CALIFORNIA ENERGY COMMISSION
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August 13, 2012

Mr. William Kriegel
Chief Executive Officer
K Road Calico Solar, LLC
1 Embarcadero Center, Suite 360
San Francisco, CA 94111

RE: CALICO SOLAR PROJECT PV AMENDMENT (CSPA) (08-AFC-13C)
DATA REQUEST SET 1 (Nos. 1-81)

Dear Mr. Kriegel:

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 - 81) is being made in the areas of: Project Description (No. 1), Air Quality (Nos. 2 - 15), Biological Resources (Nos. 16 - 36), Cultural Resources (Nos. 37 - 39), Hazardous Materials (No. 40), Socioeconomics (No. 41), Soil and Water Resources (Nos. 42 - 57), Traffic and Transportation (Nos. 58 - 64), Transmission System Engineering (No. 65), Visual Resources (Nos. 66 - 75), Waste Management (Nos. 76 - 80) and Worker Safety/Fire Protection (No. 81). Written responses to the enclosed data requests are due to the Energy Commission staff on or before September 10, 2012.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, you must send a written notice to both the Committee and me within 20 days of receipt of this information request. 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.ca.us.

Sincerely,

Craig Hoffman
Project Manager

Enclosure

Technical Area: Project Description
Author: Craig Hoffman

BACKGROUND

The petition to amend identifies that the Calico project will utilize photovoltaic technologies that include both fixed tilt and single axis trackers and at times a combination of both types of photovoltaic facilities. Staff is requesting clarification of the impacts from construction and operations from the different technologies.

The applicant has requested the flexibility to utilize various photovoltaic technologies based upon future availability and other economic factors. Staff requests information to determine the impacts from these various facilities.

DATA REQUESTS

1. Please provide a detailed analysis of the difference in potential impacts for each technical section from a project utilizing: 1) only fixed tilt photovoltaic, 2) only single axis trackers, and 3) a combination of both.

Technical Area: Air Quality
Author: Tao Jiang

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 lists the on-site generators in the construction emission tables but does not provide details of the generators.

DATA REQUEST

Please confirm that the only requested revisions to the AQ conditions of certification are those noted in the current amendment. Specifically, it appears that revision to AQ-SC9 is required due to the change in the assumed number and size (overall hp or kW) of the construction generators.

2. Please provide updated construction-related diesel-fueled electrical power information, specifically including the number and size of diesel generator engines, operation schedule, and locations of use and emissions estimates. Please also identify if the diesel generators will meet full Tier IV or interim Tier IV emissions standards.

3. Please determine whether the local air district will require permits for these temporary generators. Please identify if Portable Equipment Registration Program (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? Note that the 12 month period is for the site in general, not just for a specific location within the overall project.

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 utilize a 335 bhp emergency generator engine during the operation phase. The originally approved engine is 399 bhp.

DATA REQUEST

6. Please determine whether the local air district needs to modify the district permit due to the change of the engine size. Please submit any correspondence from the air district regarding the changes of all permits.

7. Please provide the operation schedule of this engine during the operation phase.

BACKGROUND: CONSTRUCTION AND OPERATION EMISSIONS AND DISPERSION MODELING

This amendment proposed significant changes to the certified project, including emission estimates for most categories during the construction and operation phases. Staff needs a copy of the spreadsheet file used to calculate the emission estimates, with live, embedded calculations, to complete its review. In addition, the analysis did not provide revised AERMOD dispersion modeling analysis for both construction and operation phases. Staff will need the revised modeling assessment for construction and operation phases to determine if the project will have significant air quality impacts.

DATA REQUEST

8. Please provide the spreadsheet version of the Appendix B Air Quality Emissions Calculations Worksheets with the embedded calculations live and intact.

9. Please provide the list of preparers for the air quality section and the appendix, with their contact information.

10. Please identify if the elimination of Suncatchers reduces truck trips and/or off-road equipment needs during the construction phase. Please indicate if the trip estimates used in the air quality calculations are consistent with those in the Section 6.2 (Traffic and Transportation). In addition, please specify the number of panels hauled per truckload and the number of panels required for the project.

11. Please identify if the elimination of Suncatchers changes the schedule or intensity of work for the PV installation, which may result in changes to the traffic and off-road equipment needs that would impact the maximum daily or annual emissions estimates during the construction phase.

12. Please explain why the offsite emissions factors are lower than the on-site emissions factors for the on-road vehicles during the construction phase. Please identify what are the assumptions (year, speed, fleet location, etc.) used to derive each set of values.

13. Staff's review indicates that the average vehicle weight for the heavy duty trucks appears to be too low. Staff believes that the weight should be in the range of 27.5 to 30 tons to account for the average of the loaded and unloaded weights. Please justify the use of 20 tons for the heavy duty truck weight or increase the truck weight and update the emission estimates.

14. Please provide revised modeling analyses for both construction and operation phases, including the new Federal 1-hour NO_2 modeling for the operation phase.

BACKGROUND: CONSTRUCTION GREENHOUSE GAS EMISSIONS

For the travel and delivery GHG emissions during the construction phase, the amendment only includes the trip length within the Mojave Desert Air Basin (MDAB). Although staff does not require all emissions from all modes of transportation, which

could include rail transportation or even marine shipping from overseas, at least the full trip length for the truck trips to the site should be included.

DATA REQUEST

15. Please update the travel and delivery GHG emissions during the construction phase to include the entire truck trip lengths from their point of origin, not just that portion within the MDAB.

Technical Area: Biological Resources
Author: Amy Golden and Ann Crisp

BACKGROUND: GENERAL SPECIES IMPACTS

The project owner is proposing to reconfigure the site and reduce the project footprint, and to use photovoltaic (PV) technology rather than solar thermal technology (SunCatchers) under the modified project. The project owner is also proposing to change the phasing of construction. The June 2012 Petition to Amend (Petition) provides a list of potential environmental benefits from the proposed changes but does not demonstrate how the new PV site plan, use of PV technology, and changes to construction phasing would change direct, indirect, or cumulative impacts on biological resources compared to the original project. In addition, according to Figure 2-2 of the Petition, there are unsurveyed areas of the modified project, including the proposed west access road.

DATA REQUESTS:

Please provide an impact summary table that identifies the project impact acreages for habitat and number of individuals for all sensitive species impacted by the modified project. Please compare the impact acreages of the approved project to the modified project for all sensitive species and habitat.

16. Please provide a figure showing all areas previously surveyed with the new modified project site plan overlaid. Please identify any new project features of the modified project that have not been previously surveyed. For areas that have not been previously surveyed, please identify the species surveys to be performed, proposed survey protocols, and provide a letter report summarizing the results once surveys are complete. Please provide the electronic file for the modified project site plan.

BACKGROUND: PROPOSED HABITAT CONNECTIVITY CORRIDOR

The project owner is proposing a reconfiguration of the site that includes eliminating development of an area near the center of the modified project to provide open space that will allow for a wildlife movement corridor. The Petition does not describe the proposed habitat connectivity corridor nor discuss how avoiding this area would change direct or indirect impacts to biological resources.

DATA REQUEST:

17. Please provide a complete description of the proposed habitat connectivity corridor near the center of the modified project including a discussion of the following:

    A. any proposed project features or existing features that transect the corridor and could potentially impede wildlife movement;

    B. any project features or existing features that will provide access through the corridor;

C. any proposed fencing that would be erected within or around the habitat connectivity corridor, specifically along the BNSF Railroad;

D. explain if the corridor will be considered an onsite preserve area or simply a habitat impact avoidance area. If the area is planned to be an onsite preserve designed to offset project impacts to species, identify which species and habitat and whether the BLM would approve a conservation easement over the connectivity corridor to preserve the area in perpetuity. If the habitat connectivity corridor is planned to be maintained as a wildlife movement corridor, explain any long-term management and monitoring plans for this area; and

E. discuss any potential construction and operational impacts from the modified project on plant Environmentally Sensitive Areas that occur in that area and wildlife within the corridor such as changes to hydrology, traffic, noise, and lighting.

BACKGROUND: **SPECIAL-STATUS PLANTS**

Many documented occurrences of special-status plants occur at the Calico Solar site including known locations of Utah vine milkweed, white-margined beardtongue, small-flowered androstephium, and Emory's crucifixion thorn. Several of these locations occur within the proposed habitat connectivity corridor or along the northern project boundary and would therefore be avoided by the modified project. The Petition provides the modified acreage of Environmentally Sensitive Areas (ESAs) in BIO-12, but has not indicated how direct or indirect impacts to special-status plant species may change compared to impacts of the approved project. Surveys for late-season special-status plant species were performed following licensing of the original project in accordance with Condition of Certification BIO-12; however, not all areas of the modified project were included in this late-season botanical survey.

DATA REQUESTS:

18. The draft November 2010 plant survey report ("Late Season 2010 Botanical Survey of the Calico Solar Project Site") provides the results of focused botanical surveys that were performed over a large portion of the old Phase 1 boundary, other ancillary facilities, and a portion of the old Phase 2 boundary (new Phase 1); this report states the remaining portions of the old Phase 2 boundary (new Phase 1) would be surveyed during a subsequent late-season survey during 2011. According to Figure 1 of this report, a large portion of the new Phase 1 (old Phase 2 boundary generally south of BNSF railroad and north of Interstate 40) was not surveyed. Please provide a letter report summarizing the results of the late-season 2011 botanical surveys.

19. Using the modified project boundary, please provide a table giving the revised impact and avoidance numbers for white-margined beardtongue, Utah vine milkweed, Emory's crucifixion thorn, small-flowered androstephium, and any other special-status plants.

20. Based on the new rare plant avoidance numbers and locations identified above, please provide a figure depicting the modified project site plan and known rare plant locations. If the site plan would impact special-status plant locations differently, please revise the ESA boundaries and show on this figure also. Please also provide the electronic files for known rare plant locations and revised ESA boundaries.

BACKGROUND: **DESERT TORTOISE**

The modified project proposes to avoid the highest quality tortoise habitat in the northeast portion of the project site. The Petition provides a modified compensation acreage in BIO-17, but otherwise does not discuss how the modified project would change direct or indirect impacts to desert tortoise. During the original project proceeding, the applicant and resource agencies provided a probabilistic sampling estimate of the tortoise population occupying the action area to the 95% confidence interval following USFWS's 2010 *Pre-project Field Survey Protocol for Potential Desert Tortoise Habitats*. Since the action area (defined as all areas to be either directly or indirectly affected and not merely the immediate footprint of the action) has changed, the estimated tortoise density of the action area would likely change.

DATA REQUESTS:

21. Please provide an update on any desert tortoise surveys (protocol-level or non-protocol level) that have been performed for the project, including the project site or proposed translocation sites, since licensing of the approved project. If such surveys have been conducted since licensing of the approved project, please provide a letter report summarizing the results.

22. Please recalculate the estimated tortoise density for the modified project utilizing the 95% confidence interval formula using the new action area.

23. Please provide a figure showing all desert tortoise observations with the new modified project site plan overlaid. Please also provide the electronic files for all known desert tortoise locations.

BACKGROUND: **BURROWING OWL**

Burrowing owls were detected during surveys in 2008 and 2010. The project owner is proposing to change the phasing of construction and use PV technology under the modified project. The modified project would impact less habitat than the original project, but otherwise the Petition does not demonstrate how the modified project would change direct or indirect impacts to burrowing owl.

DATA REQUESTS:

24. Please provide a figure depicting the modified project site plan in relation to the known burrowing owl nest locations. Please also provide electronic files for burrowing owl nest locations.

25. Please identify any areas not previously surveyed for burrowing owl. Please provide the survey schedule to complete any remaining surveys and provide the survey results once the surveys are completed.

BACKGROUND: **GOLDEN EAGLE**

As determined during the original project proceeding, nesting habitat for golden eagle does not occur onsite. However, golden eagles are known to nest within a 10 mile radius of the project site and the site does contain suitable foraging habitat for this species. The modified project would impact less habitat than the original project, but otherwise the Petition does not demonstrate how the modified project would change direct or indirect impacts on golden eagle. At the time of issuance of the Final Commission Decision for the original project, the USFWS Migratory Bird Division was in the process of developing guidance regarding implementation of the Bald and Golden Eagle Protection Act (Title 16, United States Code section 668) Final Rule, including establishing take thresholds within each Bird Conservation Region that must not be exceeded. As a result, it was not determined whether the approved project would require a federal take permit for golden eagle since golden eagles are known to nest within 10 miles of the site. Based on discussions with USFWS staff, guidance regarding implementation of the Bald and Golden Eagle Act Final Rule is still not available. However, the Petition does not provide a discussion of any coordination with the USFWS regarding golden eagle for the modified project.

DATA REQUESTS:

26. Since the project footprint has been reduced under the modified project, please provide the revised distance from the modified project boundary to all known golden eagle nests identified within 10 miles of the site. Please provide electronic data for all known golden eagle nest locations.

27. Please provide an update of any coordination between the project owner and the USFWS.

BACKGROUND: **NELSON'S BIGHORN SHEEP**

As determined during the original project proceeding, it is likely that Nelson's bighorn sheep use portions of the site for foraging and possibly inter-mountain movement to some degree. The modified project would impact less bighorn sheep habitat than the original project, but otherwise the project owner does not demonstrate how the modified project would change direct or indirect impacts Nelson's bighorn sheep.

DATA REQUEST:

28. Please provide a figure showing all bighorn sheep locations with the new modified project site plan overlaid. Please provide electronic data for all known Nelson's bighorn sheep locations.

BACKGROUND: STATE WATERS

In Section 5.1.2, page 5.1-2 of the Petition, the project owner anticipates that the permanent impacts to state jurisdictional waters, assuming impacts to all state waters within the modified project footprint, would decrease from 152.3 acres to 114.1 acres. However, there is no discussion of what modifications contributed to the reduction in impacts. The project owner is proposing modifications to Condition of Certification BIO-10 (Revegetation Plan and Compensation for Impacts to Native Vegetation Communities) that added language that "areas within the PV Tracker Blocks (unimproved module access points and the native soil rows) shall not be revegetated." The Petition does not provide any analysis of construction impacts of the modified project on state waters or why revegetation within the PV Tracker Blocks is not warranted. Staff understands that a preliminary grading plan and hydrology study are forthcoming.

DATA REQUESTS:

29. Please provide a detailed analysis of how the impacts to state waters were calculated for the amended project including any assumptions of lost values of desert wash habitat and function as a result of the modified project. Include information on any impacts to state waters that will result from placement of PV arrays in either single axis tracker or fixed tilt arrays. Please provide the digital data for state waters shown in Figure 5.1-1 of the Petition.

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

31. With the change of the modified project to PV technology, please also discuss the potential for offsite impacts to state waters, primarily desert washes located farther downstream in the watershed from the project site.

32. Provide a discussion of impacts to state waters resulting from not revegetating the areas within the PV Tracker Blocks (described as unimproved module access points and the native soil rows).

BACKGROUND: CONSTRUCTION IMPACTS

Section 5.1.1 of the Petition briefly discusses some construction impacts of the modified project (vegetation trimming), however other construction impacts are not discussed and staff needs to understand how these impacts may change with the use of PV technology. Staff analyzed the impacts of construction on plants and wildlife for the approved project in terms of the following: direct mortality, injury, or harassment to wildlife from increased construction traffic, equipment, or roadways; habitat loss or habitat community degradation of vegetation through fugitive dust, introduction of invasive weeds; disruption of wildlife movement and gene flow; desert wash habitat alteration due to site hydrology changes; and disturbance by equipment from noise and vibration. Nighttime construction or constructing past dusk or before dawn to avoid high

daytime desert temperatures is a potential impact that must also be considered especially to nocturnal birds and mammals; nighttime construction may further disrupt normal breeding, foraging, and activity patterns by introducing more sources of noise, light, and vibration that are otherwise absent at night. Nighttime construction typically results in a higher quantity of vehicles on site roadways during dark hours, which often increases the risk of vehicle strikes with wildlife. Besides stating that construction of the modified project would require a larger area of brush trimming, the Petition does not provide any information on the analysis of construction impacts of the modified project on special-status plants, vegetation, wildlife, or habitat in comparison to the original project proceeding. Section 6.2 of the Petition indicates that construction traffic will generally decrease compared to the approved project. Section 6.4 indicates construction noise of PV arrays nearest to sensitive receptors is expected to produce noise levels lower than those determined under the approved project from SunCatcher technology installation. Section 6.5 indicates lighting during construction with the approved and modified projects would be similar.

DATA REQUEST:

33. Please provide a discussion comparing the biological impacts of construction activities associated with PV technology to the construction impact analysis performed for the approved project using SunCatcher technology to burrowing owl, desert tortoise, Mojave fringe-toed lizard, golden eagle, Nelson's bighorn sheep, and special-status plant species. Specifically, please discuss potential impacts from direct mortality, injury, or harassment to wildlife from increased construction traffic, equipment, or roadways including increased road mortality during night construction; habitat loss or habitat community degradation of vegetation through fugitive dust, introduction of invasive weeds; disruption of wildlife movement and gene flow; desert wash habitat alteration due to site hydrology changes; and disturbance by equipment from noise and vibration. In addition, please provide any additional measures that would be implemented to minimize or avoid direct and indirect effects to these species and habitat during construction.

BACKGROUND: OPERATIONAL IMPACTS

Section 5.1.1 of the Petition briefly discusses some operational impacts of the modified project (vegetation trimming and avian collisions with transmission towers), however other operational impacts are not discussed and staff needs to understand how these impacts may change with the use of PV technology. Staff analyzed operational impacts of the approved project on plants and wildlife in terms of the following: increased raven subsidies, operational noise, traffic, avian collision and electrocution, and glare/lighting.

An environmental impact that is not known to occur with solar thermal projects and therefore was not analyzed during the original project proceeding, but is an impact associated with PV technology, is polarized light pollution. Polarized light occurs when ordinary white light becomes strongly aligned in a single, often-horizontal plane by reflection from artificial surfaces that alters the manner in which organisms would normally receive light. Light is naturally polarized by large bodies of water but light is often times artificially polarized by smooth, large, dark surfaces such as roads, large

glass windows, buildings, and PV panels. Many taxa of birds, reptiles, fish, insects, and crustaceans utilize artificially polarized light; polarized light has been shown to play a role in habitat selection and egg-laying site selection in aquatic insects and effects foraging behaviors, navigation, and orientation in birds (Horvath et al 2009).

DATA REQUESTS:

34. Please provide a discussion comparing the biological impacts of an operating PV power plant in comparison to the operation impact analysis performed for the approved project using SunCatcher technology to burrowing owl, desert tortoise, Mojave fringe-toed lizard, golden eagle, Nelson's bighorn sheep, and special-status plant species. Specifically, please discuss potential impacts from long-term maintenance activities associated with PV power plants such as increased raven subsidies, operational noise, traffic, avian collision and electrocution with PV equipment and other associated facilities, and glare/lighting from reflected light on nearby vegetation and habitat. Please also provide any additional measures that would be implemented to minimize or avoid direct and indirect effects to these species and habitat during operation.

35. Please explain why vegetation trimming would be substantially reduced during operations in comparison with the approved project.

36. Please analyze the potential for the PV panels to produce polarized light during operation of the modified project. Please provide an expected level of polarized light that would be emitted from the PV panels and its impacts to vegetation and wildlife specifically insects, foraging bats, and foraging and migrating bird species and the potential for increased avian collisions, changes to flight patterns, foraging behaviors, and habitat use. Please identify facility design measures (such as installing non-polarizing white borders or white grids intermittently between polarized dark surfaces) and mitigation measures to offset any negative ecological impacts.

Reference:

Horvath et al 2009 – G.Horvath, G. Kriska, P. Malik, and B. Robertson. 7 January 2009. *Polarized Light Pollution: A New Kind of Ecological Pollution*. Frontiers in Ecology and Environment.

Technical Area: Cultural Resources
Authors: Amber Grady and Michael D. McGuirt

Where the disclosure of information on the location or the character of cultural resources may create a substantial risk of harm, theft, or destruction, one must submit such information under cover of an application for confidential designation pursuant to Title 20, California Code of Regulations, section 2505.

BACKGROUND - PROJECT BOUNDARY

Based on the information provided, the amended project would be smaller and appears to be largely encompassed by the previously approved project boundary. Prior cultural resources technical reports done in support of the original siting case before the Energy Commission will help staff analyze the amended project to the extent that the previous project boundary includes all of the elements of the new amendment. There may be a number of exceptions, however, where minor elements of the amended project are outside of this previous boundary. Staff would appreciate clarification on the number and extent of any such deviations. One element of the amended project that is clearly outside of the previous project boundary is portions of the new proposed access road through the northwestern portion of the amended project. The road is referred to in figure 2-1 of the amendment as the “Proposed Access Road (2.0 miles)” and traverses portions of the eastern one quarter of section 9, township 8 north, range 5 east that have been “Not a Part” excluded lands since the earliest iterations of this project. It is also unclear to staff whether the relocated proposed bridge in figure 2-1 would have the potential to effect any cultural resources that may be present in the portion of the BNSF Railway right-of-way beneath and adjacent to the bridge, or whether the portion of the “Proposed Water Line (0.51 miles)” in the southeastern one quarter of section 1, township 8 north, range 5 east, parts of which have also been “Not a Part” excluded lands since the earliest iterations of this project, has been subject to prior survey. In order to process the amendment staff needs to know whether all elements that are currently part of the amended project have been sufficiently studied.

DATA REQUESTS

37. Please provide a map of no less than a 1:24,000 scale that includes the original project boundary and the amended project boundary. Please also depict the archaeological and built environment buffers that correspond to each boundary. This will allow staff to determine the degree to which the amended project falls within the previously studied area.

38. Please provide a discussion of exactly which portions, if any, of the elements of the amended project have not been subject to prior cultural resources survey.

39. If portions of any elements of the amended project have not been subject to prior survey, please provide the anticipated schedule for the class III, phase I intensive pedestrian cultural resources survey of those lands and for the submission of any resultant technical reports in a time frame that would enable the incorporation of that new information into the staff assessment for this amendment.

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

BACKGROUND

The project would transport, store, and use on-site miscellaneous scale inhibitors and algae control chemicals for control of corrosion and biological build-up in the reverse osmosis equipment and pipes. Although the applicant proposes to store no more than four 55-gal drums of these chemicals at any one time, many of the chemicals in use today are highly toxic and/or corrosive. In order to adequately assess the potential impacts to workers and the off-site public due to the transportation, storage, and use of these chemicals, staff needs to know their identify.

DATA REQUESTS

40. Please identify by name, CAS number, concentration, and maximum amount to be stored of each chemical that will be used as scale inhibitors and to control algae.

Technical Area: Socioeconomics
Author: Steve Kerr

BACKGROUND: Construction and Operation Workforce

Table 5.10-10 in the AFC for the original project proposal (http://www.energy.ca.gov/sitingcases/calicosolar/documents/applicant/afc/volume_01/Master_Section_5.10.pdf) provided monthly estimates of the construction workforce by specific trade or craft. For staff to determine whether the available workforce, as specified by trade or craft would be adequate for construction of the modified project, please provide the additional information identified below.

DATA REQUEST

41. Please provide an updated table similar to Table 5.10-10 in the original AFC that identifies the number of construction workforce by craft or trade needed per month for project construction. Please provide a similar table for the operation workforce.

Technical Area: Soils and Water
Author: Marylou Taylor

BACKGROUND:

In Section 2.2, the Amendment describes the two types of proposed PV technology under the Modified Project. In order to assess the potential impacts from the difference between the Modified Project and the Approved Project, an impact comparison is needed to analyze the differences in construction and operation of the PV Tilt system and PV Tracker systems options and a combination of both.

DATA REQUEST

42. Please provide a detailed narrative, and maps and plans if necessary, describing the installation of both proposed PV technologies, including type and size of equipment for installation, type of foundation (if needed), required laydown areas or assembly buildings, soil disturbance and method for installation of underground wires for electrical collection and panel control, and slope tolerances for installation of PV rows before grading is required. The narrative should also discuss the differences between these two options and the Approved Project

43. Please provide a detailed narrative, and maps and plans if necessary, describing the operation and maintenance of both proposed PV technologies, including frequency of and equipment used for panel washing, frequency of and equipment used for maintaining vegetation under panels, and any other differences between the two technologies. The narrative should also discuss the differences between these two options and the Approved Project

BACKGROUND:

In Section 5.2.2.1, 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 difference between the Modified Project and the Approved Project, these analyses must be completed and submitted as part of the Amendment.

DATA REQUEST

44. Please provide the hydrology, hydraulic and sediment transport/scour studies for the Modified Project, including the area within and surrounding the BNSF railroad right-of-way.

BACKGROUND:

In Section 5.2.2.1, 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

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

BACKGROUND:

In the Amendment, two tables (Tables 5.2-1 and 5.2-2) 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

46. Please revise Tables 5.2-1 and 5.2-2 to include Approved Project values.

47. Please provide a table, similar to that discussed above, comparing construction water use for the Approved and Modified Projects.

BACKGROUND:

In Section 2.3.3 of 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

48. 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:

The Amendment states that for both construction and operation, the well water would be piped to the new location of the main services complex south of the railroad, requiring a pipeline to pass across the BNSF railroad right-of-way. Section 2.3.5 of the Amendment states that jack and bore techniques would be used for pipeline construction under the railroad. Staff needs confirmation that BNSF is agreeable to the placement and construction method 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

49. Please provide the construction design of the water line (including pipe material, alignment, depth, and construction laydown areas) from the well head to the main services complex.

50. 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 Drainage, Erosion and Sediment Control Plan (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 a revised DESCP for the Modified Project.

DATA REQUEST

51. 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.

    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).

G. Separate BMP implementation schedules shall be provided for each project element for each phase of construction.

H. 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.

I. 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 Sanitary Wastewater discussion of the Amendment, a wastewater recycling system is mentioned that appears to be separate from the proposed septic system. The Amendment has no discussion of the design, operation or location of a wastewater recycling system.

DATA REQUEST

52. Please provide the design of the wastewater recycling system.

53. Please provide a map indicating the proposed location of the wastewater recycling system.

54. 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 of the Amendment under Process Wastewater, it is mentioned that a Report of Waste Discharge (ROWD) would be filed with the RWQCB and waste discharge requirements would be obtained for operation of the evaporation ponds. The RWQCB waste discharge requirements (WDRs) are needed by the Energy Commission 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

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

56. Please provide evidence that the appropriate fees have been paid to the RWQCB to initiate their review and preparation of WDRs.

BACKGROUND

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

DATA REQUEST

57. 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

As discussed in the Petition to Amend, the applicant has not yet submitted a glint and glare study, as it is still under development. The glint and glare study must provide a detailed analysis sufficient to address glint and glare concerns, including the potential for hazard, disability, or nuisance glare from the PV technology on motorists, train engineers, on-site workers, and viewers at the key observation points (KOPs).

DATA REQUESTS

58. 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 key observation points (KOPs) required by the Visual Resources analyst. The analysis should cover both of the two proposed technologies (horizontal single-axis trackers and a fixed tilt system), as well as tracking and off-axis positions.

    Please describe:

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

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

    C. 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 KOPs. Include conditions under which impacts could occur, as well as safe distances (setbacks) from both PV 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;

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

59. 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 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 would 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 REQUEST

60. 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 on the bridge and the width of each lane.

BACKGROUND

Figure 2-2, "Modified Project Layout", in the Petition to Amend does not show the project-provided access route that was included in the original project. This figure also does not seem to differentiate between BLM open routes, closed routes, and unspecified routes.

DATA REQUEST

61. Please provide a figure similar to Figure 2-2 that includes:

A. the project-provided access route included in the original project;

B. BLM open routes, closed routes, and unspecified routes.

See the attached figure on page 24 from the original project for details.

BACKGROUND

Page 2.1-2 of the Petition to Amend states that a new access route to the portion of the Modified Project in Township 8N, Range 5E, Section 8 would be located on private land within assessor parcel number (APN) 0529-201-13-000. The Petition states that the private property owner granted access via an access agreement executed on November 1, 2010.

DATA REQUEST

62. Please provide a copy of the access agreement.

BACKGROUND

The Petition to Amend does not include:

- traffic volume and level of service (LOS) for roadway segments during project construction; or
- traffic delays and LOS for intersections during project construction.

Although staff recognizes that the modified project would reduce construction traffic, this information would be helpful in determining if the original conditions of certification are still appropriate.

DATA REQUESTS

63. For project construction traffic conditions, please provide traffic volumes and level of service (LOS) for the following roadway segments analyzed as part of the original project:

    A. I-40 – West of Hector Road

    B. I-40 – East of Hector Road

    C. Hector Road – North of I-40

    D. Hector Road – South of I-40

    E. National Trails Highway – West of Hector Road

    F. National Trails Highway – East of Hector Road

64. For project construction traffic conditions, please provide traffic delays and LOS for the following intersections analyzed as part of the original project:

    A. I-40 – Westbound Ramp/Hector Road

    B. I-40 – Eastbound Ramp/Hector Road

    C. Hector Road/National Trails Highway

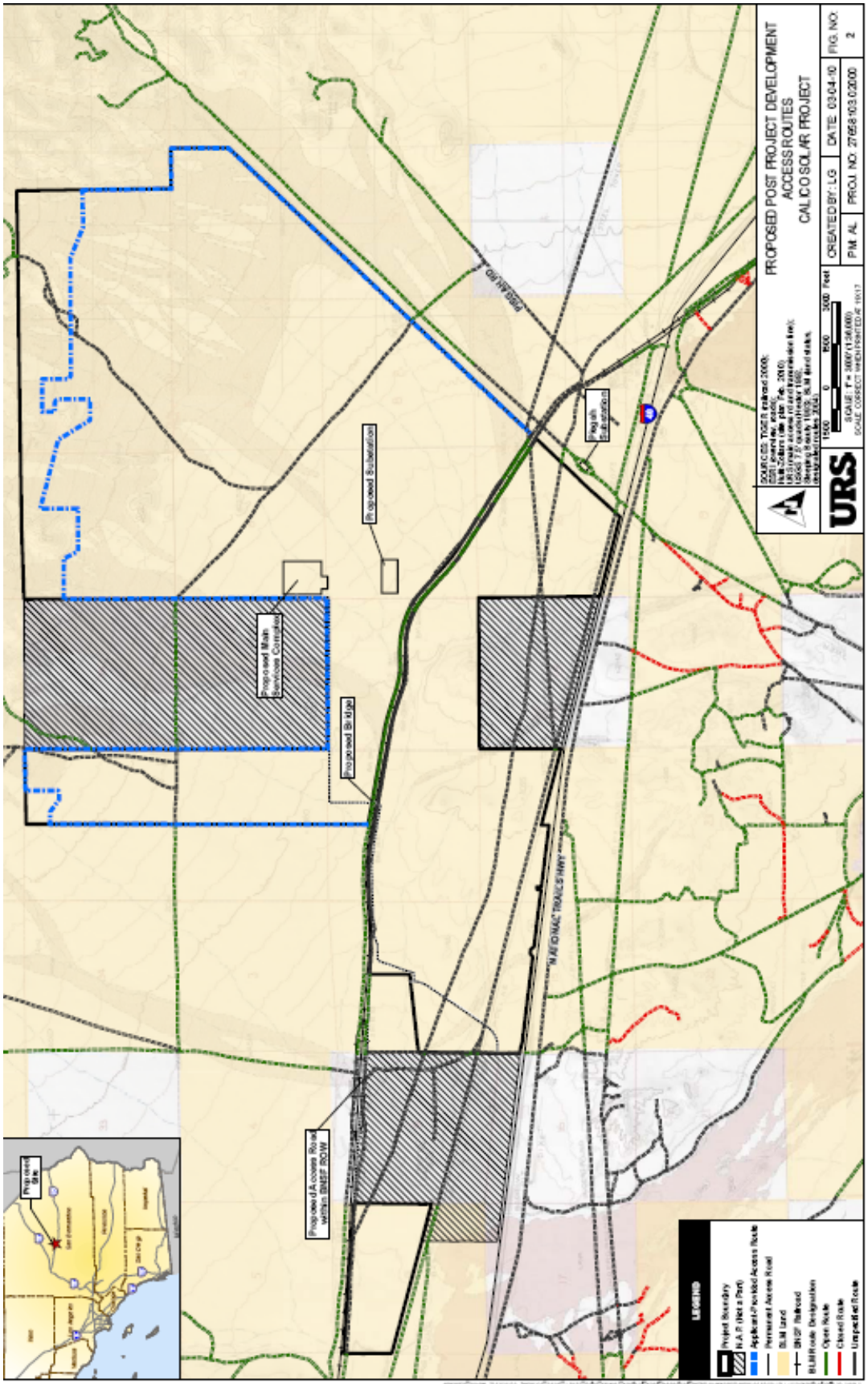

Figure 2-2 from Original Calico Solar Project approval.

Technical Area: Transmission System Engineering
Author: Sudath Edirisuriya and Mark Hesters

Data Requests

65. Please provide revised phase one and two electrical one line diagrams with Photovoltac (PV) modules mounted on horizontal single axis trackers or a fixed tilt racking system.

    Resubmit revised following diagrams which are applicable.

    A. 1.5 MW solar group electrical one line diagram sheet 1 and 2 with collector bus voltage, current carrying capacity of the conductors, ratings of the Breakers, Transformers and Capacitor banks.

    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

Additional information is needed to adequately evaluate impacts of the amended project on Visual Resources. Consultation and coordination between Energy Commission staff and the project applicant is necessary to verify locations for the key observation points (KOPs) that are preliminarily identified on Figure 6.5-1 of the Petition to Amend. Some of the KOPs depicted in Figure 6.5-1 are mislocated and are different than the previous locations shown in the March 18, 2011, Petition to Amend. Additional information is needed as described below.

DATA REQUESTS

66. Staff requests consultation with the project applicant to correct and verify locations of the KOPs for the project *prior* to preparation of the photographs for existing condition views and visual simulations. Some KOPs need to be altered or moved to adequately represent the potential visual impacts of the project. The viewpoints for KOPs 4 and 6 are incorrectly shown on Figure 6.5-1. KOP 5 does not appear to provide a useful representation of the potential impacts of the Modified Project on visual resources; consultation is needed to decide whether to move the viewpoint.

    A. Following final verification of KOP locations, staff requests preparation of a revised and corrected version of Figure 6.5-1.

    B. Following final verification of KOP locations, staff requests preparation of an additional figure at a larger scale (i.e., zoomed in) showing the KOPs on a map that includes the proposed layout for the photovoltaic (PV) rows and arrays at the project site and the proposed locations for both tracking and fixed-tilt systems[1]. Please show the locations of the proposed main services complex, permanent above-grade roadway over the railroad, and any other project features that would be visible from each KOP.

    C. Following final verification of KOP locations, staff requests complete text descriptions and view characterizations for each KOP. Include discussions of known or probable viewer groups, visual quality of the views, assessments of viewer concern and viewer exposure, and the degree of change from existing conditions with construction and operation of the Modified Project.

    D. Following final verification of KOP locations, staff requests that the existing views and visual simulations for each KOP be prepared and reproduced in an 11-inch by 17-inch format[2]. The existing condition photographs and visual simulations must be prepared and reproduced as described below:

[1] Consultation and coordination between staff and the project applicant will be necessary to determine the full range of visual simulations, which could include separate visual simulations for both types of PV systems.

[2] Energy Commission staff will provide examples of figures showing KOP photographs and visual simulations.

a. Please provide information on camera settings used to photograph the site and produce the visual simulations. Please state the camera type, lens setting/length, and horizontal angle of view on each figure. In other words, please provide all “camera match” data.

b. Identify the date and time for the photographs, distance to the project site, viewing direction, and geographic location (e.g., latitude and longitude).

c. Please ensure that the visual simulations are reproduced at a scale that accurately represents the horizontal angle of view as seen in the field when viewed at a normal reading distance from the page. That distance could be between 12 and 18 inches from the page; please specify the correct reading distance on each KOP photograph and the corresponding visual simulation.

d. Include a photographic panorama on the page below each photograph and corresponding visual simulation using a wide angle of view to depict the breadth of the landscape for each KOP and show the visual context for each KOP.

67. Staff requests preparation of a scale plan and elevation drawing(s) showing significant project structures referenced in Table 2-1 of Section 2 of the Petition to Amend, “Significant Structures Comparison and Equipment Description.”

68. Staff requests detailed text descriptions of the proposed PV modules.

A. Please add detailed descriptions of the dimensions of the PV modules for both tracking and fixed-tilt systems.

B. Please characterize and describe the types of modules for both systems. For tracking and fixed-tilt systems, please explain whether those systems would use silicon crystalline or thin film modules or either of the two module types.

C. Please describe the appearance and potential reflectivity for both systems, and include discussions of potential diffuse and specular reflection from the modules.

D. Please provide representative photographs of PV modules showing tracking and fixed-tilt systems and the types of modules for each system type.

69. Staff requests a detailed text description of the permanent bridge that is proposed for construction over the Burlington Northern Santa Fe railroad tracks; please include a description of any necessary lighting for the bridge structure.

BACKGROUND

Section 2, “Description of Project Amendment,” in the Petition to Amend includes information that is applicable to the analysis of the visual effects of the project, including information on the sizes and locations of project structures.

Heights of PV modules would vary depending on the type of PV system, time of day, manufacturer, and possibly other project characteristics. (For example, the highest point

for a horizontal tracker at maximum angle in the morning and evening could be approximately 6 to 11 feet from the ground surface. For fixed tilt panels, the maximum height could be approximately 6 feet. These values are approximate based on staff's basic understanding of the two types of PV systems.)

70. Staff requests additional information to clarify descriptions of the proposed PV module systems and locations and dimensions of the major project structures. Table 2-1, "Significant Structures Comparison and Equipment Description," includes an error for the height of the PV modules (listed in the table as "0..1"). Staff requests correction of that error.

71. Table 2-1 lists many types of electrical equipment. Staff requests clarification of the information in Table 2-1 to indicate what equipment will be located at the proposed substation. Please also indicate what equipment listed in Table 2-1 would be located at the proposed main services complex.

72. Page 2.2-2 of the Petition to Amend states that the maximum height for both tracking and fixed-tilt PV modules would be 9 feet. Please clarify and correct the stated dimensions for both types of PV modules, including the maximum and minimum heights for both types of PV systems.

BACKGROUND

Nighttime lighting is very briefly discussed on page 6.5-3 of the "Visual Resources" section of the Petition to Amend.

73. Staff requests an updated discussion of the proposed lighting for the Modified Project. Please provide a full description of permanent lighting at the proposed main services complex, parking areas, project site access roads, and maintenance roads in the areas of the solar field arrays.

74. Please provide a full description of construction lighting that will be used during project construction phases.

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 related to glint (i.e., specular reflections) and glare (i.e., diffused reflections) on viewers at publicly accessible use areas, including the final verified viewpoints for the KOPs.

Subsection 6.5.2.3 of the "Visual Resources" section of the Petition to Amend briefly addresses glint and glare, however, the analysis does not provide sufficient detail to address potential impacts of the project on visual resources. The discussion of glint and glare concludes that because the "PV technology would primarily absorb rather than reflect sunlight, and, while there is potential for glint and glare under the Modified

Project, it would be substantially less than with the Approved Project." While this statement may be generally true, the brief write-up includes no discussion and analysis to substantiate the conclusion. Also, this conclusion is premature given that the glint and glare study has not yet been prepared for the Modified Project.

It is also stated that "because the same setback requirements would exist under the Modified Project, impacts from glint and glare are expected to be less significant than those associated with the Approved Project." The setback requirements under the Approved Project could potentially be modified depending on the results of the yet to be completed glint and glare study for the Modified Project.

DATA REQUEST

75. Staff requests that the discussion and analysis be expanded to substantiate the conclusion that impacts from glint and glare under the Modified Project would be less than significant, including citations and references for applicable completed studies addressing the same or similar technologies.

Technical Area: Waste Management
Author: Ellie Townsend-Hough, REA

BACKGROUND

A solar module is a package-connected assembly of photovoltaic (PV) cells. The materials presently used in PV cells include but are not limited to mono-crystalline silicon, poly-crystalline silicon and thin-film/amorphous silicon. The crystalline silicon materials are not considered hazardous. However, the thin-film PV cells can be fabricated from amorphous silicon, cadmium telluride (CdTe), or copper indium gallium (di) selenride. CdTe is a commonly used solar cell material for the manufacture of thin film PV. The disposal and long term safety of cadmium telluride is a known issue in the large-scale commercialization of cadmium telluride solar panels. Department of Toxic Substance Control is expected to publish regulations for PV panel recycling in August 2012. Staff is continuing to explore potential waste management issues with other forms of PV cell materials.

The proposed PV technology to be utilized for the Calico Project will be mounted on (1) horizontal single-axis trackers or (2) a fixed tilt tracking system. The amendment does not specify what type of material will comprise the PV cells that will be used for the PV modules.

DATA REQUEST

76. Please describe the factors that would be used to choose PV cell material. When would that decision be made and how will cell cost, performance, and waste management needs be evaluated?

77. Please provide detailed information (quantity per year, storage, transportation, etc.) concerning the Calico Solar recycling program for broken and damaged PV cells/modules/panels.

78. What type of program would be established for additional module inspection, maintenance etc., that would be used to identify and correct damage caused by earthquakes, fires, severe wind events, hailstorms, etc.

79. Due to the long term safety with modules made with cadmium telluride, describe the measures that will be implemented to identify and manage potentially damaged or broken modules.

80. If thin-film modules are chosen and the material is not cadmium telluride, what are the waste management risks and issues that would need to be addressed?

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

BACKGROUND

The modified project would consist of a very large number of solar photovoltaic panels, wire, and capacitors. This array can potentially subject workers to routine electrical hazards. Additionally, in the event of a fire involving solar PV panels, the connecting wires, and/or capacitors, both on-site workers and emergency response personal may be subject to electrical shock hazards of sufficient magnitude so as to cause serious injury or death. Since cutting circuits do not result in a de-energized solar panel (which can remain energized for up to 72 hours in the dark), these hazards are real and difficult to address. In order to adequately assess the potential impacts to workers and emergency responders, staff needs to know what safety procedures are planned to prevent accidental electrocutions.

DATA REQUESTS

81. Please identify safety measures, including engineering controls and administrative controls (Best Management Practices) that will be implemented to protect workers and emergency responders when a fire or other event occurs that necessitates a response.

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

FOR THE CALICO SOLAR PROJECT AMENDMENT

Docket No. 08-AFC-13C
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(Revised 6/26/2012)

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***** Indicates Change

DECLARATION OF SERVICE

I, Craig Hoffman, declare that on August 13, 2012, I served and filed a copy of the attached Data Request Set 1. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: **www.energy.ca.gov/sitingcases/calicosolar/index.html**.

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

(Check all that Apply)

For service to all other parties:

X Served electronically to all e-mail addresses on the Proof of Service list;

___ Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

X by sending an electronic copy to the e-mail address below (preferred method); ***OR***

___ by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 08-AFC-13C
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.ca.gov

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

___ Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
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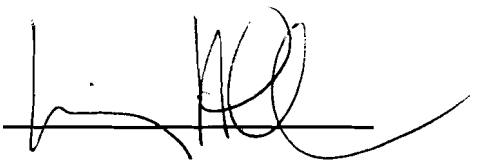
I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.



* Indicates Change