CALIFORNIA ENERGY COMMISSION
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April 15, 2011

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Mr. Daniel J. O'Shea
Managing Director
K Road Power
295 Madison Avenue, 37th Floor
NY, NY 10017

RE: CALICO SOLAR PROJECT AMENDMENT (CSPA) (08-AFC-13C)
DATA REQUEST SET 1 (Nos. 1-37)

Dear Mr. O'Shea:

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. 1-37) is being made in the areas of Air Quality (Nos 1-10), Biological Resources (Nos. 11-13), Soil and Water Resources (Nos. 14-27), Traffic and Transportation (Nos. 28-31), Transmission System Engineering (Nos. 32) and Visual Resources (Nos. 33-37). Written responses to the enclosed data requests are due to the Energy Commission staff on or before May 9, 20011, or at such later date as may be mutually agreeable.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, 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)).

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

Sincerely,

Craig Hoffman
Project Manager

Enclosure

Technical Area: Air Quality
Author: Tao Jiang and Wenjun Qian

BACKGROUND: ONSITE PORTABLE DIESEL GENERATORS

The previous certified project proposed use of one 75 kW generator and one 500 kW generator to provide construction power at the project site. The Amendment proposed to change to five 250 kW portable generators. The applicant indicated that all portable engines will be expected to run for the entire construction phase. But each portable engine will be operated at one location up to 12 months to meet Portable Equipment Registration Program (PERP) requirements. However, staff is aware that a substation is located near the project site.

DATA REQUEST

1. Please indicate why the substation cannot be used to serve the electricity needs during the entire project construction period. When is the project expected to first get power from the local utility?
2. Please provide updated construction-related diesel-fueled electrical power information, specifically including the number and size of diesel generator engines, the tier level of each diesel engine driving the temporary generators, operation schedule, locations of use and emissions estimates.
3. Please determine whether the local air district will require permits for these temporary generators. Please identify if the PERP registration is sufficient for the use of portable generators.
4. PERP allows equipment to be onsite for a maximum of 12 months. What would the applicant do if there is a need to use this equipment beyond 12 months due to a delay in getting electricity from the local utility?
5. Please provide information on refueling this equipment, including origin of fuel, frequency of delivery and any on-site fuel storage.

BACKGROUND: ONSITE EMERGENCY DIESEL GENERATOR

The amendment proposed to modify AQ-5 to utilize a 399 bhp emergency generator engine before the project receives permanent power in the construction phase. This engine is originally approved to be used only for non-emergency testing and maintenance purposes during the operation phase.

DATA REQUEST

6. Please determine whether the local air district needs to approve the use of the emergency diesel generator during construction phase and modify the district permit accordingly.
7. Please provide the operation schedule and emissions estimates of this engine during the construction phase.

BACKGROUND: EMISSION DIFFERENCES

The amendment states that the modified project would result in emissions that are less than the approved project. The reasons for the emissions reductions include reduction of trips, workforces, road lengths, and change of washing methods and frequencies, etc. However, staff found that although total maximum emissions decrease compared to the approved project, emissions for some activities increase for some pollutants. For the construction emission estimates, the baseline for comparison is the additional air quality analysis submitted on August 4, 2010. For the operation emissions estimates, the baseline for comparison is the air quality analysis in Supplemental Staff Assessment published on July 26, 2010.

DATA REQUEST

8. Please provide the rationale for the following emission estimates:
    a. For the onsite security vehicles used in construction phase, fugitive dust emissions (PM10 and PM2.5) show significant increases while the combustion emissions are similar.

    b. For onsite portable generators used in construction phase, CO shows a significant increase while other pollutants show decreases.

    c. For onsite construction equipment used in construction phase, daily maximum emissions of every pollutant show decreases while annual combustion emissions increase except for CO.

    d. For onsite “other delivery trucks” used in construction phase, daily maximum emissions of every pollutant show decreases while annual combustion emissions increase.

    e. For onsite Maintenance & Security Vehicles and Equipment used in operation phase, PM10, PM2.5 and SO_x show significant increases while other pollutants show decreases.

BACKGROUND: CONSTRUCTION EMISSIONS AND DISPERSION MODELING

The final Commission Decision is based on the construction emission estimates in the additional air quality analysis submitted on August 4, 2010. However, the analysis did not provide a revised modeling analysis. This amendment proposed significant changes to the certified project, including the use of portable generators and the emergency generator, as well as the emission estimates for most categories. Moreover, staff found that although total project emissions decrease compared to the approved project, the **onsite** maximum annual emissions increase. Because the onsite emission sources are used for air dispersion modeling to determine project impacts, staff will need a revised modeling assessment for construction phase to determine if the construction will have significant air quality impacts.

DATA REQUESTS

9. Please evaluate whether the modified total construction emissions will exceed General Conformity applicability thresholds (NOx – 100 tons/year, PM10 - 70 tons/year).
10. Please provide a revised modeling analysis to show that the temporary portable generators, the emergency generator, along with the other construction emission sources, would not cause exceedances of applicable air quality standards.

Technical Area: Biological Resources
Author: David Bise

BACKGROUND

In Section 4.6.2 page 4.6-1 of the amendment, the application text states that impacts to state waters from the new Calico project are expected to be reduced from 152.3 acres under the approved project to 90.2 acres under the amended project. This reduction is attributed to the reduced amount of improved roads required for the PV modules as compared to the SunCatcher arrays. The project owner has stated that the PV arrays would be placed in straight rows that may not allow for the same degree of avoidance of jurisdictional washes as SunCatcher placement.

DATA REQUESTS

11. Please provide a detailed analysis of how the impacts to state waters were calculated for the amended project. Include information on any additional impacts to state waters that will result from straight-line placement of PV arrays.

12. Please provide information on the potential for unimproved roads within PV arrays to impact state waters through increased erosion due to vegetation management (mowing). If erosion or other impacts to ephemeral washes from unimproved access roads are not expected, please explain why.

13. Please provide information regarding the amended project's impacts to state waters as specified in the following: http://www.waterboards.ca.gov/lahontan/water_issues/programs/clean_water_act_401/docs/401instructions2app.pdf

Technical Area: Soil and Water Resources
Author: Casey Weaver

BACKGROUND:

In Section 4.5.2.1, the Amendment indicates that hydrology, hydraulic and sediment transport/scour analyses will be prepared to reflect effects of the movement of storm water under the Modified Project. In order to analyze the potential impacts from the Modified Project, these analyses must be completed and submitted as part of the Amendment.

DATA REQUEST

14. Please provide the hydrology, hydraulic and sediment transport/scour studies for the Modified Project.

BACKGROUND:

In Section 4.5.2.1, the Amendment indicates the project owner's evaluation of storm water flooding, erosion and sedimentation hazards is based on currently available grading plans, site plans and the Modified Project description. The project owner must provide grading and drainage plans that are specific to the Modified Project, rather than the currently approved plans that are no longer applicable.

DATA REQUEST

15. Please provide revised grading and drainage plans that are specific to the Modified Project.

BACKGROUND:

In the Amendment, two tables (Tables 4.5-1 and 4.5-2) provide information regarding the approximate sizes of ground disturbance areas and rates of operation water use for the Modified Project. In order for this information to be compared with the values determined in the Approved Project, the values from the Approved Project should be included in these tables. Additionally, there is no table indicating construction water use for the Modified Project. A table indicating the construction water use for the Approved project and the expected water use for construction of the Modified Project should be presented.

DATA REQUEST

16. Please revise Tables 4.5-1 and 4.5-2 to include Approved Project values.
17. Please provide a table, similar to that discussed above, indicating construction water use.

BACKGROUND:

In the Amendment, it is proposed that the unimproved module access points (roads) would not receive soil stabilizers and would remain barren disturbed soil. While this technique may increase the infiltration along these barren roads, it will also increase

their susceptibility to both wind and water erosion. An analysis of the potential for soil erosion along these barren soil roads must be provided.

DATA REQUEST

18. Please provide an analysis of the potential for soil erosion and the increased potential for infiltration along the barren soil roads of the Modified Project.

BACKGROUND:

On page 4.5-4 of the Amendment, it is stated that for both construction and operation, the well water will be piped to the new location of the main services complex south of the railroad. There is no indication of the type of pipe proposed to convey the water, the method of pipeline placement (trenching) or anchoring (thrust blocks, bedding, etc).The pipeline will be required to pass across BNSF railroad right of way. Staff needs confirmation that BNSF is agreeable to the placement of the line within the railroad right of way to ensure the applicant can supply water as planned and there will be no impacts on project development.

DATA REQUEST

19. Please provide the construction design of the water line from the well head to the main services complex.
20. Please provide a letter of authorization from BNSF indicating their approval of the water line crossing the railroad right of way.

BACKGROUND

Project construction may induce water and wind erosion at the power plant site. Storm water runoff may also contribute to erosion and sedimentation as well as transport pollutants off site. Storm water will be collected, contained and managed under Waste Discharge Requirements (WDR) developed by the Lahontan Regional Water Quality Control Board during both construction and operation. The Amendment discusses the DESCP from the Approved Project and considers it applicable for the Modified Project. However, the Modified Project differs in road alignment, soil treatment, grading and other aspects that are not transferable from the DESCP of the Approved Project. In order to evaluate adequacy of proposed measures to address and mitigate hazards from site erosion and sedimentation, staff needs to review a revised Drainage, Erosion and Sediment Control Plan (DESCP) prepared for the Modified Project.

DATA REQUEST

21. Please provide a draft DESCP specific to the Modified Project that ensures protection of water quality and soil resources of the project site and all linear facilities for both the construction and operation phases of the project. This plan shall address all elements required in a DESCP by the Approved Project. The draft plan shall be consistent with the grading and drainage plan and may incorporate by reference any storm water pollution prevention plan developed in conjunction with any WDR.
22. Presented here for your use, as needed, are the elements of the final DESCP that you will ultimately be required to provide:

a. Vicinity Map – A map shall be provided indicating the location of all project elements with depictions of all significant geographic features to include watercourses, washes, irrigation and drainage canals, and sensitive areas.

b. Site Delineation – The site and all project elements shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.

c. Watercourses and Critical Areas – The DESCP shall show the location of all nearby watercourses including washes, irrigation and drainage canals, and drainage ditches, and shall indicate the proximity of those features to the construction site.

d. Drainage – The DESCP shall provide a topographic site map showing all existing, interim, and proposed drainage systems, drainage area boundaries and watershed sizes in acres, and the hydraulic analysis to support the selection of best management practices (BMPs) to divert off-site drainage around or through the site and laydown areas. Spot elevations shall be required where relatively flat conditions exist. The spot elevations and contours shall be extended off site for a minimum distance of 100 feet in flat terrain.

e. Clearing and Grading – The plan shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Existing and proposed topography tying in proposed contours with existing topography shall be illustrated. The DESCP shall include a statement of the quantities of material excavated or filled for each element of the project (for example, project site, transmission corridors, and pipeline corridors), whether such excavations or fill is temporary or permanent, and the amount of such material to be imported or exported or a statement explaining that there will be no clearing and/or grading conducted for each element of the project.

f. Project Schedule – The DESCP shall identify on the topographic site map the location of the site-specific BMPs to be employed during each phase of construction (initial grading, project element excavation and construction, and final grading/stabilization). Separate BMP implementation schedules shall be provided for each project element for each phase of construction.

g. Best Management Practices – The DESCP shall show the location, timing, and maintenance schedule of all erosion and sediment control BMPs to be used prior to initial grading, during project element excavation and construction, during final grading/stabilization, and after construction. BMPs shall include measures designed to control dust and stabilize construction access roads and entrances. The maintenance schedule shall include post-construction maintenance of treatment control BMPs applied to disturbed areas following construction.

h. Erosion Control Drawings - The erosion control drawings and narrative shall be designed and sealed by a professional engineer or erosion control specialist.

BACKGROUND

In the discussion of Sanitary Wastewater, it is mentioned that the sinks and showers located within the maintenance facility would be plumbed to a wastewater recycling system. In the Amendment, there is no discussion of the design, operation or location of a wastewater recycling system.

DATA REQUEST

23. Please provide the design of the wastewater recycling system.
24. Please provide a map indicating the proposed location of the wastewater recycling system.
25. Please describe the waste expected to be generated by the wastewater recycling system and provide the method of disposal of the collected waste.

BACKGROUND

In Section 4.5.2.3.3, Process Wastewater, it is mentioned that a Report of Waste Discharge (ROWD) would be filed with the RWQCB and waste discharge requirement would be obtained for operation of the evaporation ponds. The RWQCB requirements are needed by CEC prior to approval of the Amendment so the Appendices of the SSA included in the Approved Project can be appropriately revised for the Modified Project.

DATA REQUEST

26. Please provide an updated ROWD that is specific to the Modified Project.

BACKGROUND

The Construction Water Balances provided in Appendix D of the Amendment include the consumption of water for hydrogen production, Sun Catcher mirror cleaning, PV module cleaning, septic holding system and septic field. These uses are not associated with site construction.

DATA REQUEST

27. Please revise the Construction Water Balances provided in Appendix D to be specific to construction of the Modified Project. If these revisions result in a change in expected construction water use, please revise construction and operation water use tables accordingly.

Technical Area: Traffic and Transportation
Authors: Andrea Koch and Jeanine Hinde*

*This data request was prepared in coordination with Jeanine Hinde, the Visual Resources analyst, due to the applicability of the glint and glare study to both the Traffic and Transportation and the Visual Resources analyses.

BACKGROUND

The traffic and transportation and visual sections of the Petition to Amend present only a brief and subjective discussion of glint and glare impacts of the amended project. The petition does not provide a detailed analysis sufficient to address glint and glare concerns, including the potential for hazard, disability, or nuisance glare from the PV and Suncatcher technologies on motorists, train engineers, on-site workers, and viewers at the six key observation points (KOPs).

DATA REQUESTS

28. Please provide a detailed quantitative glint and glare analysis of the project's potential to cause different levels of glare impact (hazard, disability, and nuisance) to motorists, train engineers, on-site workers, and viewers at the six key observation points (KOPs) identified in the Visual Resources section of the Petition to Amend. The analysis should cover both the PV and Suncatcher technologies, and should consider both tracking and off-axis positions of the PV and Suncatcher technologies.

29. Please describe:

    a. the maximum potential brightness (luminance) of diffuse and specular reflections from the PV and Suncatcher technologies in candela per square meter;

    b. the hours in which the reflecting surfaces of a PV module and Suncatcher mirror could be visible to an off-site viewer on the ground, and the proportion of surface visible in the course of the day;

    c. any available anecdotal information on glare effects of the Kramer Junction and existing SEGS projects, including photographs of off-site diffuse or spread glare, and images of the heated HCEs, as seen from public roads/viewpoints;

    d. the potential for specular and diffuse reflections, retinal burn, flash blindness, veiling reflections and distracting glare to affect BNSF train operators, on-site workers, motorists on I-40 and National Trails Highway (formerly Route 66) and any other roads with views of the project site, and viewers at the six KOPs. Include conditions under which impacts could occur as well as safe distances (setbacks) from the PV and Suncatcher technologies. Include descriptions and/or graphics that characterize how reflected light from the project would appear to the viewing public, and in particular, to BNSF train engineers and motorists on highways and other public roads from which views of the project site are possible;

    e. recommended mitigation measures for reducing glint and glare impacts.

30. Please work with BNSF Railroad to analyze any glint and glare impacts to train signals and train engineers. The analysis should consider:
    a. the distance between the tracks and signal lights and the PV and Suncatcher technologies;
    b. the approximate height of the train engineer's eyes;
    c. the height of the signal lights;
    d. glint and glare effects (specifically, veiling reflections) on both the color and the contrast of the signal lights;
    e. potential for flash blindness and retinal burn of the train engineer;
    f. potential for distracting glare to the train engineer;
    g. general potential consequences of any glint and glare impacts to the train engineer (either directly or via the signal light), e.g., train collisions, etc.

BACKGROUND

The traffic and transportation analysis does not include details about the proposed bridge that will cross the BNSF railroad tracks. Staff needs to know these details to ensure that the bridge does not pose any safety hazards to drivers, pedestrians, or train occupants.

DATA REQUESTS

31. Please include:
    a. general dimensions of the bridge, including width, length, and height;
    b. general construction materials to be used in the bridge;
    c. number of lanes of the bridge and the width of each lane.

Technical Area: Transmission System Engineering
Author: Sudath Edirisuriya, P. E. and Mark Hesters

Data Requests

32. Please provide revised phase two electrical one line diagrams with Photo Voltac Groups.
    a. 1.5 MW solar group electrical one line diagram sheet 1 and 2 with collector bus voltage, current carrying capacity of the conductors, Breaker, Transformer and Capacitor bank sizes.
    b. 9 MW, 18 MW feeder group general arrangement.
    c. 51 MW feeder group general arrangement.
    d. 750 MW solar two substation one line diagram sheet 1, 2, 3 with revised capacitor bank MVar allocation.

Technical Area: Visual Resources
Author: Jeanine Hinde

BACKGROUND

Completion and submittal of a glint and glare study is necessary before Energy Commission staff can complete the Visual Resources analysis for the Modified Project. *Please refer to the data requests for Traffic and Transportation, which include a request for a completed glint and glare study.* The study will be used to assess the potential effects of the project relating to glint (i.e., specular reflections) and glare (i.e., diffused reflections) on viewers at publicly accessible use areas, including the six key observation points (KOPs) identified in the Visual Resources section of the Petition to Amend.

Section 4.13.2.3 of the Visual Resources section briefly addresses glint and glare, however, the analysis does not provide sufficient detail to address potential impacts of the project on visual resources.

DATA REQUESTS

33. The discussion under Section 4.13.2.3, "Glint and Glare," concludes that "impacts from glint and glare are expected to be less significant than those associated with the Approved Project."

    a. Staff requests that this discussion be expanded to substantiate the analysis, including a citation(s) and reference(s) for applicable completed studies addressing the same or similar technologies.

    b. Staff also requests that the discussion and conclusion at the bottom of page 4.13-5 be rewritten using standard CEQA terminology. In other words, please revise the discussion to clearly state the impact conclusion (e.g., potentially significant impact), and refer to applicable conditions of certification that would reduce the impact to a less-than-significant level. Include evidence to support the conclusion.

BACKGROUND

Additional information is needed to adequately address impacts of the Modified Project on Visual Resources. Corrected information for dimensions of significant project structures is needed. Descriptions and graphics need to be added for the proposed bridge over the BNSF railroad tracks. A scaled elevation drawing(s) and representative photographs of the photovoltaic (PV) modules are needed to clearly show the nature and extent of the visual effects of the project. Camera setting and related information is needed to verify the scale of the photosimulations.

DATA REQUESTS

34. Staff requests that Table 4.13-1, "Visual Resources Significant Project Structures," of the Petition to Amend be reviewed and corrected as necessary. Staff has identified several mistakes in columns identifying length, width, height, and change in quantity for some project structures. Please also describe whether mistakes in stated dimensions could have affected 3D modeling of the photosimulations for the project.

35. Please describe the permanent bridge that is proposed to be constructed over the BNSF railroad tracks, and add the bridge to Table 4.13-1 of the Visual Resources section of the Petition to Amend. Please identify any necessary lighting for the bridge structure.

36. Please provide a scaled elevation drawing of a PV module and row of modules in front and side view with mounting structures. The drawing shall provide more detail than is shown in Figure 2-4 in the Project Description of the Petition to Amend. Please include a representative view of PV modules at maximum tilt, as well as representative photographs of the same or similar PV modules.

37. Staff requests information on camera settings used to photograph the project site for the existing and simulated views of the project site. Please identify the camera type, lens setting/length, and horizontal angle of view. In other words, please provide all "camera match" data. Staff is requesting this information to verify that the 6-inch by 8-inch photosimulations are at life size scale, as specified in the Energy Commission's data adequacy regulations. The requested information shall be included on all of the figures in the Visual Resources section showing photosimulations of the project. Please identify the camera location (i.e., coordinates) for each KOP.