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STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

Application for Certification for the
ABENGOA MOJAVE SOLAR PROJECT

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Docket No. 09-AFC-5

**ABENGOA MOJAVE SOLAR PROJECT
APPLICANT'S COMMENTS ON PRESIDING MEMBER'S PROPOSED DECISION**

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STATE OF CALIFORNIA

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I. INTRODUCTION

Abengoa Solar Inc. (“Abengoa” or “Applicant”) respectfully submits these comments on the Presiding Member’s Proposed Decision (“PMPD”) for the Mojave Solar Project (09-AFC-5) which was published on August 6, 2010. These comments supplement the oral comments provided by Abengoa at the Committee Conference dated August 23, 2010.

With a relatively few suggested changes as described below, Abengoa supports the PMPD and urges its adoption by the full Commission as scheduled on September 8, 2010. Abengoa again expresses its appreciation to the Committee and Hearing Officer Vaccaro for the expeditious yet thorough review of the record represented by the PMPD. Abengoa understands the pressure the Commission and its Staff are facing as a result of the large number of time-critical projects under its review, including this application, in conjunction with the State’s budget problems and associated furloughs, salary reductions and the like. Abengoa very much appreciates the diligent efforts of all parties to this proceeding, but in particular the Committee in its preparation of the PMPD, under these circumstances.

II. COMMENTS

A. Air Quality

- Pp. 146-147, Condition of Certification AQ-SC-5: At the Committee Conference on August 23, the Applicant noted that Condition of Certification AQ-SC-5 appears in the PMPD with omitted text that seems like an inadvertent omission. The omitted language was in Staff's Errata to the Air Quality section of the Supplemental Staff Assessment Part B. This may have been an error in the electronic version of the PMPD only.

Nonetheless, the Applicant recommends that the language be included or the error fixed so that it appears in both the hardcopy and electronic version to avoid confusion. A redline of the Condition appears below.

- Pp. 156, 158, 161, 163: A list of application numbers and equipment that appeared in the Staff's Air Quality Errata, where it was listed after AQ-18, appears interspersed throughout the Air Quality Conditions of Certification. The purpose of listing this equipment should be explained, as well as its relation to the Conditions around them.
- P. 164, Condition of Certification AQ-52: The Applicant agrees with the Staff's comments in the email docketed on August 17 (Docket number 09-AFC-5) regarding Condition of Certification AQ-52. It was omitted in its entirety from the PMPD and Staff provided the language from the Supplemental Staff Assessment Part B. The Applicant recommends including this language.

B. Waste Management

At the Committee Conference on August 23 Abengoa stated that it had no comments regarding waste management. Abengoa became aware of two issues concerning the Waste

Management section after the Committee Conference and requests that two changes be made to this section.

- P. 226, Condition of Certification WASTE-10: Under Verification, we request that the second paragraph be changed from "Within 14 days....." to "Within 28 days....."
- P. 227, Condition of Certification WASTE-11: Under Verification, we request that the first sentence be changed to read, "The project owner shall report the results of filter cake testing to the CPM within 30 days of sampling."

C. Worker Safety

- P. 190, Condition of Certification WORKER SAFETY-6: The Applicant agrees with and is satisfied with Condition of Certification Worker Safety-6. As the Applicant stated in the Committee Conference on August 23, the compliance protocols should be reconciled with the condition itself. The compliance protocols require that the project owner select an independent consultant to be approved by the CPM. The condition, however, states that the independent contractor shall be selected and approved by the CPM. The Applicant recommends that the project owner select an independent contractor and the CPM approve this choice. The condition and the compliance protocols should be consistent on this point, and suggested changes are included in the redline below.

The Condition provides: "Should the project owner pursue option (2), above, the study shall be conducted pursuant to the Fire Needs Assessment and Risk Assessment shall evaluate the following..." This language is unclear. The Condition appears to require an independent study which will be a fire needs assessment and risk assessment. This independent study must follow particular compliance protocols set forth in the Condition. Suggested changes for clarity are included in the redline below.

D. Soil & Water Resources

- P. 311, section 4.a: Regarding the Applicant’s water rights, the PMPD states that these rights “were granted in significant part by the final judgment...” In fact, the water rights were granted (in total part) by the final judgment. The final judgment entered in the Mojave Basin Area adjudication declared the water rights of all producers in the Basin Area.
- Pp. 319, 325: The discussion of the groundwater quality as “slightly brackish” is inaccurate. First, the PMPD states: “Under California Drinking Water Standards, the groundwater is slightly brackish...” (p. 319). The California Drinking Water Standards found in Title 22 of the California Code of Regulations do not have a definition of brackish water, nor do they refer to brackish water at all. Further, the PMPD concludes, after considering SWRCB Resolution 88-63 and the maximum contaminant levels (MCLs) found in Title 22 of the California Code of Regulations: “Thus, the project proposes use of slightly brackish – but treatable – groundwater.” (PMPD at 325). Neither Resolution 88-63 nor Title 22 rely on a determination that groundwater is or is not brackish to determine whether groundwater may be a possible municipal supply. In fact, Resolution 88-63 has nothing to do with whether water is brackish or may be used as a power plant supply or cooling water source. Resolution 88-63 is intended to protect the water quality of certain aquifers by allowing them to have a beneficial use designation of municipal supply. It does not speak to whether a water source should be used for one beneficial use over another.
- P. 323: The description of SWRCB Resolution 75-58 is inaccurate. The PMPD states: “It also determined that water with a TDS concentration of 1,000 mg/L or less should be

considered fresh water...” In fact, Resolution 75-58 defined fresh inland waters as “those inland waters which are suitable for use as a source of domestic, municipal, or agricultural water supply and which provide habitat for fish and wildlife.” (Resolution 75-58 at 2.) It is worth noting that, inherently, this definition applies only to surface waters, as only surface waters can provide habitat for fish and wildlife. Resolution 75-58 defined brackish waters as “all waters with a salinity range of 1,000 to 30,000 mg/L and a chloride concentration range of 250 to 12,000 mg/L.” (Id.) Related to the discussion above regarding the water quality of the project’s water source, under this definition, water is either within the salinity and chloride concentration range, and therefore brackish, or it is not. There is no meaning and nothing significant about stating that water is “slightly brackish.” Further, the significance of a determination that water is brackish under this Resolution is that it sets forth an order of priority in which brackish water follows wastewater being discharged to the ocean and ocean water as the preferred sources of power plant cooling water.

- Pp. 339-348, Condition of Certification SOIL&WATER-6: In subdivision C.8, the PMPD changes the word “spatial” to “partial”. This may be a typo. The Applicant recommends changing the language back to “spatial”. This proposed revision is included in the redline below.

E. Visual Resources

- P. 497, KOP 2: The picture supposedly showing the “View from Harper Lake Road South of Roy Road – Pre Project” is not the correct image. The Supplemental Staff Assessment Part A contains the correct image. The Applicant recommends fixing this error.

- Pp. 520-521, Condition of Certification VIS-1: The language in Condition of Certification VIS-1 reflects the language from the Supplemental Staff Assessment Part A rather than the rebuttal conditions agreed upon between Staff and Applicant. As stated in the Committee Conference on August 23, the Applicant requests that the language be changed to the agreed-upon rebuttal conditions. The proposed redline is below.
- Pp. 521-523, Conditions of Certification VIS-2 and VIS-4: The Applicant agrees with the Staff's comments in the email docketed on August 17 (Docket number 09-AFC-5) that Conditions of Certification VIS-2 and VIS-4 in the PMPD were from the Supplemental Staff Assessment Part A and not the approved rebuttal conditions. The Applicant requests that the language be changed to the agreed-upon rebuttal conditions. The proposed redline is below.

III. PROPOSED REDLINE OF SELECTED CONDITIONS OF CERTIFICATION

Following are Applicant's suggested changes in redline/strikeout to effect the comments provided above.

AQ-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM, in the Monthly Compliance Report, a construction mitigation report that demonstrates compliance with the AQCMP mitigation measures for purposes of controlling diesel construction-related emissions. The following off-road diesel construction equipment mitigation measures shall be included in the Air Quality Construction Mitigation Plan (AQCMP) required by **AQ-SC2**, and any deviation from the AQCMP mitigation measures shall require prior and CPM notification and approval.

a. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.

b. All construction diesel engines with a rating of 50 hp or higher and lower than 750 hp shall meet, at a minimum, the Tier 3 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless a good faith effort to the satisfaction of the CPM that is certified by the on-site AQCMM demonstrates that such engine is not available for a particular item of equipment. Engines larger than 750 hp shall meet Tier 2 engine standards. In the event that a Tier 3 engine is not available for any off-road equipment larger than 50100 hp and smaller than 750 hp, that equipment shall be equipped with a Tier 2 engine, or an engine that is equipped with retrofit controls to reduce

exhaust emissions of nitrogen oxides (NO_x) and diesel particulate matter (DPM) to no more than Tier 2 levels unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is “not practical” for the following, as well as other, reasons.

1. There is no available retrofit control device that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency to control the engine in question to Tier 2 equivalent emission levels and the highest level of available control using retrofit or Tier 1 engines is being used for the engine in question; or

2. The construction equipment is intended to be on site for 10 days or less.

3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not practical.

c. The use of a retrofit control device may be terminated immediately, provided that the CPM is informed within 10 working days of the termination and that a replacement for the equipment item in question meeting the controls required in item “b” occurs within 10 days of termination of the use, if the equipment would be needed to continue working at this site for more than 15 days after the use of the retrofit control device is terminated, if one of the following conditions exists:

1. The use of the retrofit control device is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.

2. The retrofit control device is causing or is reasonably expected to cause engine damage.

3. The retrofit control device is causing or is reasonably expected to cause a substantial risk to workers or the public.

4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.

d. All heavy earth-moving equipment and heavy duty construction related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer’s specifications.

e. All diesel heavy construction equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.

f. Construction equipment will employ electric motors when feasible.

Verification: The AQCMM shall include in the Monthly Compliance Report the following to demonstrate control of diesel construction-related emissions:

A. A summary of all actions taken to control diesel construction related emissions;

B. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained; and

C. Any other documentation deemed necessary by the CPM or AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner’s discretion.

WORKER SAFETY-6 The project owner shall either:

(1) Reach an agreement with the San Bernardino County Fire Department (SBCFD) regarding funding of its project-related share of capital and operating costs to improve fire protection/emergency response infrastructure and provide appropriate equipment as mitigation of project-related impacts on fire protection/emergency response services within the jurisdiction; *or*

(2) if no agreement can be reached, the project owner shall fund a study (the “independent fire needs assessment and risk assessment”) conducted by an independent contractor who shall be selected by the project owner and approved by the CEC Compliance Project Manager (CPM) and fulfill all mitigation identified in the independent fire needs assessment and a risk assessment. The study will evaluate the project’s proportionate funding responsibility for the above-identified mitigation measures, with particular attention to emergency response and equipment/staffing/location needs.

Should the project owner pursue option (2), above, the study ~~shall be conducted pursuant to the Fire Needs Assessment and Risk Assessment~~ shall evaluate the following:

(a) The project’s proportionate (incremental) contribution to potential cumulative impacts on the SBCFD and the project allocated costs of enhanced fire protection/emergency response services including the fire response, hazardous materials spill/leak response, rescue, and emergency medical services necessary to mitigate such impacts;

(b) The extent that the project’s contribution to local tax revenue will reduce impacts on local fire protection and emergency response services; and

(c) Recommend an amount of funding (and corresponding payment plan) that represents the project’s proportional payment obligation for the above-identified mitigation measures.

Compliance Protocols shall be as follows:

(a) The study shall be conducted by an independent consultant selected by the project owner and approved by the CPM. The project owner shall provide the CPM with the names of at least three consultants, whether entities or individuals, from which to make a selection, together with statements of qualifications;

(b) The study shall be fully funded by the project owner.

(c) The project owner shall provide the protocols for conducting the independent study for review and comment by the SBCFD and review and approval by the CPM prior to the independent consultant’s commencement of the study;

(d) The consultant shall not communicate directly with the project owner or SBCFD without express prior authorization from the CPM. When such approval is given, the CPM shall be copied on any correspondence between or among the project owner, SBCFD, and the consultant (including emails) and included in any conversations between or among the project owner, SBCFD and consultant; and

(e) The CPM shall verify that the study is prepared consistent with the approved protocols, *or*

(3) If the project owner and SBCFD do not agree to the recommendations of the independent consultant's study, the Energy Commission or its designee shall, based on the results of the study and comments from the project owner and SBCFD, make the final determination regarding the funding to be provided to the SBCFD to accomplish the above-identified mitigation. No construction of permanent above-ground structures shall occur until funding of mitigation occurs pursuant to ~~w~~either of the resolution options set forth above.

Verification: At least five (5) days before construction of permanent aboveground structures, the project owner shall provide to the CPM:

(1) A copy of the individual agreement with the SBCFD or, if the owner joins a power generation industry association, a copy of the group's bylaws and a copy of the group's agreement with the SBCFD; and evidence in each January Monthly Compliance Report that the project owner is in full compliance with the terms of such bylaws and/or agreement; *or*

(2) A protocol, scope and schedule of work for the independent study and the qualifications of proposed contractor(s) for review and approval by the CPM; a copy of the completed study showing the precise amount the project owner shall pay for mitigation; and documentation that the amount has been paid. Annually thereafter, the owner shall provide the CPM with verification of funding to the SBCFD if annual payments were approved or recommended under either of the above-described funding resolution options.

SOIL&WATER-6 The project owner shall submit a Groundwater Monitoring and Reporting Plan to the CPM for review and approval. This plan shall consist of two parts as defined by Conditions of Certification **SOIL&WATER-6** and **-7**. **SOIL&WATER-6** describes the requirements for establishing a groundwater well monitoring network and monitoring groundwater levels in that network. **SOIL&WATER-7** describes the requirements for monitoring groundwater quality in the network. Mitigation for impacts related to project induced groundwater level declines or degradation in groundwater quality are provide in each condition of certification. All work and reporting under these conditions of certification shall be conducted under the supervision of a licensed California professional geologist or engineer.

The Groundwater Level Monitoring and Reporting Plan shall provide detailed methodology for monitoring background and site groundwater levels. Monitoring shall include pre-construction, construction, and project operation conditions. The primary objective for the monitoring is to establish a baseline of pre-construction groundwater level trends that can be quantitatively compared against observed and simulated trends near the project pumping wells and near potentially impacted existing wells during project construction and over the life of project operation. The project owner shall:

A. Prior to Project Construction

1. Well Reconnaissance. Conduct a well reconnaissance to investigate and document condition of existing water supply wells within the monitoring area provided access is granted by the well owner). The monitoring area shall be defined by the 20-foot contour of simulated groundwater drawdown induced by AMS project pumping at the end of the project life (as presented in Appendix B Figure Soil and Water 3). Notices shall be sent by registered mail to each well owner identified within monitoring area that provide the following information:

- a. A summary of the proposed project with an explanation of how the groundwater levels are expected to be lowered due to the AMS project groundwater pumping;
- b. An option for the well owner to be provided a copy of the Groundwater Monitoring and Report Plan as approved by the CPM and all reports prepared in compliance with the CPM-approved plan;
- c. The project owner's contact name, address, and telephone where the well owner can obtain more information; and
- d. The address and telephone number of the Energy Commission.

2. Monitoring Plan. Submit a Groundwater Level Monitoring and Reporting Plan to the CPM for review and approval at least sixty (60) days prior to construction. This plan shall include at a minimum:

- a. The monitoring plan and network of monitoring wells shall make use of two of the four project production wells (once installed), all monitoring wells installed to comply with Waste Discharge Requirements for the evaporation ponds and land treatment unit associated with the project, and the BLM marsh water supply well. In addition, and at least three additional existing wells in the Harper Lake area shall be incorporated into the program. The final well selection shall be based on access being granted by the owners and by BLM and that the wells are deemed by the CPM to be of suitable location and construction to satisfy the requirements for the monitoring program. Some Harper Lake area wells are already monitored, and these wells can be included as part of the network if they meet the objectives of the monitoring program.
- b. A scaled map showing the project site, boundary, location of all wells within the monitoring area, and location of wells selected for the monitoring network. The map shall also include relevant natural (e.g., faults, playa lake, etc.) and man-made features that are existing and proposed as part of the AMS project.
- c. Available well construction information, drilling and well installation methods, and borehole lithology for all wells in the monitoring area.
- d. For monitoring network wells, report the results of a wellhead elevation survey that record: the location and elevation of the well; the location and elevation of the top of the well casing reference point for all water level measurements (the measurement point); and the coordinate system and datum for the survey measurements.
- e. A description of how groundwater measurements will be collected and reported. All groundwater level measurements shall be made to the nearest 1/100 of a foot.
- f. A description of the groundwater level measurements and reporting protocols and quality assurance/quality control plan.
- g. Information about the AMS project wells shall be added to a revised plan submitted to the CPM for review and approval within sixty (60) days after the project wells are installed.
- h. A description of the reporting requirements presented below, including a statistical analyses conducted on the data collected, the thresholds employed to determine impact significance, and a description of the mitigation required for significant water level impacts should they occur.
- i. A schedule for measuring water levels in all wells in the monitoring network.

j. The plan shall be signed and stamped by a licensed California professional geologist or engineer.

3. Monitoring. Before the start of project construction, collect groundwater levels from all existing wells within the monitoring network, in accordance with the requirements in the Groundwater Level Monitoring and Reporting Plan, to establish pre-construction conditions.

4. Reporting. A report documenting the pre-construction monitoring results shall be submitted to the CPM after measuring groundwater levels in network wells. At a minimum, the report shall contain: a tabular summary of the network wells; the water level measurements; and dates of the water level measurements; diagrams showing water levels in the wells over time (hydrographs); a map of groundwater elevation contours and calculated gradients; and conclusions regarding groundwater level trends and recommendations for future monitoring and the likelihood of potential interferences to existing wells made by a licensed California professional geologist or engineer.

B. During Construction:

5. Collect groundwater levels within the monitoring network on a quarterly basis throughout the construction period. Perform statistical trend analysis for groundwater levels data using linear regression or a non-parametric test such as Kendall-Theil Robust Line, or other appropriate statistical analysis. Assess the significance of apparent trends using appropriate statistical analysis and compare to observed background trends in other monitored wells in the sub-basin.

6. After measuring groundwater levels in network wells, submit to the CPM a report of pre-project groundwater levels, present a summary of available climatic information (monthly average temperature and rainfall records from the nearest weather station), and provide a comparison and assessment of water level data relative to the spatial trends simulated by the USGS Mojave River Basin Model (USGS2001). This report shall also contain a tabular summary of the wells, current and historical water level measurements, and dates of water level measurements; a map of the groundwater elevation contours

C. During Operation:

7. On a quarterly basis for the first year of operation and semiannually thereafter for the following four years, collect groundwater level measurements from all wells identified in the groundwater monitoring network. Quarterly operational parameters (i.e., pumping rate and days on which pumping occurred) of the groundwater supply wells shall be monitored.

8. On an annual basis, perform statistical trend analysis (using linear regression or a non-parametric test such as Kendall-Theil Robust Line, or other appropriate statistical analysis) on water levels, compare water levels and trends to pre-project conditions, present a summary of available climatic information (monthly average temperature and rainfall records from the nearest weather station), and provide a comparison and assessment of water level data relative to the assumptions and spatial ~~partial~~ trends simulated by the USGS Mojave River Basin Model

(USGS2001). The magnitude and significance of any trends shall be evaluated. Based on comparisons between preproject, project, and background water level trends, **the project owner shall estimate the groundwater level change attributed to project pumping.** These calculations shall be supported using a tabular summary of the wells, current and historical water level measurements, a map of the groundwater elevation contours; calculated gradients; and conclusion and recommendations of a licensed California professional geologist or engineer.

D. Mitigation:

9. If groundwater levels have been lowered more than 20 feet below pre-construction levels in an offsite well and monitoring data indicates the water level decline is attributed to project pumping, then the project owner shall assess the impact to the water column above the pump and well screen and related impact to well yield.

10. Mitigation shall be provided to well owners that experience 20 feet or more of project-induced drawdown if well monitoring data confirms project pumping **causes all or a portion of the drawdown and either the previously submerged well screen has been exposed or the well yield or performance has been reduced such that the well fails to meet demand.** The type and extent of mitigation shall be determined by the amount of water level decline induced by the project, the type of impact, and site specific well construction and water use characteristics. If an impact is determined to be caused by drawdown from more than one source, the level of mitigation provided shall be proportional to the amount of drawdown induced by the project relative to other sources. In order to be eligible, a well owner must provide documentation of the well location and construction, including pump intake depth, and evidence that the well was constructed in use before project pumping was initiated. The mitigation of impacts shall be determined as follows:

a. Increased Electrical Usage. If project pumping has lowered a well's water levels and increased pumping lifts, increased energy costs shall be calculated. Payment or reimbursement for the increased costs shall be provided at the option of the affected well owner. In the absence of specific electrical use data supplied by the well owner, the following formula shall be used to calculate the additional electrical usage:

$$\text{Increased Cost for Energy} = (\text{change in lift/total hydraulic head}) \times (\text{total energy consumption times costs/unit of energy})$$

Where:

change in lift (ft) = calculated change in water level in the well

total hydraulic head (ft) = (elevation head) + (discharge pressure head)

elevation head (ft) = (wellhead discharge pressure gauge elevation) – (water level elevation in well during pumping)

discharge pressure head (ft) = (pressure in pounds per

square inch at wellhead
discharge gauge) x (2.31 to
convert psi to feet of water)

The project owner shall submit to the CPM for review and approval the documentation showing which well owners must be compensated for increased energy costs and that the proposed amount is sufficient compensation to comply with the provisions of this condition.

- i. Any reimbursements (either lump sum or annual) to impacted well owners shall be only to those well owners whose wells were in service within six months of the Commission decision and within the 20-foot contour interval established in Item A above.
- ii. The project owner shall notify all owners of the impacted wells within one month of the CPM approval of the compensation analysis for increase energy costs.
- iii. Compensation shall be provided on either a one-time lump-sum basis, or on an annual basis, as described below.

Annual Compensation. Compensation provided on an annual basis shall be calculated prospectively for each year by estimating energy costs that will be incurred to provide the additional lift required as a result of the project. With the permission of the impacted well owner, the project owner shall provide energy meters for each well or well field affected by the project. The impacted well owner to receive compensation must provide documentation of energy consumption in the form of meter readings or other verification of fuel consumption. For each year after the first year of operation, the project owner shall include an adjustment for any deviations between projected and actual energy costs for the previous calendar year.

One-Time Lump-Sum Compensation. Compensation provided on a one-time lump-sum basis shall be based on a well-interference analysis, assuming the maximum project pumping rate of 2,160 AF/y. Compensation associated with increased pumping lift for the life of the project shall be estimated as a lump sum payment as follows:

- i. The current cost of energy to the affected party considering time of use or tiers of energy cost applicable to the party's billing of electricity from the utility providing electric service, or a reasonable equivalent if the party independently generates their electricity;
- ii. An annual inflation factor for energy cost of 3 percent; and
- iii. A net present value determination assuming a term of 30 years and a discount rate of 9 percent;

b. **Well Screen Exposure.** If groundwater monitoring data indicate project pumping has lowered water levels below the top of the well screen, and the well yield is shown no longer meet pre-project demand, compensation shall be provided to diagnose and treat and well screen encrustation. Reimbursement shall be provided at an amount equal to the customary local cost of performing the necessary diagnosis and maintenance for well screen fouling. Should well yield reductions reoccur, the project owner shall

provide payment or reimbursement for either periodic maintenance throughout the life of the project or replacement of the well.

c. **Well Yield.** If project pumping has lowered water levels to significantly impact well yield so that it can no longer meet its intended purpose, causes the well to go dry, or cause casing collapse, payment or reimbursement of an amount equal to the cost of deepening or replacing the well shall be provided to accommodate these effects. Payment or reimbursement shall be at an amount equal to the customary local cost of deepening the existing well or constructing a new well of comparable design and yield (only deeper). The demand for water, which determines the required well yield, shall be determined on a per well basis using well owner interviews and field verification of property conditions and water requirements compiled as part of the pre-project well reconnaissance. Well yield shall be considered significantly impacted if it is incapable of meeting 100 percent of the well owner's maximum daily demand and 5-year average annual demand – assuming the pre-project well yield documented by the initial well reconnaissance met or exceeded these yield levels. The contribution of project pumping to observed decreases in observed well yield shall be determined by interpretation of the groundwater monitoring data collected and shall take into consideration the effect of other nearby pumping wells, basin-wide trends, and the condition of the well prior to the commencement of project pumping.

d. The project owner shall notify any owners of the impacted wells within one month of the CPM approval of the compensation analysis.

e. **Pump Lowering.** In the event that groundwater is lowered as a result of project pumping to an extent where pumps are exposed but well screens remain submerged, the pumps shall be lowered to maintain production in the well. The project shall reimburse the impacted well owner for the costs associated with lowering pumps in proportion to the project's contribution to the lowering of the groundwater table that resulted in the impact.

f. **Deepening of Wells.** If the groundwater is lowered enough as a result of project pumping that well screens and/or pump intakes are exposed, and pump lowering is not an option,

E. Monitoring Program Evaluation:

11. After the first five-year operational and monitoring period, and every subsequent 5-year period, the CPM shall evaluate the data and determine if the monitoring program water level measurement frequencies should be revised or eliminated. Revision or elimination of any monitoring program elements shall be based on the consistency of the data collected.

Verification: The project owner shall do all of the following:

1. At least sixty (60) days prior to project construction, the project owner shall submit to the CPM, for review and approval, a comprehensive plan (Groundwater Level Monitoring and Reporting Plan) presenting all the data and information required in Item A above. The project

owner shall submit to the both the CPM all calculations and assumptions made in development of the plan.

2. During project construction, the project owner shall submit to the CPM quarterly reports presenting all the data and information required in Item B above. The project owner shall submit to the CPM all calculations and assumptions made in development of the report data and interpretations.

3. No later than sixty (60) days after commencing project operation, the project owner shall provide to the CPM, for review and approval, documentation showing that any mitigation to private well owners during project construction was satisfied, based on the requirements of the property owner as determined by the CPM.

4. During project operation, the project owner shall submit to CPM, applicable quarterly, semi-annual, and annual reports presenting all the data and information required in Item C above. The project owner shall submit to the CPM all calculations and assumptions made in development of report data and interpretations, calculations, and assumptions used in development of any reports.

5. The project owner shall provide mitigation as described in Item D above, if the CPM's inspection of the monitoring information confirms project-induced changes to water levels and water level trends relative to measured preproject water levels, and well yield has been lowered by project pumping. The type and extent of mitigation shall be determined by the amount of water level decline and site-specific well construction and water use characteristics. The mitigation of impacts will be determined as set forth in Item D above.

6. No later than 30 days after CPM approval of the well drawdown analysis, the project owner shall submit to the CPM for review and approval all documentation and calculations describing necessary compensation for energy costs associated with additional lift requirements.

7. The project owner shall submit to the CPM all calculations, along with any letters signed by the well owners indicating agreement with the calculations, and the name and phone numbers of those well owners that do not agree with the calculations.

8. If mitigation includes monetary compensation, the project owner shall provide documentation to the CPM that compensation payments have been made by March 31 of each year of project operation or, if a lump-sum payment is made, payment shall be made by March 31 of the following year. Within 30 days after compensation is paid, the project owner shall submit to the CPM a compliance report describing compensation for increased energy costs necessary to comply with the provisions of this condition.

9. After the first 5-year operational and monitoring period, and every subsequent 5-year period, the project owner shall submit a 5-year monitoring report to the CPM for review and approval. This report shall contain all monitoring data collected and provide a summary of the findings and a recommendation about whether the frequency of water level measurements should be revised or eliminated.

10. During the life of the project, the project owner shall provide to the CPM all monitoring reports, complaints, studies, and other relevant data within 10 days of being received by the project owner.

VIS-1 The project owner shall treat the surfaces of all project structures and buildings visible to the public, other than surface that are intended to direct or reflect sunlight, so that their colors minimize visual intrusion and contrast by blending with the rural landscape in both color and value and their colors and finishes do not create excessive glare. The project owner shall submit

to the Compliance Project Manager (CPM) for review and approval a specific surface treatment plan that will satisfy these requirements. The treatment plan shall include:

- A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;
- B. A list of each major project structure, building, tank, pipe, wall, and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number or according to a universal designation system;
- C. One set of color brochures or color chips showing each proposed color and finish;
- D. A specific schedule for completion of the treatment; and
- E. A written procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated in the field, until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

Verification: At least 90 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval. The review of any subsequent revisions shall be completed by the CPM within fifteen (15) days of receipt of the revisions.

Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and they are ready for inspection and shall submit one set of electronic color photographs from key observation points (KOPs) 1, 2, 3, 4, 5, 6, 7, and 8 analyzed in the Staff Assessment. The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

VIS-2 The project owner shall develop and implement a plan to reduce permanent views of the project from residential properties located within 0.5 mile of the project boundary by installing off-site landscape planting on the residential properties if the landowner so desires and requests implementation of the off-site landscape screening in writing. The landscape planting shall only include drought-resistant plants that reduce views of the project and exposure to glare to a reasonable level.

The project owner shall submit to the CPM for review and approval a screening plan providing proper implementation that will satisfy these requirements. The plan shall include:

A. A detailed plan at a reasonable scale such that all information is legible, and elevations and/or section drawings showing the relationship of the screening to the project site. The plan, elevations and/or sections shall clearly demonstrate how the view-reducing requirements stated above shall be met. The plan shall provide detailed plant list including quantities and sizes of materials to be used and an installation schedule demonstrating installation of as much of the screening as early in the construction process as is feasible in coordination with project construction;

B. A watering plan for the drought-resistant vegetative planting that includes methods such as drip irrigation.

C. Plant establishment procedures, including a plan for routine care and monitoring of plant materials will be provided by the project owner to each landowner. The project owner will work with landowners to ensure proper and diligent watering, weeding and maintenance. The project owner will replace and replacement of installed plants that fail to thrive for a period of five years from installation; and

D. Documentation that a landowner declines to have landscape screening installed on his property in the event they choose not to participate in the screening program.

E. The plan shall not be implemented until the project owner receives final approval from the CPM.

Verification: The screening plan shall be submitted to the CPM for review and approval at least 90 days prior to installation. If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The review of any subsequent revisions shall be completed by the CPM within fifteen (15) days of receipt of the revisions. The project owner shall notify the CPM within seven days after completing the screening installation that the screening is ready for inspection. The project owner shall report maintenance activities, including replacement of plants that fail to thrive for the previous year of operation for a period of five years, in each Annual Compliance Report.

VIS-4 The project owner shall develop and implement a screening plan that reduces direct visibility of the SCA mirrors to traffic on Harper Lake Road north of Lockhart Road, to traffic on Lockhart Road from Harper Lake Road to the eastern boundary of the Beta solar field, to residents Living within one mile of the west boundary of the Beta solar field, and to visitors of the Harper Dry Lake Watchable Wildlife Area. The plan shall utilize sufficient setbacks of the SCAs from roads and 10-foot high slatted fencing to eliminate public exposure to hazardous levels of reflection, and to minimize public exposure to nuisance glare. The screening shall be designed to minimize glare from the project as seen by motorists and local residents during all times of year and periods of the day. Fence slats shall be of a non-reflective tan or other color designed to blend with the visual background in order to minimize color contrast of the fence. The project owner shall submit to the CPM for review and approval a screening plan providing proper implementation that will satisfy these requirements. The plan shall include:

A. A detailed plan at a reasonable scale such that all information is legible, and elevations and/or section drawings showing the relationship of the screening to the road

and SCAs from locations on Lockhart Road. The plan, elevations and/or sections shall clearly demonstrate how the glare-reducing requirements stated above shall be met. The plan shall provide a detailed installation schedule demonstrating installation of as much of the screening as early in the construction process as is feasible in coordination with project construction;

B. Maintenance procedures, including a plan for routine annual or semi-annual debris removal and repair of slatted fencing for the life of the project;

C. A procedure for monitoring and replacement of damaged screening for the life of the project; and

D. The plan shall not be implemented until the project owner receives final approval from the CPM.

Verification: The screening plan shall be submitted to the CPM for review and approval at least 90 days prior to installation.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM. The review of any subsequent revisions shall be completed by the CPM within fifteen (15) days of receipt of the revisions. The project owner shall notify the CPM within seven days after completing the screening installation that the screening is ready for inspection. The project owner shall report maintenance activities, including replacement of damaged or destroyed screening for the previous year of operation in each Annual Compliance Report.

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IV. CONCLUSION

Abengoa appreciates the Committee's and Hearing Officer Vaccaro's expeditious and thorough review of the record represented by the PMPD. Abengoa supports the PMPD with the modifications outlined above and urges the Commission's adoption of the modified PMPD on September 8, 2010.

Respectfully submitted,



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September 3, 2010

Attorneys for Abengoa Mojave Solar Project

STATE OF CALIFORNIA

Energy Resources Conservation
and Development Commission

Application for Certification for the)
ABENGOA MOJAVE SOLAR PROJECT) Docket No. 09-AFC-5
)
)
_____)

PROOF OF SERVICE

I, Eric Janssen, declare that on September 3, 2010, I served the attached *ABENGOA MOJAVE SOLAR PROJECT APPLICANT'S COMMENTS ON PRESIDING MEMBER'S PROPOSED DECISION* via electronic and by either U.S. mail or hand-delivery (unless the service list denotes "Email Preferred") to all parties on the attached service list.

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



Eric Janssen

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