State Of California The Resources Agency of California

Memorandum

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To: Commissioner Anthony Eggert, Presiding Member
Commissioner Jeffrey Byron, Associate Member

From: California Energy Commission – Christopher Meyer, Project Manager
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **ENERGY COMMISSION STAFF'S UPDATED SOIL & WATER CONDITIONS OF CERTIFICATION FOR THE CALICO SOLAR PROJECT (08-AFC-13)**

Energy Commission staff is providing an update and compilation to the **Soil and Water Resources** conditions of certification published in the Supplemental Staff Assessment (SSA) in response to the direction from the presiding Committee during the September 20, 2010 evidentiary hearing. The **Soil and Water Resources** conditions of certification have changed due to stipulations with the applicant in project proceedings, staff errata due to project design changes, and additional information and/or requests from other parties. These changes have been made to the most current version of the conditions of certification with changes presented in underline-strikeout form.

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UPDATED SOIL AND WATER RESOURCES CONDITIONS OF CERTIFICATION

C.7.14 PROPOSED CONDITIONS OF CERTIFICATION/MITIGATION MEASURES

DRAINAGE EROSION AND SEDIMENTATION CONTROL PLAN

SOIL&WATER-1 Prior to site mobilization, the project owner shall obtain the CPM's approval ~~for~~ of a site specific Drainage, Erosion and Sediment Control Plan (DESCP) 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 appropriate methods and actions, both temporary and permanent, for the protection of water quality and soil resources, demonstrate no increase in off-site flooding potential, and identify all monitoring and maintenance activities. The project owner shall complete all necessary engineering plans, reports, and documents necessary for BNSF and the CPM to conduct a review of the proposed project and provide a written evaluation as to whether the proposed grading, drainage improvements, and flood management activities comply with all requirements presented herein. The plan shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1** and shall contain the following elements:

- **Vicinity Map:** A map shall be provided indicating the location of all project elements with depictions of all major geographic features to include watercourses, washes, irrigation and drainage canals, major utilities, and sensitive areas.
- **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, underground utilities, roads, and drainage facilities. Adjacent property owners shall be identified on the plan maps. All maps shall be presented at a legible scale
- **Drainage:** The DESCP shall include the following elements:
    a. Topography. Topography for offsite areas is required to define the existing upstream tributary areas to the site and downstream to provide enough definition to map the existing storm water flow and flood hazard. Spot elevations shall be required where relatively flat conditions exist.

b. Proposed Grade. Proposed grade contours shall be shown at a scale appropriate for delineation of onsite ephemeral washes, drainage ditches, and tie-ins to the existing topography.

c. Hydrology. Existing and proposed hydrologic calculations for onsite areas and offsite areas that drain to the site; include maps showing the drainage area boundaries and sizes in acres, topography and typical overland flow directions, and show all existing, interim, and proposed drainage infrastructure and their intended direction of flow.

d. Hydraulics. Provide hydraulic calculations to support the selection and sizing of the onsite drainage network, diversion facilities and best management practices (BMPs).

- **Watercourses and Critical Areas:** The DESCP shall show the location of all onsite and nearby watercourses including washes, irrigation and drainage canals, and drainage ditches, and shall indicate the proximity of those features to the construction site. Maps shall identify high hazard flood prone areas.
- **Clearing and Grading:** The plan shall provide a delineation of all areas to be cleared of vegetation, areas to be preserved, and areas where vegetation would be cut to allow clear movement of the heliostats. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross-sections, cut/fill depths 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 at the site, 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 would be no clearing and/or grading conducted for each element of the project. Areas of no disturbance shall be properly identified and delineated on the plan maps.
- **Soil Wind and Water Erosion Control:** The plan shall address exposed soil treatments to be used during construction and operation of the proposed project for both road and non-road surfaces including the specific identification of all chemical-based dust palliatives, soil bonding, and weighting agents appropriate for use at the proposed project site that would not cause adverse effects to vegetation. BMPs shall include measures designed to prevent wind and water erosion including application of chemical dust palliatives after rough grading to limit water use. All dust palliatives, soil binders, and weighting agents shall be approved by the CPM prior to use. With regard to erosion risk and stormwater runoff, debris and detention basins shall be installed which are sized and located to intercept storm water flow from off-site areas as it enters the project

site. On-site roadways and other infrastructure shall be designed and located to avoid existing and proposed flow paths to the extent feasible.

- **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 construction, and final grading/stabilization). Separate BMP implementation schedules shall be provided for each project element for each phase of construction. This scheduling should require the installation of debris basins, detention/ infiltration basins, swales, and related storm water management facilities before construction commences on each phase.
- **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.
- **Erosion Control Drawings:** The erosion-control drawings and narrative shall be designed, stamped and sealed by a professional engineer or erosion-control specialist.
- ~~**Agency**~~ **Comments:** The DESCP shall include copies of recommendations, conditions, and provisions from Burlington Northern Santa Fe Railway (BNSF), the County of San Bernardino, California Department of Fish and Game (CDFG), and Lahontan Regional Water Quality Control Board (RWQCB).
- **Monitoring Plan:** Monitoring activities shall include routine measurement of the volume of accumulated sediment in the onsite drainage ditches, and storm water diversions and the requirements specified in **Soil and Water Appendix B, C, and D**.

Verification: The DESCP shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1**, and relevant portions of the DESCP shall clearly show approval by the chief building official (CBO). In addition, the project owner shall do all of the following:

a. No later than thirty (30) days prior to start of site mobilization, the project owner shall submit a copy of the DESCP to BNSF, the County of San Bernardino, the RWQCB, and the CPM for review and comment. The CPM shall consider comments received in approving the Plan.~~from San Bernardino County and RWQCB.~~

b. During construction, the project owner shall provide BNSF and the CPM an analysis in the monthly compliance report on the effectiveness of the drainage-, erosion- and sediment-control measures and the results of monitoring and maintenance activities.

c. Once operational, the project owner shall provide BNSF and the CPM ~~in the annual compliance report~~ information on the results of storm water BMP monitoring and maintenance activities in the annual compliance report.

d. The project owner shall ~~P~~provide BNSF and the CPM with two (2) copies each of all monitoring or other reports required for compliance with San Bernardino County, CDFG, and RWQCB.

WASTE DISCHARGE REQUIREMENTS

SOIL&WATER-2 The project owner shall comply with the Waste Discharge Requirements ~~for discharge of storm water associated with construction activity that are~~ presented in **Soil and Water Appendices B**, **C**, **D** and **E** ~~and submit the appropriate compliance fee to the LRWQCB. The project owner shall develop, obtain compliance project manager (CPM) approval of, and implement a Storm Water Pollution Prevention Plan (SWPPP) for the construction of the Calico Solar Project site, laydown area, and all linear facilities. In addition, the project owner shall comply with the Waste Discharge Requirements regarding the monitoring and reporting associated with the operation of waste water evaporation ponds.~~ for the construction and operation of any surface impoundments (evaporation ponds) and the storm water management system. These requirements relate to discharges, or potential discharges, of waste that could affect the quality of waters of the state, and were developed in consultation with staff of the State Water Resources Control Board and/or the applicable California Regional Water Quality Control Board (hereafter "Water Boards"). It is the Commission's intent that these requirements be enforceable by both the Commission and the Water Boards. In furtherance of that objective, the Commission hereby delegates the enforcement of these requirements, and associated monitoring, inspection and annual fee collection authority, to the Water Boards. Accordingly, the Commission and the Water Board shall confer with each other and coordinate, as needed, in the enforcement of the requirements. The project owner shall pay the annual waste discharge permit fee associated with this facility to the Water Boards. In addition, the Water Boards may "prescribe" these requirements as waste discharge requirements pursuant to Water Code Section 13263 solely for the purposes of enforcement, monitoring, inspection, and the assessment of annual fees, consistent with Public Resources Code Section 25531, subdivision (c).

Verification: ~~At least 30 days prior to site mobilization, the project owner shall submit to the CPM, and LRWQCB, a copy of the construction SWPPP for review and CPM approval prior to site mobilization. The project owner shall also submit to the CPM evidence of payment to LRWQCB of the appropriate compliance fee. The project owner shall retain a copy of the SWPPP on site. The project owner shall submit to the CPM~~

~~and copies of all correspondence between the project owner and the LRWQCB regarding the Waste Discharge Requirements for the discharge of storm water associated with construction activity within 10 days of its receipt or submittal. The project owner shall submit copies to the CPM and of all correspondence between the project owner and the LRWQCB regarding the Requirements of Waste Discharge of process water and storm water associated with industrial activity within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent by the project owner to the SWRCB.~~ No later than sixty (60) days prior to any wastewater or storm water discharge, the project owner shall provide documentation to BNSF and the CPM, with copies to the LRWQCB, demonstrating compliance with the WDRs established in Appendices B, C, D and E. Any changes to the design, construction, or operation of the ponds or storm water system shall be requested in writing to the CPM, with copies to BNSF and the LRWQCB, and approved by the CPM, in consultation with the LRWQCB, prior to initiation of any changes. The project owner shall provide to the CPM, with copies to the LRWQCB and BNSF, all monitoring reports required by the WDRs, and fully explain any violations, exceedances, enforcement actions, or corrective actions related to construction or operation of the ponds or storm water system.

STORM WATER DAMAGE MONITORING AND RESPONSE PLAN

SOIL&WATER-3 The project owner shall ensure that all SunCatcher pole foundations are designed to withstand storm water scour from surface erosion and/or channel migration based on a Pole Foundation Stability Report to be completed by a Professional Engineer and Professional Geologist. The Pole Foundation Stability Report shall establish a Minimum Depth Stability Threshold. The project owner shall also develop a Storm Water Damage Monitoring and Response Plan to evaluate potential impacts from storm water, including pole foundations that fail due to storm water flow or otherwise break and scatter mirror debris and other SunCatcher components on to the ground surface. The Storm Water Damage Monitoring and Response Plan shall include the following elements:

- Detailed maps showing the installed location of all SunCatcher pole foundations within each project phase, including existing and proposed drainage channels.
- Each SunCatcher pole foundation should be identified by a unique ID number marked to show initial ground surface at its base, and the depth to the tip of the pole below ground.
- Minimum Depth Stability Threshold to be maintained of SunCatcher pole foundations to meet long-term stability for applicable wind, water and debris loading effects;
- Above and below ground construction details of a typical installed SunCatcher pole foundation.

- BMPs to be employed to minimize the potential impact of broken mirrors to soil resources.
- Methods and response time of mirror cleanup and measures that may be used to mitigate further impact to soil resources from broken mirror fragments.

Monitor and Inspect Periodically, Before First Seasonal and After Every Storm Event:

- Security and Tortoise Exclusion Fence: Inspect for damage and buildup of sediment or debris.
- SunCatcher Pole Foundations within Drainages or Subject to Drainage Overflow: Inspect for tilting, mirror damage, depth of scour compared to foundation depth below ground and the Minimum Depth Stability Threshold, collapse, and downstream transport.
- Drainage Channels: Inspect for substantial migration or changes in depth, and transport of broken mirror glass.
- Constructed Diversion Channels: Inspect for scour and structural integrity issues caused by erosion, and for sediment and debris buildup.

Short-Term Incident-Based Response:

- Security and Tortoise Exclusion Fence: repair damage, and remove build-up of sediment and debris.
- SunCatcher Pole Foundations: Remove broken glass, damaged structures, and wiring from the ground, and for foundations no longer meeting the Minimum Depth Stability Threshold, either replace/reinforce or remove the SunCatcher to avoid exposure for broken glass.
- Drainage Channels: no short-term response necessary unless changes indicate risk to facility structures.
- Constructed Diversion Channels: repair damage, maintain erosion control measures and remove built-up sediment and debris.

Long-Term Design-Based Response:

- Propose operation/BMP modifications to address ongoing issues. Include proposed changes to monitoring and response procedures, frequency, or standards.
- Replace/reinforce SunCatcher Pole Foundations no longer meeting the Minimum Depth Stability Threshold or remove the SunCatchers to avoid exposure for broken glass.
- Propose design modifications to address ongoing issues. This may include construction of active storm water management diversion channels and/or detention ponds.

Inspection, short-term incident response, and long-term design-based response may include activities both inside and outside of the approved right-of-way. For activities outside of the approved right-of-way, the applicant will notify BLM and acquire environmental review and approval before field activities begin.

Verification: At least thirty (30) days prior to commercial operation, the project owner shall submit ~~to the CPM~~ a copy of the Pole Foundation Stability Report and the Storm Water Damage Monitoring and Response Plan to BNSF for review and to the CPM for review and approval prior to commercial operation. The project owner shall retain a copy of these documents onsite at the power plant at all times. The project owner shall prepare an annual summary of the number of pole foundations failed, cause of the failures, and cleanup and mitigation performed for each failed pole foundation.

CONSTRUCTION AND OPERATIONS WATER USE

SOIL&WATER-4 The proposed project's use of groundwater for all construction activities shall not exceed 145 AFY. The proposed project's use of groundwater for all operational activities shall not exceed 21 AFY. Prior to the use of groundwater for construction, the project owner shall install and maintain metering devices as part of the water supply and distribution system to document project water use and to monitor and record in gallons per day the total volume(s) of water supplied to the project from the water source. The metering devices shall be operational for the life of the project.

Verification: At least thirty (30) days prior to the start of construction of the proposed project, the project owner shall submit to the CPM a copy of evidence that metering devices have been installed and are operational.

Beginning six (6) months after the start of construction, the project owner shall prepare a semi-annual summary of amount of water used for construction purposes. The summary shall include the monthly range (daily minimum and daily maximum) and monthly average of daily water usage in gallons per day.

The project owner shall prepare an annual summary, which will include daily usage, monthly range and monthly average of daily water usage in gallons per day, and total water used on a monthly and annual basis in AF. For years subsequent to the initial year of operation, the annual summary will also include the yearly range and yearly average water use by source. For calculating the total water use, the term "year" will correspond to the date established for the annual compliance report submittal.

SEPTIC SYSTEM AND LEACH FIELD REQUIREMENTS

SOIL&WATER-5 Prior to the start of construction, the project owner shall provide the design of a sanitary waste septic system that complies with the County of San Bernardino requirements for the construction and operation of the project's proposed sanitary waste septic system and leach field to the CPM for review and approval.

Project operation shall not commence until documentation equivalent to the County's required wastewater treatment system permits are issued by the County and approved by the CPM.

The project owner shall remain in compliance with the County requirements for the life of the project.

Verification: The Project owner shall submit all necessary information and the appropriate fee to the County of San Bernardino to ensure that the project has complied with the county's sanitary waste disposal facilities requirements. A written assessment prepared by the County of San Bernardino confirming that the design of the project's sanitary waste septic system conforms with county requirements must be provided to the CPM for review and approval thirty (30) days prior to the start of site construction.

A written assessment prepared by the County of San Bernardino of the project's compliance with county's sanitary waste disposal facilities requirements must be provided to the CPM for review and approval sixty (60) days prior to the start of power plant operation.

DECOMMISSIONING PLAN

SOIL&WATER-6 The Project owner shall identify likely decommissioning scenarios and develop specific decommissioning plans for each scenario that will identify actions to be taken to avoid or mitigate long-term impacts related to water and wind erosion after decommissioning. Actions may include such measures as a decommissioning SWPPP, revegetation and restoration of disturbed areas, post-decommissioning maintenance, collection and disposal of project materials and chemicals, and access restrictions.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit decommissioning plans to BNSF for review and to the CPM for review and approval prior to site mobilization. The project owner shall amend these documents as necessary, with approval from the CPM, should the decommissioning scenario change in the future.

GROUNDWATER LEVEL MONITORING AND REPORTING PLAN

SOIL&WATER-7 The project owner shall submit a Groundwater Level Monitoring and Reporting Plan to San Bernardino County and to the CPM for review and approval in accordance with the County of San Bernardino Code Title 3, Division 3, Chapter 6, Article 5 (Desert Groundwater Management Ordinance).

The Groundwater Level Monitoring and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels.

Monitoring shall be conducted prior to construction, during construction, and throughout project operation. The primary objective for the monitoring is to establish pre-construction and project related groundwater level trends that can be quantitatively compared against observed and simulated trends near the project pumping well and dedicated monitoring wells. Water level

measurements in the project's water supply well shall represent non-pumped conditions, and be collected a minimum of four hours after pump shut-down.

Prior to project construction, monitoring shall commence to establish pre-construction base-line conditions and ~~shall incorporate any~~ reporting shall include existing monitoring ~~and reporting~~ data collected in the project area useful for quantifying hydraulic gradients across the Pisgah Fault and between the Lavic Lake and Lower Mojave groundwater basins. The monitoring network shall therefore be designed to also incorporate and report relevant ~~any~~ ongoing monitoring and reporting ~~program~~ activities currently occurring in existing groundwater wells located within the Lavic Lake and Lower Mojave groundwater basins.

In areas where groundwater elevation data is needed but existing wells are absent or do not represent the water-bearing zone from which the project water supply well extracts groundwater, ~~T~~the monitoring network shall be comprised of wells screened to measure water levels representing the water-bearing zone from which the project water supply well will extract groundwater.

In addition, the project owner shall install 5 surveyed monument markers between the Railroad ROW and the water supply well, with one marker adjacent to the supply well. If the measured static groundwater level drops 5' or more, the project owner shall: (1) notify the CPM and BNSF of the drop and (2) prepare a Subsidence Mitigation Plan that will be reviewed and commented on by BNSF, and approved by the CPM.

Verification: The project owner shall complete the following:

1. At least two (2) months prior to power plant construction, a Groundwater Level Monitoring and Reporting Plan shall be submitted to the County of San Bernardino for review and comment before completion of Condition of Certification **SOIL& WATER-3**, and a copy of the County's comments and the plan shall be submitted the CPM for review and approval. The plan shall include a scaled map showing the site and vicinity, existing well locations, and proposed monitoring locations (both existing wells and new monitoring wells proposed for construction). The map shall also include relevant natural and man-made features (existing and proposed as part of this project). The plan also shall provide: (1) well construction information and borehole lithology for each existing well proposed for use as a monitoring well; (2) description of proposed drilling and well installation methods for new wells; (3) proposed monitoring well design; and, (4) schedule for completion of the work.
2. At least one (1) month prior to construction, a Groundwater Level Network Report shall be submitted to the CPM. The report shall include a scaled map showing the final monitoring well network. It shall document the drilling methods employed, provide individual well construction as-builds, borehole lithology recorded from the drill cuttings, well development, and well survey results for all new wells. The well survey shall measure the location and elevation of the top of the well casing and

reference point for all water level measurements, and shall include the coordinate system and datum for the survey measurements. Additionally, the report shall describe the water level monitoring equipment employed in the wells and document their deployment and use.

3. As part of the monitoring well network development, any newly constructed monitoring wells shall be permitted and constructed consistent with San Bernardino County and State specifications.
4. At least one (1) week prior to project construction, all water level monitoring data shall be provided to the CPM. The data transmittal shall include an assessment of pre-project water level trends, a summary of available climatic information (monthly average temperature and rainfall records from the nearest weather station), and a comparison and assessment of water level data.
5. After project construction and during project operations, the project owner shall submit the monitoring data annually to the CPM. The summary shall document water level monitoring methods, the water level data, water level plots, and a comparison between pre- and post-project start-up water level trends. The report shall also include a summary of actual water use conditions, monthly climatic information (temperature and rainfall), and a comparison and assessment of water level data. As part of this assessment, the project owner shall calculate water level trends and complete a 5-year projection of future water levels based on these trends and an evaluation of water supply reliability.

STORMWATER CONTROL/FLOOD PROTECTION DESIGN PLANS

SOIL&WATER-8: The project owner shall submit two (2) copies of the 30-percent, 60-percent and 90-percent design drawings for the grading and drainage facilities to BNSF and the CPM for review and comment. The 30-percent, 60-percent and 90-percent design drawings for the grading and drainage facilities shall be accompanied by a basis of design report to convey and support the design approach.

1. At a minimum, the design report shall ensure the project meets the following performance standards:

   a. Project construction and operation shall not alter the existing watershed boundaries.

   b. Project construction and operation shall not adversely affect any railroad structures through changes in the volume or velocity of storm water runoff reaching the railroad structure.

   c. No SunCatcher shall be placed in an area where adequate hydrologic studies indicate the water surface resulting from a 100 year, 24-hour storm could be more than 1.5 feet above the pre-storm ground surface.

   d. Post development runoff from the project site shall be equal to or less than predevelopment runoff.

   e. Post development sediment transport through the project site shall be equal to predevelopment sediment transport.

f. At a minimum, all storm water, hydraulic and drainage reports used for project development shall comply with the requirements of the San Bernardino County Drainage Manual (SBCDM).

2. To prepare the grading and drainage facilities drawings and accompanying basis of design report, the project owner shall do the following:

a. Conduct an analysis to quantify the design discharges and associated volumes of water, debris, and sediment associated with the 100-year storm at the apex of the fan under current watershed conditions.

b. Conduct a geomorphic and hydraulic analysis to determine the maximum design storm that can be routed through the site utilizing existing fluvial washes that will not result in significant damage to proposed site infrastructure. This analysis should include an estimate of the change in runoff characteristics due to site development and evaluate whether flood control facilities would be needed to regulate flows off-site.

c. Conduct a geomorphic and biologic analysis to determine the minimum design storm that can be routed through the site utilizing existing fluvial washes that will provide the necessary sediment load through the site and "downstream areas" to maintain existing sensitive habitat needs, as described in the Geomorphic Assessment of Calico Solar Project Site. This analysis must consider and address the need for fine sand to support the existing sensitive habitat and the potential episodic nature of the associated dune complex evolution that depends upon El Niño events (i.e., wet winters occurring approximately every 3 to 7 years) delivering sediment to the lower fan and the accompanying La Niña events (i.e., dry winters occurring approximately every 3 to 7 years) eroding and transporting fine sands to these dunes through wind action.

d. If necessary, determine the pass through design storm that can be routed through the site unimpeded to deliver the necessary sediment load through the site to maintain existing sensitive habitat needs in "downstream areas" and not result in significant damage to proposed site infrastructure.

e. Size, locate, and design any detention basins and flood control structures, if needed, to allow the pass through storm to move through the site unimpeded while capturing and managing larger storm flows and related sediment and debris to protect the proposed infrastructure.

f. Provide supporting calculations and design drawings for flood control and basin designs and include plan view maps, cross-sections, depth to spillway, amount of

freeboard to top of basin, basin volume to spillway, description of sidewall slopes, method of providing pass through flows and related sediment unimpeded, method of providing erosion protection for basins and flood control structures, basin side walls, inlet design, outlet design, spillway design, spillway erosion control, combined outlet maximum flow, transition from outlet to existing downstream fluvial wash, tortoise fence location and design, maintenance of tortoise fence, maintenance of basin, maintenance of excess sediment in basin from larger flood flows.

g. The project owner shall ~~apply for and receive approval~~ request comments from the Department of Water Resources Division of Safety of Dams (DSOD) for the plans and specifications for the construction of any dam(s) or reservoir(s) that are under DSOD jurisdiction prior to beginning construction and forward all comments to BNSF and the CPM.

h. For all flood control basin dams, the project owner shall provide at a minimum:

- specific locations of basins and dams on appropriate scale map,
- configuration of all basins and dams including basin-specific cross sections,
- a description of all materials designed to be used in the construction of the dams,
- footings designs,
- designs of cutoff walls,
- designs of keyways,
- description and design of drainage pass though methods,
- flow metering (ability to maintain maximum discharge to that of the maximum on-site flow design) technique and design,
- method of and design of debris deflection (i.e. trash racks) for each basin,
- emergency spillway design,
- pass through pipe outlet energy dissipation method and design, and
- basin inlet erosion protection.

i. In addition to the criteria discussed above, the basis of design report shall also follow the procedures outlined in the following documents as far as is applicable:

i. San Bernardino County Drainage Manual and 2007 Development Code (amended, March 25, 2010).

ii. Federal Emergency Management Agency Guidelines for Determining Flood Hazards on Alluvial Fans and Guidelines and Specifications for Flood Hazard Mapping Partners.

3. The project owner shall prepare a set of design specifications to supplement the 90-percent design drawings. Plans, specifications, computations and other data shall be prepared by persons properly licensed by the State of California. If the 60-percent plans or 90-percent plans and specifications do not comply with the appropriate Conditions of Certification, the necessary changes or revisions to the plans shall be

made by the project owner. If the CPM finds that the work described in the plans and specifications conform to the Conditions of Certifications in the Energy Commission Decision and other pertinent LORS, then the project owner shall submit two (2) copies of the 100-percent set for CPM review and approval. All design drawings must be submitted on bound or stapled 24" x 36" size paper.

Verification: Prior to site mobilization, the project owner shall prepare preliminary (30-percent) grading and drainage facilities drawings and accompanying basis of design report for BNSF review and CPM review and approval. No later than 30 days after publication of the Energy Commission Decision, the 60-percent set of design drawings and accompanying basis of design report shall be submitted to BNSF for review and to the CPM for review and approval. The project owner shall submit the 90-percent design drawings and accompanying basis of design report to BNSF for review and to the CPM for review and approval after the person who originally drew the plan or their duly authorized agent addresses the CPM's 60-percent submittal comments and required changes. The 100-percent design drawings and specifications (construction documents) shall be signed and sealed by a Registered Professional Engineer in the State of California and submitted as the final, approved set of construction documents prior to site mobilization. Prior to initiation of site construction, the 100-percent design drawings and specifications (construction documents) shall be submitted along with the final basis of design report signed and sealed by a Registered Professional Engineer and a Registered Professional Geologist in the State of California to the CPM for review and approval.

Thirty (30) days prior to initiation of construction of any dams that would be considered under the jurisdiction of DSOD, the project owner shall receive approval for dam construction from the CPM based on comments the CPM has received from the DSOD for dam design adequacy.

WATER SUPPLY RELIABILITY

SOIL&WATER-9 The annual monitoring report required by **SOIL&WATER-7** shall include an evaluation of water supply reliability. Based on the results of this evaluation, the CPM may request the project owner develop and submit a Water Conservation and Alternative Water Supply Plan. The purpose of this plan is to curtail and minimize water use to remediate observed water level and storage declines in the water bearing zone utilized ~~for~~ by the project until the proposed alternative supply is available.

Verification: The project owner shall provide a Water Conservation Plan within thirty (30) days after the request of the CPM. The plan shall be implemented immediately upon approval by the CPM. Part of this plan shall include suspension of mirror washing until the water supply has stabilized or an alternative supply is available to provide the water. The project owner shall submit a Notice of Completion to the CPM within thirty (30) days of securing the alternative supply. The Notice of Completion shall list each plan component and document that it has been completed. Part of the documentation shall include water use records that show the conservation savings achieved. If

development of an alternative water supply was part of the plan, the project owner shall provide all documentation, permits, as-builts, proof of a contract or other right to a long term supply and test results that may be required for the water supply. The Water Conservation Plan shall remain in effect until CPM approval of the project owner's Notice of Completion.

STORM WATER PERMITS

SOIL&WATER-10 NPDES GENERAL PERMIT FOR CONSTRUCTION ACTIVITY.

The project owner shall comply with the requirements of the general National Pollutant Discharge Elimination System (NPDES) permit for discharge of storm water associated with construction activity. The project owner shall submit copies of all correspondence between the project owner and the State Water Resources Control Board (SWRCB) or the LRWQCB regarding this permit to the CPM. The project owner shall also develop and implement a construction SWPPP for construction on the Calico solar project main site, laydown areas, pipeline, and transmission line.

Verification: The project owner shall submit a copy of the construction SWPPP to the CPM at least 10 days prior to site mobilization for review and approval, and retain a copy of the approved SWPPP on site throughout construction. The project owner shall submit copies of all correspondence between the project owner and the SWRCB or the LRWQCB regarding the NPDES permit for the discharge of storm water associated with construction activity to the CPM within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent to the SWRCB, the confirmation letter indicating receipt and acceptance of the Notice of Intent, any permit modifications or changes, and completion/permit Notice of Termination.

SOIL&WATER-11 INDUSTRIAL FACILITY SWPPP

The project owner shall comply with the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity, including development of an Industrial Facility SWPPP. If the Regional or State Board finds the project does not require a General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity, written confirmation from either board confirming this permit is not required would satisfy this condition.

Verification: The project owner shall submit a copy of the Industrial Facility SWPPP for operation of the project to the CPM at least 60 days prior to the start of commercial operation and shall retain a copy of the approved SWPPP on site throughout the life of the project. The project owner shall submit copies of all correspondence between the project owner and the LRWQCB regarding the general NPDES permit for discharge of storm water associated with industrial activity to the CPM within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent by the

project owner to the SWRCB, the confirmation letter indicating receipt and acceptance of the Notice of Intent, and any permit modifications or changes.

HYDROLOGY STUDY

SOIL&WATER-12 Project owner shall fund a hydrologic study commissioned by BNSF to determine the erosion and sedimentation impact, if any, on BNSF infrastructure resulting from the project owner's planned emplacement of SunCatchers, flood control structures and runoff control measures.

Verification: Within ninety (90) days of completion of the hydrologic study commissioned by BNSF, the project owner shall provide documentation to the CPM that the study has been paid in full. Within thirty (30) days of completion of the hydrologic study, the results of study shall be provided to BNSF, the CPM and the project owner.

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

APPLICATION FOR CERTIFICATION

***For the CALICO SOLAR** (Formerly SES Solar One)*

Docket No. 08-AFC-13

PROOF OF SERVICE
(Revised 8/9/10)

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DECLARATION OF SERVICE

I, Sabrina Savala, declare that on September 22, 2010, I served and filed copies of the attached CEC Staff's Updated Soil and Water Conditions of Certification, dated September 22, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/solarone].

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

(*Check all that Apply*)

FOR SERVICE TO ALL OTHER PARTIES:

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

____ by personal delivery;

x by delivering on this date, for mailing with the United States 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 "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

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

OR

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

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-13
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

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

Original Signed by:
Sabrina Savala

*indicates change