized sites.
  - Existing transmission capacity and infrastructure are typically in place.
- Locations adjacent to urbanized areas:[3]
  - Provide jobs for local residents often in underserved communities;
  - Minimize growth-inducing impacts;

    - Provide homes and services for the workforce that will be required at new energy facilities;
    - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.[4]

High Conflict Areas

In an effort to flag areas that will generate significant controversy the environmental community has developed the following list of criteria for areas to avoid in siting renewable projects. These criteria are fairly broad. They are intended to minimize resource conflicts and thereby help California meet its ambitious renewable goals. The criteria are not intended to serve as a substitute for project specific review. They do not include the categories of lands within the California desert that are off limits to all development by statute or policy.[5]

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant[6] populations of federal or state threatened and endangered species,[7] significant populations of sensitive, rare and special status species,[8] and rare or unique plant communities.[9]
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.[10]
- Lands purchased for conservation including those conveyed to the BLM.[11]
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes.[12]
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas.[13]
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.[14]
- National Historic Register eligible sites and other known cultural resources.
- Locations directly adjacent to National or State Park units.[15]

EXPLANATIONS

[1] Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

[2] Based on currently available data.

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

[4] The term "federally designated corridors" does not include contingent corridors.

[5] Lands where development is prohibited by statute or policy include but are not limited to: National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Recreation Areas; National Monuments; private preserves and reserves; Inventoried Roadless Areas on USFS lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation

banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers a; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites.

[6] Determining "significance" requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

[7] Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units.

[8] Significant populations/occurrences of sensitive, rare and special status species including CNPS list 1B and list 2 plants, and federal or state agency species of concern.

[9] Rare plant communities/assemblages include those defined by the California Native Plant Society's Rare Plant Communities Initiative and by federal, state and county agencies.

[10] ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The CDCA Plan has designated specific Wildlife Habitat Management Areas (HMAs) to conserve habitat for species such as the Mohave ground squirrel and bighorn sheep. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

[11] These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

[12] Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

[13] Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be: 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies and found to have defined "wilderness characteristics." The proposal has been publicly announced.

[14] The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts; aquatic and riparian species may be highly sensitive to changes in groundwater levels.

[15] Adjacent: lying contiguous, adjoining or within 2 miles of park or state boundaries. (Note: lands more than 2 miles from a park boundary should be evaluated for importance from a landscape-level linkage perspective, as further defined in footnote 12).

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
FOR THE *ABENGOA MOJAVE*
SOLAR POWER PLANT

Docket No. 09-AFC-5

PROOF OF SERVICE
(Established 10/21/09)

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*indicates change

DECLARATION OF SERVICE

I, April Albright, declare that on October 22, 2009, 2009, I served and filed copies of the attached Abengoa Mojave Solar (09-AFC-5) Data Request Set 1A (nos. 1-93); and Issues Identification Report, dated October 22, 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:
[http://www.energy.ca.gov/sitingcases/mariposa/index.html].

The document has been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

For service to all other parties:

__✓__ sent electronically to all email addresses on the Proof of Service list;

__✓__ by personal delivery or by depositing in the United States mail at Sacramento, CA, with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

__✓__ **sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (preferred method);**

OR

_____depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-5
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

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

Original signed by:
April Albright