

Memorandum

To: Karen Douglas, Chair
 James D. Boyd, Vice Chair
 Arthur H. Rosenfeld, Ph.D., Commissioner
 Jeffrey Byron, Commissioner
 Julia Levin, Commissioner

Date: October 30, 2009
Telephone: (916) 654-4996

DOCKET
09-AFC-8

From: California Energy Commission – **Melissa Jones**
 1516 Ninth Street
 Sacramento, CA 95814-5512
Executive Director

DATE	10/30/09
RECD.	11/02/09

Subject: GENESIS SOLAR ENERGY PROJECT, REVISED DATA ADEQUACY RECOMMENDATION (09-AFC-8)

On August 31, 2009, Genesis Solar, LLC filed an Application for Certification (AFC) to construct and operate the Genesis Solar Energy Project (Project). The project would have a combined nominal electrical output of 250 megawatts (MW) from two, 125 MW concentrated solar electric generating facilities. Power from the solar fields would be joined at one transmission line that would run 6.5 miles south, across Interstate-10, and tie into the 230-kV Blythe Energy Project Transmission Line.

This solar electric generating facility would be constructed and operated on approximately 1,800 acres of contiguous Bureau of Land Management (BLM) property located in eastern Riverside County, north of Interstate-10. The Project would be located approximately 25 miles east of Blythe and 27 miles west of Desert Center, CA.

Staff's September 30, 2009 initial review of the Genesis Solar LLC's AFC determined that it did not meet all the requirements listed in Title 20, section 1704, and Division 2, Chapter 5, Appendix B of the California Code of Regulations for the 12-month process. Specifically, the AFC was deficient in nine of 23 areas: air quality, biological resources, cultural resources, geological resources, paleontological resources, soils, transmission system design, visual resources and water. At the October 7, 2009 Business Meeting, the Energy Commission accepted staff's initial data adequacy recommendation.

On October 12, 2009, Genesis Solar LLC filed their AFC Supplement. On October 26, 2009, Supplemental 1A provided greater water resources detail. Staff has reviewed the Supplemental information, and believes the AFC now meets the regulatory requirements in all nine of the previously deficient technical disciplines. Attached are summary table and data adequacy worksheets for the nine technical disciplines reflecting that the supplemental information submitted by the applicant achieves data adequacy. At the Energy Commission's business meeting on November 4, 2009, I will recommend that the Energy Commission accept the Genesis Solar Energy Project AFC, with the supplemental information, as complete and request that a Committee be appointed. If you have any questions, please call Mike Monasmith, Staff's Project Manager, at (916) 654-4894.

**Attachment A
 Overview of Energy Commission Staff's
 Data Adequacy Determination
 Genesis Solar Energy Project
 09-AFC-8**

Technical Area	Attachment B Page No.	Adequate ?
AIR QUALITY.....	4	YES
BIOLOGICAL RESOURCES.....	11	YES
CULTURAL RESOURCES.....	21	YES
GEOLOGICAL RESOURCES.....	31	YES
PALEONTOLOGICAL RESOURCES.....	34	YES
SOILS.....	37	YES
TRANSMISSION SYSTEM DESIGN.....	40	YES
VISUAL RESOURCES	44	YES
WATER RESOURCES.....	49	YES

ATTACHMENT B

**ENERGY COMMISSION STAFF'S
List of Revised Data Adequacy Sheets**

**Genesis Solar Energy Project
09-AFC-8**

October 30, 2009

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 42 Date 10/21/09
10/29/09

Technical Area: **Air Quality**

Project: Genesis Solar Energy Project

Technical Staff: Joseph Hughes & Will Walters

Project Manager: Mike Monasmith

Docket: 9-AFC-8

Technical Senior: Matt Layton

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 5.2, pp. 5.2-1 to 5.2-31; Supplemental Response, p. 1	Yes	
Appendix B (g) (8) (A)	The information necessary for the air pollution control district where the project is located to complete a Determination of Compliance.	Section 5.2 Appendix B MDAQMD Permit Application Completeness Letter dated 10/27/09	No <u>Yes</u>	Please provide the permit application completeness letter from the Mojave Desert Air Quality Management District. This letter is expected late October.
Appendix B (g) (8) (B)	The heating value and chemical characteristics of the proposed fuels, the stack height and diameter, the exhaust velocity and temperature, the heat rate and the expected capacity factor of the proposed facility.	Section 3.4, pp. 3-4 to 3-10 Section 3.4.6; Table 3.4-1 Section 5.2.1.2; Table 5.2-1 Section 5.2.4.8, table 5.2-16	Yes	
Appendix B (g) (8) (C)	A description of the control technologies proposed to limit the emission of criteria pollutants.	Section 5.2.3, pp. 5.2-12,13 Appendix B.6	Yes	
Appendix B (g) (8) (D)	A description of the cooling system, the estimated cooling tower drift rate, the rate of water flow through the cooling tower, and the maximum concentrations of total dissolved solids.	Section 5.2.1.2, p. 5.2-3 Appendix B.1	Yes	

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Project Manager: Mike Monasmith Docket: 9-AFC-8 Technical Senior: Matt Layton

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Appendix B (g) (8) (E)	The emission rates of criteria pollutants and greenhouse gases (CO2, CH4, N2O, and SF6) from the stack, cooling towers, fuels and materials handling processes, delivery and storage systems, and from all on-site secondary emission sources.	Section 5.2.2.2, pp. 5.2-5 to 5.2-9 Tables 5.2-3 to 5.2-7 Appendix B.1	Yes	
Appendix B (g) (8) (F)(i)	A description of typical operational modes, and start-up and shutdown modes for the proposed project, including the estimated frequency of occurrence and duration of each mode, and estimated emission rate for each criteria pollutant during each mode.	Section 5.2.2.2, pp. 5.2-5 to 5.2-12; Supplemental Response, pp. 2-4	Yes	
Appendix B (g) (8) (F)(ii)	A description of the project's planned initial commissioning phase, which is the phase between the first firing of emissions sources and the commercial operations date, including the types and durations of equipment tests, criteria pollutant emissions, and monitoring techniques to be used during such tests.	NA	NA	
Appendix B (g) (8) (G)	The ambient concentrations of all criteria pollutants for the previous three years as measured at the three Air Resources Board certified monitoring stations located closest to the project site, and an analysis of whether this data is representative of conditions at the project site. The applicant may substitute an explanation as to why information from one, two, or all stations is either not available or unnecessary.	Section 5.2.4.6 Table 5.2-14 Appendix B.2-4	Yes	

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Appendix B (g) (8) (H)	One year of meteorological data collected from either the Federal Aviation Administration Class 1 station nearest to the project or from the project site, or meteorological data approved by the California Air Resources Board or the local air pollution control district.	Section 5.2.4.5 Air Quality Modeling CD	Yes	
Appendix B (g) (8) (H) (i)	If the data is collected from the project site, the applicant shall demonstrate compliance with the requirements of the U.S. Environmental Protection Agency document entitled "On-Site Meteorological Program Guidance for Regulatory Modeling Applications" (EPA - 450/4-87-013 (August 1995)), which is incorporated by reference in its entirety.	NA	NA	
Appendix B (g) (8) (H) (ii)	The data shall include quarterly wind tables and wind roses, ambient temperatures, relative humidity, stability and mixing heights, upper atmospheric air data, and an analysis of whether this data is representative of conditions at the project site.	Figures 5.2-1 to 5.2-5 Section 5.2.4.5 pp. 5.2-15 to -17 Air Quality Modeling CD	Yes	
Appendix B (g) (8) (I)	An evaluation of the project's direct and cumulative air quality impacts, consisting of the following:	See below		

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Appendix B (g) (8) (I) (i)	A screening level air quality modeling analysis, or a more detailed modeling analysis if so desired by the applicant, of the direct criteria pollutant impacts of project construction activities on ambient air quality conditions, including fugitive dust (PM ₁₀) emissions from grading, excavation and site disturbance, as well as the combustion emissions [nitrogen oxides (NO _x), sulfur dioxide (SO ₂), carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM ₁₀) and particulate matter less than 2.5 microns in diameter (PM _{2.5})] from construction-related equipment;	Appendix B.5 Air Quality Modeling CD	Yes	
Appendix B (g) (8) (I) (ii)	A screening level air quality modeling analysis, or a more detailed modeling analysis if so desired by the applicant, of the direct criteria pollutant (NO _x , SO ₂ , CO, PM ₁₀ , and PM _{2.5}) impacts on ambient air quality conditions of the project during typical (normal) operation, and during shutdown and startup modes of operation. Identify and include in the modeling of each operating mode the estimated maximum emissions rates and the assumed meteorological conditions;	Section 5.2.4, pp. 5.2-13 to 5.2-23 Table 5.2-16,17 Air Quality Modeling CD	Yes	

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Appendix B (g) (8) (I) (iii)	A protocol for a cumulative air quality modeling impacts analysis of the project's typical operating mode in combination with other stationary emissions sources within a six mile radius which have received construction permits but are not yet operational, or are in the permitting process. The cumulative inert pollutant impact analysis should assess whether estimated emissions concentrations will cause or contribute to a violation of any ambient air quality standard; and	Appendix B.8	Yes	
Appendix B (g) (8) (I) (iv)	An air dispersion modeling analysis of the impacts of the initial commissioning phase emissions on state and federal ambient air quality standards for NO _x , SO ₂ , CO, PM ₁₀ , and PM _{2.5} .	NA	NA	
Appendix B (g) (8) (J)	If an emission offset strategy is proposed to mitigate the project's impacts under subsection (g)(1), provide the following information:	NA	NA	
Appendix B (g) (8) (J) (i)	The quantity of offsets or emission reductions that are needed to satisfy air permitting requirements of local permitting agencies (such as the air district), state and federal oversight air agencies, and the California Energy Commission. Identify by criteria air pollutant, and if appropriate, greenhouse gas; and	NA	NA	
Appendix B (g) (8) (J) (ii)	Potential offset sources, including location, and quantity of emission reductions;	NA	NA	

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Appendix B (g) (8) (K)	A detailed description of the mitigation, if any, which an applicant may propose, for all projects impacts from criteria pollutants that currently exceed state or federal ambient air quality standards, but are not subject to offset requirements under the district's new source review rule.	Section 5.2; Supplemental Response, p. 4	Yes	
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Section 5.2.5 Table 5.2-18	Yes	
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.2.6 Table 5.2-19	Yes	
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Table 5.2-19	Yes	

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Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.2.7 Table 5.2-20	Yes	

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Technical Area: Biological Resources
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Project: Genesis Solar Energy Project
Docket: Docket Number 09-AFC-8

Technical Staff: Susan Sanders
Technical Senior: Rick York

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Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	<p>Existing site conditions: Sect. 5.3.1, p. 5.3-1; Sect. 5.3.6.2, p. 5.3-14 – 5.3-21;</p> <p>Direct, indirect, and cumulative impacts: Sect. 5.3.7, p. 5.3-21 — 5.3-28; 5.3.9, p. 5.3-32— 33</p> <p>Mitigation measures: Sect. 5.3.8, p. 5.3-29 — 5.3-32</p> <p>Monitoring plans: Sect. 5.3.8, p. 5.3-29</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	
Appendix B (g) (13) (A)	A regional overview and discussion of terrestrial and aquatic biological resources, with particular attention to sensitive biological resources within ten (10) miles of the project. Include a map at a scale of 1:100,000 (or other suitable scale) showing sensitive biological resource location(s) in relation to the project site and related facilities and any boundaries of a local Habitat Conservation Plan or similar open space land use plan or designation. Sensitive biological resources include the following:	<p>Regional overview: Sect. 5.3.2, p. 5.3-1</p> <p>Map of sensitive resources: Fig. 5.3-4a</p> <p>Map of HCP boundaries or designated open space Fig. 5.3-3</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p>	
Appendix B (g) (13) (A) (i)	species listed under state or federal Endangered Species Acts;	<p>Federal and state Endangered Species: Sect. 5.3.5, p. 5.3-3 — 5.3-4; Table 5.3-1, p. 5.3-5 — 5.3-10</p>	<p>Yes</p>	

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Appendix B (g) (13) (A) (ii)	resources defined in sections 1702(q) and (v) of Title 20 of the California Code of Regulations;	Areas of critical concern and species of special concern: Sect. 5.3.5, p. 5.3-3 — 5.3-4; Table 5.3-1, p. 5.3-5 — 5.3-10; Sect. 5.3.2.1, p. 5.3-1—5.3-2; Sect. 5.3.2.2, p. 5.3-2	Yes	
Appendix B (g) (13) (A) (iii)	species identified as state Fully Protected;	State Fully Protected species: Sect. 5.3.3, p. 5.3.3—p. 5.3-4; Table 5.3-1, p. 5.3-5 — 5.3-10	Yes	
Appendix B (g) (13) (A) (iv)	species covered by Migratory Bird Treaty Act;	Migratory Bird Act species: Table 5.3-1, p. 5.3-8	Yes	
Appendix B (g) (13) (A) (v)	species and habitats identified by local, state, and federal agencies as needing protection, including but not limited to those identified by the California Natural Diversity Database, or where applicable, in Local Coastal Programs or in relevant decisions of the California Coastal Commission; and	Species and habitats identified in the California Natural Diversity Database: Table 5.3-1, p. 5.3-5 — 5.3-10	Yes	
Appendix B (g) (13) (A) (vi)	fish and wildlife species that have commercial and/or recreational value.	Fish and wildlife of commercial or recreational value: Sect. 5.3.6.2, p. 5.3-20	Yes	
Appendix B (g) (13) (B)	Include a list of the species actually observed and those with a potential to occur within 1 mile of the project site and 1,000 feet from the outer edge of linear facility corridors. Maps or aerial photographs shall include the following:	List of species observed: Appendix D of Appendix C	Yes	

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Appendix B (g) (13) (B) (i)	Detailed maps at a scale of 1:6,000 or color aerial photographs taken at a recommended scale of 1 inch equals 500 feet (1:6,000) with a 30 percent overlap that show the proposed project site and related facilities, biological resources including, but not limited to, those found during project-related field surveys and in records from the California Natural Diversity Database, and the associated areas where biological surveys were conducted. Label the biological resources and survey areas as well as the project facilities;	<p>Map of proposed project site: Figure 5.3-1</p> <p>Map of biological resources: <u>Supplemental Response</u> <u>Figures 5.3-2A,B,C,D&E</u> <u>Figures 5.3-6A,B,C,D&E</u> <u>Figures 5.3-8A,B,C,D&E</u> <u>Figures 5.3-9A,B,C,D&E</u> <u>Figures 5.3-10A,B,C,D&E</u></p> <p>Map of survey area: Figure 5.3-2</p>	<p>Yes</p> <p>No Yes</p> <p>Yes</p>	<p>Some of the figures are at too coarse a scale to identify the location of biological resources in relation to project features and topography. Please provide maps at 1 inch = 500 feet (1:6000) for the following figures (only those portions of the project site with the resources of interest need be provided):</p> <ul style="list-style-type: none"> Fig.5.3-2 Natural Community Types Fig 5.3-6 Special Status Plants Fig 5.3-8 Desert Tortoise Sign Fig 5.3-9 Other Special Status Wildlife Fig 5.3-10 Burrowing Owl and Sign
Appendix B (g) (13) (B) (ii)	A depiction of the extent of the thermal plume at the surface of the water if cooling water is proposed to be discharged to a water source. Provide the location for the intake and discharge structures on an aerial photograph(s) or detailed maps. Water sources include, but are not limited to, waterways, lakes, impoundments, oceans, bays, rivers, and estuaries; and	<p>Depiction of the thermal plume: Not applicable</p> <p>Location of intake and discharge structures: Not Applicable</p>	<p>N/A</p> <p>N/A</p>	

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Revision No. 01 Date 9/14/09
10/22/09

Technical Area: **Biological Resources**
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Project: Genesis Solar Energy Project
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Appendix B (g) (13) (B) (iii)	An aerial photo or wetlands delineation maps at a scale of (1:2,400) showing any potential jurisdictional and non-jurisdictional wetlands delineated out to 250 feet from the edge of disturbance if wetlands occur within 250 feet of the project site and/or related facilities that would be included with the US Army Corps of Engineers (USACE) Section 404 Permit application. For projects proposed to be located within the coastal zone, also provide aerial photographs or maps as described above that identify wetlands as defined by the Coastal Act.	Potential jurisdictional or non-jurisdictional wetlands map: <u>Supplemental Figure 5.3-7A to Figure 5.6-7J</u> Coastal zone wetlands map: Not applicable	No <u>Yes</u> N/A	Figure 3-1 from the Survey for Jurisdictional Waters report (Appendix C) is at too coarse a scale. Please show the 29 ephemeral drainages depicted on Figure 3-1 at a 1:2400 scale (1 inch = 200 feet).
Appendix B (g) (13) (C)	A discussion of the biological resources at the proposed project site and related facilities. Related facilities include, but are not limited to, laydown and parking areas, gas and water supply pipelines, transmission lines, and roads. The discussion shall address the distribution of vegetation community types, denning or nesting sites, population concentrations, migration corridors, breeding habitats, and other appropriate biological resources including the following:	Discussion of biological resources at project site: Sect. 5.3.6.2, p 5.3-14 — 5.3-21 Discussion of biological resources at related facilities: Sect. 5.3.6.2, p 5.3-14 — 5.3-21	Yes Yes	
Appendix B (g) (13) (C) (i)	A list of all the species actually observed;	List of species observed: Appendix D	Yes	
Appendix B (g) (13) (C) (ii)	A list of sensitive species and habitats with a potential to occur (as defined in (A) above); and	Sensitive species and habitats with potential to occur: Sect. 5.3.5, p. 5.3-3 — 5.3-10	Yes	

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Appendix B (g) (13) (C) (iii)	If cooling water is taken directly from or discharged to a surface water feature source, include a description of the intake structure, screens, water volume, intake velocity hydraulic zone field of influence, and the thermal plume dispersion area as depicted in response to B(ii) above. Describe the thermal plume size and dispersion under high and low tides, and in response to local currents and seasonal changes. Provide a discussion of the aquatic habitats, biological resources, and critical life stages found in these affected waters. For repower projects that anticipate no change in cooling water flow, this information shall be provided in the form of the most recent federal Clean Water Act 316(a) and (b) studies of entrainment and impingement impacts that has been completed within the last five (5) years. For new projects or repower projects proposing to use once-through cooling and anticipating an increase in cooling water flow, provide a complete impingement and entrainment analysis per guidance in (D)(ii), below.	<p>Intake structure characteristics: Not applicable</p> <p>Thermal plume description: Not applicable</p> <p>Aquatic habitat and biological resources affected: Not applicable</p> <p>Impingement and entrainment analysis: Not applicable</p>	<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>	
Appendix B (g) (13) (D)	A description and results of all field studies and seasonal surveys used to provide biological baseline information about the project site and associated facilities. Include copies of the California Natural Diversity Database records and field survey forms completed by the applicant's biologist(s). Identify the date(s) the surveys were completed, methods used to complete the surveys, and the name(s) and qualifications of the biologists conducting the surveys. Include:	<p>Description and results of field studies: Sect. 5.3.6.2, p. 5.3-14—5.3-21</p> <p>Copies of CNDDDB records and field survey forms: Appendix C</p> <p>Qualifications of biologists: Appendix C</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p>	

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Appendix B (g) (13) (D) (i)	Current biological resources surveys conducted using appropriate field survey protocols during the appropriate season(s). State and federal agencies with jurisdiction shall be consulted for field survey protocol guidance prior to surveys if a protocol exists;	Current biological surveys: Sect. 5.3.6.2, p 5.3-14 — 5.3-21; Appendix C-1	Yes	
Appendix B (g) (13) (D) (ii)	If cooling water is proposed to be taken directly from or discharged to a surface water feature source, seasonal aquatic resource studies and surveys shall be conducted. Aquatic resource survey data shall include, but is not limited to, fish trawls, ichthyoplankton and benthic sampling, and related temperature and water quality samples. For new projects or repower projects anticipating a change in cooling water flows, sampling protocols shall be provided to the Energy Commission staff for review and concurrence prior to the start of sampling. For repower projects not anticipating a change in cooling water flows, this information shall be provided in the form of the most recent federal Clean Water Act 316(b) impingement and entrainment impact study completed within five (5) years of the AFC filing date; and	Aquatic resource studies and surveys: Not applicable Aquatic resource survey data or impingement and entrainment impact study: Not applicable	N/A N/A	

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Appendix B (g) (13) (D) (iii)	If the project or any related facilities could impact a jurisdictional or non-jurisdictional wetland, provide completed Army Corps of Engineers wetland delineation forms and/or determination of wetland status pursuant to Coastal Act requirements, name(s) and qualifications of biologist(s) completing the delineation, the results of the delineation and a table showing wetland acreage amounts to be impacted.	<p>Completed USACE wetland delineation forms: Appendix C-1</p> <p>Determination of jurisdictional status: Appendix C-2 (determination pending)</p> <p>Delineation results, table showing impacts <u>Supplemental, Pages 5-7</u></p>	<p>Yes</p> <p>Yes</p> <p>No <u>Yes</u></p>	<p>Please provide a table showing acreage of impacts to ephemeral drainages and waters of the state.</p>
Appendix B (g) (13) (E)	Impacts discussion of the following:			
Appendix B (g) (13) (E) (i)	all impacts (direct, indirect, and cumulative) to biological resources from project site preparation, construction activities, plant operation, maintenance, and closure. Discussion shall also address sensitive species habitat impacts from cooling tower drift and air emissions;	<p>Project site impacts: Sect. 5.3.7, p. 5.3-21— 5.3-28</p> <p>Air emission impacts on sensitive species: Not applicable</p>	<p>Yes</p> <p>N/A</p>	

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/14/09
10/22/09

Technical Area: Biological Resources
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: Docket Number 09-AFC-8

Technical Staff: Susan Sanders
Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (13) (E) (ii)	facilities that propose to take water directly from, and/or discharge water to surface water features, daytime and nighttime impacts from the intake and discharge of water during operation, water velocity at the intake screen, the intake field of influence, impingement, entrainment, and thermal discharge. Provide a discussion of the extent of the thermal plume, effluent chemicals, oxygen saturation, intake pump operations, and the volume and rate of cooling water flow at the intake and discharge location; and	Intake impacts: Not applicable Thermal plume impacts: Not applicable	N/A N/A	
Appendix B (g) (13) (E) (iii)	Methods to control biofouling and chemical concentrations, and temperatures that are currently being discharged or will be discharged to receiving waters.	Biofouling and chemical concentration controls: Not applicable Discharge temperatures: Not applicable	N/A N/A	
Appendix B (g) (13) (F)	A discussion of all feasible mitigation measures including, but not limited to the following:			
Appendix B (g) (13) (F) (i)	All measures proposed to avoid and/or reduce adverse impacts to biological resources;	Avoidance and minimization: Sect. 5.3.8, p. 5.3-29 — 5.3-32	Yes	
Appendix B (g) (13) (F) (ii)	All off-site habitat mitigation and habitat improvement or compensation, and an identification of contacts for compensation habitat and management;	Habitat mitigation: Sect 5.3.7.9, p. 5.3-28; Table 5.3-, p. 5.3-29) Contacts for compensation habitat: <u>Supplemental, filed under confidential cover</u>	Yes <u>No</u> <u>Yes</u>	Please identify contacts that have been made regarding habitat compensation and management for anticipated disturbance to Special Management Areas and habitat.

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Appendix B (g) (13) (F) (iii)	Design features to better disperse or eliminate a thermal discharge;	Design features to eliminate thermal discharge: Not applicable	N/A	
Appendix B (g) (13) (F) (iv)	All measures proposed to avoid or minimize adverse impacts of cooling water intake. This shall include a Best Technology Available (BTA) discussion. If BTA is not being proposed, the rationale for not selecting BTA must be provided; and	Measures to minimize impacts of cooling water intake: Not applicable	N/A	
Appendix B (g) (13) (F) (v)	Educational programs to enhance employee awareness during construction and operation to protect biological resources.	Employee biological resource awareness training: Sect. 5.3.8.1 BIO-2 p.5.3-29	Yes	
Appendix B (g) (13) (G)	A discussion of compliance and monitoring programs to ensure the effectiveness of impact avoidance and mitigation measures incorporated into the project.	Monitoring compliance effectiveness: Sect. 5.3.8.1 BIO-1 p.5.3-29	Yes	
Appendix B (g) (13) (H)	Submit copies of any preliminary correspondence between the project applicant and state and federal resource agencies regarding whether federal or state permits from other agencies such as the U. S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWCB) will be required for the proposed project.	Contact with state and federal agencies regarding permits: Appendix C-2	Yes	

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Project: Genesis Solar Energy Project
 Docket: 09-AFC-8

Technical Staff: Beverly E. Bastian
 Technical Senior: Rick York

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Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Existing site conditions: Vol. I, Sec. 3.0, pp. 3-1–3-3 Impacts due to project: Vol. I, Sec. 5.16, p. 5.16-28 Measures to mitigate known impacts: Vol. I, Sec. 5.16, pp. 5.16-28–5.16-31 Effectiveness of the proposed measures Any monitoring plans proposed to verify the effectiveness of the mitigation	Yes Yes Yes N/A N/A	
Appendix B (g) (2) (A)	A summary of the ethnology, prehistory, and history of the region with emphasis on the area within no more than a 5-mile radius of the project location.	Summary of the ethnology, prehistory, and history: Vol. I, Sec. 5.16, pp. 5.16-2–5.16-14	Yes	

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Project: Genesis Solar Energy Project
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Technical Staff: Beverly E. Bastian
 Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (2) (B)	<p>The results of a literature search to identify cultural resources within an area not less than a 1-mile radius around the project site and not less than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum. Literature searches to identify the above cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.</p> <p>Copies of California Department of Parks and Recreation (DPR) 523 forms (Title 14 CCR §4853) shall be provided for all cultural resources (ethnographic, architectural, historical, and archaeological) identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines, (36CFR60.4(g)). A copy of the USGS 7.5' quadrangle map of the literature search area delineating the areas of all past surveys and noting the California Historical Resources Information System (CHRIS) identifying number shall be provided. Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavations or architectural surveys within the literature search area.</p>	<p>Literature searches: Vol. I, Sec. 5.16, pp. 5.16-14–5.16-22</p> <p>Cultural resources listed under a city or county ordinance: Vol. I, Sec. 5.16, p. 5.16-15</p> <p>Cultural resources recognized by local societies: Vol. I, Sec. 5.16, p. 5.16-15</p> <p>Names/quals for lit searchers/directors: Vol. II, App. G, pp. 6–7; App. B</p> <p>DPR 523 forms for known resources: <u>DA Supplement, confidential filing</u></p> <p>Map of lit search area with past surveys and CHRIS #s: <u>DA Supplement, confidential filing</u></p> <p>CHRIS reports: Vol. II, App. G, App. D</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No Yes</p> <p>No Yes</p> <p>Yes</p>	<p>Applicant needs to provide, under confidential cover, the DPR 523 forms for the following previously recorded archaeological resources: P-33-9037, P-33-9038, P-33-13088, P-33-13089, P-33-13467, P-33-13470, P-33-13471, and P-33-13657.</p> <p>Applicant needs to provide a map of the records and literature search area displaying the coverage of all past cultural resources surveys, with each survey labeled with its CHRIS number, for the June, 2007 and October, 2008 searches.</p>

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<p>Appendix B (g) (2) (C)</p> <p>California Energy Commission – Siting, Transmission, and Environmental Protection Division</p>	<p>The results of new surveys or surveys less than 5 years old shall be provided if survey records of the area potentially affected by the project are more than five (5) years old. Surveys to identify new cultural resources must be completed by (or under the direction of) individuals who meet the Secretary of the Interior’s Professional Standards for the technical area addressed.</p> <p>New pedestrian archaeological surveys shall be conducted inclusive of the project site and project linear facility routes, extending to no less than 200’ around the project site, substations and staging areas, and to no less than 50’ to either side of the right-of-way of project linear facility routes. New historic architecture field surveys in rural areas shall be conducted inclusive of the project site and the project linear facility routes, extending no less than .5 mile out from the proposed plant site and from the routes of all above-ground linear facilities. New historic architecture field surveys in urban and suburban areas shall be conducted inclusive of the project site, extending no less than one parcel’s distance from all proposed plant site boundaries. New historic architecture field reconnaissance (“windshield survey”) in urban and suburban areas shall be conducted along the routes of all linear facilities to identify, inventory, and characterize structures and districts that appear to be older than 45 years or that are exceptionally significant, whatever their age.</p> <p>A technical report of the results of the new surveys, conforming to the Archaeological Resource Management Report format (CA Office of Historic Preservation Feb 1990), which is incorporated by reference, shall be separately provided and submitted (under confidential cover if archaeological site locations are included).</p>	<p>Names/quals for archaeo'l surveyors or directors: Vol. II, App. G, pp. 6–7; App. B</p> <p>Names/quals for historical architecture surveyors or directors: Vol. II, App. G, pp. 6–7; App. B</p> <p>Survey coverage, archaeology: <u>DA Supplement (non-confidential), Att. C</u></p> <p>Survey coverage, architecture: Vol. II, App. G, App. H, Fig. 1</p> <p>Tech report for new archaeological survey: Vol. II, App. G</p> <p>Data Adequacy Supplement 1B</p> <p>23</p>	<p>Yes</p> <p>Yes</p> <p>No Yes</p> <p>Yes</p> <p>No Yes</p>	<p>Submission contains conflicting data on archaeological survey coverage. Figure 3 and Technical Report (Vol. II, App. G, p. 40) indicate coverage was what BLM requires, which is 100 percent of the project footprint, while AFC (p. 5.16-22) states survey coverage met/exceeded Energy Commission data requirements (project footprints plus surrounding 200 feet, except for linear facilities, where 50 feet to either side of the centerline is required). Applicant needs to revise the AFC Sec. 5.16.1.5, the Technical Report, and Figure 3 to clearly state/depict the survey coverage for all project components.</p> <p>Applicant needs to revise and re-submit the archaeological survey technical report (Vol. II, App. G) to conform to ARMR content, including:</p> <ul style="list-style-type: none"> • Identification of the geographical boundaries of the study area (define and distinguish the APE(s) and the survey areas) (ARMR V, E); • Discussion of previous research and known sites (ARMR, VII, B); • Full description of survey methods (dates, crew size, visibility conditions) and accurate description and map of survey area coverage (ARMR, VIII, B); and <p>Revised Data Adequacy</p>

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Appendix B (g) (2) (C) cont.	<p>Information included in the technical report shall also be provided in the Application for Certification, except that confidential information (archaeological sites or areas of religious significance) shall be submitted under a request for confidentiality pursuant to Title 20, California Code of Regulations, § 2501 et seq. At a minimum, the technical report shall include the following:</p>	<p>Tech report for new hist. architecture survey: Vol. II, App. G, App. E; <u>DA Supplement, confidential filing, revised App. E</u></p> <p>Information (except confidential) from technical report: Vol. I, Sec. 5.16, pp. 5.16-1-5.16-39; <u>DA Supplement (non-confidential), pp. 9, 11, 19-23</u></p>	<p>No <u>Yes</u></p> <p>No <u>Yes</u></p>	<ul style="list-style-type: none"> • Discussion of results related to research questions (ARMR, X, A). • Also, reconcile site count conflicts: <ul style="list-style-type: none"> • Between text (p. 42) & Table 7; • Between text (p. 46) & Table 11; • Between text (p. 65) & Tables 7, 11, and 20. • Also, correct site counts accordingly in the report Summary (p. i) and Introduction (p. 1). • Also, in Table 4, correct duplicate site numbers (P33-13597 and P33-14146) and site number typo (P33-141711). • Also, in Appendix E, delete repeated text in 2nd & 3rd paragraphs on p. 3-1, add the figure referenced on p. 5-2 (but not included in the report), and correct the labeling of the Genesis interconnection line (label now pointing to the access road) on the Blythe-Eagle Mt transmission line DPR 523a location map. • Applicant needs to: <ul style="list-style-type: none"> • Add to AFC Sec. 5.16 the technical report's Table 4 (search results for the transmission line survey); • Add to AFC Table 5.16-3 the additional isolated finds listed in the technical report's Table 5; • Specify, on AFC p. 5.16-14, the project areas for which the three literature searches were conducted; • Add to AFC Sec. 5.16.1.3 the date, etc., for the literature search done for the transmission line;

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Appendix B (g) (2) (C) cont.		Information (except confidential) from technical report, cont.	No <u>Yes</u>	<ul style="list-style-type: none"> • Add the Energy Commission required survey coverage for the natural gas pipeline and the access road to AFC Sec. 5.16.1.5; • Correct the statistics (report count, site count, and search area coverage) provided in the last paragraph on AFC p. 5.16-15; and • Reconcile the site count between text in the last sentence of the first full paragraph on AFC p. 5.16-23 and Table 5.16-4.

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Appendix B (g) (2) (C) cont.			No <u>Yes</u>	<p>In the Supplement, the technical report's Table 4 was added to AFC section 5.16 as Table 15.16-3. AFC section 5.16 had no other tables numbered "15.16-x," so staff believes Table 15.16-3 was probably supposed to be Table 5.16-3. But AFC section 5.16 already had a Table 5.16-3, so the previous Table 5.16-3 has become Table 5.16-4 in the Supplement and has different content than its AFC predecessor. The AFC still has a previous Table 5.16-4, and the Supplement suggests no further re-numbering of tables in the 5.16 section.</p> <p>To include the full inventory of isolated finds in AFC Table 5.16-3 (old version), that table became Table 5.16-4 in the Supplement.</p> <p>The staff requested corrections to AFC page 5.16-15 were only partially done, or were done incorrectly in the Supplement. Staff believes this is how the last paragraph should read:</p> <p>"The literature and record search revealed 30 previously recorded cultural resources investigations within one to approximately three miles of the Project APE (solar facility and linear corridors) (Table 5.16-1). Eighteen Seventeen previously recorded archaeological sites were identified within one to approximately three miles of the APE (solar facility and linear corridors); (Table 5.16-2). Table 5.16-3 lists isolated finds previously recorded cultural resources within 1 mile of the project APE (including the proposed transmission line). None of these resources is located within the Project APE. Table 4 Table 5.16-4 lists previously recorded cultural resources isolated finds within 1 mile of the proposed transmission line."</p>

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Appendix B (g) (2) (C) cont.			No <u>Yes</u>	<p>The Supplement provides no new version of AFC p. 5.16-23. In both the AFC and the technical report, staff still needs a final and definitive site count for:</p> <ul style="list-style-type: none"> • previously known sites • sites newly identified during Class II survey • isolates newly identified during Class II survey • sites newly identified during Class III survey • isolates newly identified during Class III survey <p>These tabular listings should include era, site type, and site description for each site, as exemplified by the technical report's Table 7 and 8. The text discussion should reflect the counts in the tables.</p>
Appendix B (g) (2) (C) (i)	The summary from Appendix B (g)(2)(A) and the literature search results from Appendix B (g)(2)(B);	Summary: Vol. II, App. G, pp. 11-23 Literature search results: Vol. II, App. G, pp. 28-37	Yes Yes	
Appendix B (g) (2) (C) (ii)	The survey procedures and methodology used to identify cultural resources and a discussion of the cultural resources identified by the survey;	Archaeological methodology: Vol. II, App. G, pp. 38-39 Historical architecture methodology: Vol. II, App. G, App. F, pp. 3.1-3.2	Yes Yes	

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Appendix B (g) (2) (C) (iii)	Copies of all new and updated DPR 523(A) forms. If a cultural resource may be impacted by the project, also include the appropriate DPR 523 detail form for each such resource;	Archaeological forms: <u>DA Supplement, confidential filing</u> Architecture forms: Vol. II, App. G, App. E, App. A	No Yes Yes	Applicant needs to provide, under confidential cover, the DPR 523 forms for the following new resources identified by the new archaeological survey: CA-RIV-9084 (whole form) and P-33-17834 (location map missing).
Appendix B (g) (2) (C) (iv)	A map at a scale of 1:24,000 U.S. Geological Survey quadrangle depicting the locations of all previously known and newly identified cultural resources compiled through the research required by Appendix B (g)(2)(B) and Appendix B (g)(2)(C) (ii); and	Archaeology and architecture map: <u>DA Supplement, confidential filing</u>	No Yes	On the map provided as App. H, "Class III Archaeological Site Locations within ROW and Surveyed Corridor," site labels are frequently blotted out by the "bolded" site outlines. Applicant needs to provide, under confidential cover, a revised version of this map on which all site labels are fully legible.
Appendix B (g) (2) (C) (v)	The names and qualifications of the cultural resources specialists who contributed to and were responsible for literature searches, surveys, and preparation of the technical report.	Names/quals for archaeologists: Vol. II, App. G, pp. 6-7; App. B Names/quals for architectural historians: Vol. II, App. G, pp. 6-7; App. B	Yes Yes	

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 Technical Senior: Rick York

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Appendix B (g) (2) (D)	Provide a copy of your request to the Native American Heritage Commission (NAHC) for information on Native American sacred sites and lists of Native Americans interested in the project vicinity, and copies of any correspondence received from the NAHC. Notify the Native Americans on the NAHC list about the project, including a project description and map. Provide a copy of all correspondence sent to Native American individuals and groups listed by the NAHC and copies of all responses. Provide a written summary of any oral responses.	NAHC request: Vol. II, App. G, App. E NAHC response: Vol. II, App. G, App. E Letters sent to Native Americans: <u>DA Supplement (non-confidential), Att. C</u> Letters received from Native Americans: Summary of oral responses from Native Americans:	Yes Yes No Yes N/A N/A	BLM's Palm Springs Office Archaeologist sent notification letters to the NAHC-identified Native Americans. Applicant needs to provide copies of the letters sent by BLM to Native Americans.
Appendix B (g) (2) (E)	Include in the discussion of proposed mitigation measures required by subdivision (g)(1):	--	--	--
Appendix B (g) (2) (E) (i)	A discussion of measures proposed to mitigate project impacts to known cultural resources;	Mitigation measures for known impacts: Vol. I, Sec. 5.16, p. 5.16-27	Yes	
Appendix B (g) (2) (E) (ii)	A set of contingency measures proposed to mitigate potential impacts to previously unknown cultural resources and any unanticipated impacts to known cultural resources; and	Contingency mitigation measures: Vol. I, Sec. 5.16, pp. 5.16-28–5.16-31	Yes	
Appendix B (g) (2) (E) (iii)	Educational programs to enhance employee awareness during construction and operation to protect cultural resources.	Worker education programs: Vol. I, Sec. 5.16, pp. 5.16-29–5.16-30	Yes	

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 Technical Senior: Rick York

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Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance with each law or standard during both construction and operation of the facility is discussed; and	Tables identifying applicable LORS: Vol. I, Sec. 5.16, Table 5.16-8, pp. 5.16-31–5.16-34 Explicitly referenced pages: <u>DA Supplement (non-confidential), pp. 24–27</u> Discussion of applicability of, and conformance with LORS: <u>DA Supplement (non-confidential), pp. 27–29</u>	Yes <u>No</u> <u>Yes</u> <u>No</u> <u>Yes</u>	Applicant needs to add to Table 5.16-8 the AFC page numbers where conformance with each law, during both construction and operation, is discussed. Applicant needs to add to Section 5.16 a discussion of the project's conformance with each law, during both construction and operation.
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Tables identifying agencies: <u>DA Supplement (non-confidential), Table 5.16-9, pp. 29–30</u>	<u>No</u> <u>Yes</u>	Applicant needs to add to this table the other federal agencies issuing permits or approvals for this project and having Section 106 responsibilities, including the U.S. Army Corps of Engineers and the U. S. Fish and Wildlife Service. Note, the table following Table 5.16-8 is misnumbered; should be Table 5.16-9.
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Official within each agency who will serve as a contact person for the agency: <u>DA Supplement (non-confidential), Table 5.16-9, pp. 29–30</u>	<u>No</u> <u>Yes</u>	Applicant needs to add the contact information for the federal agencies added to the table above.
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Schedule indicating when outside permits will be obtained: Vol. I, Sec. 5.16, p. 5.16-35	Yes	

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Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/14/2009
10/19/09

Technical Area:

Geological Hazards & Resources

Project:

Genesis Solar Energy Project

Technical Staff:

Michael S. Lindholm, P.G.

Project Manager:

Mike Monasmith

Docket:

09-AFC-8

Technical Senior:

Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 3.0, pages 3-1 through 3-3; Section 5.5.2, pages 5.4-11 through 5.5-13; Section 5.5.3, page 5.5-13; Section 5.5.4, page 5.5.13; and Section 5.5.5, pages 5.5-13 and 5.5-14.	Yes	None
Appendix B (g) (17) (A)	A summary of the geology, seismicity, and geologic resources of the project site and related facilities, including linear facilities.	Section 5.5.1, pages 5.5-1 through 5.5-7; and Section 5.5.1.8, page 5.5-11. <u>AFC Data Adequacy Supplement, Appendix B(g)(17)(A), pages 31 through 34, 37 and 38</u>	No Yes	Provide a summary of the geology, seismicity, and geologic resources of the off-site linear facilities.
Appendix B (g) (17) (B)	A map at a scale of 1:24,000 and description of all recognized stratigraphic units, geologic structures, and geomorphic features within two (2) miles of the project site and along proposed facilities. Include an analysis of the likelihood of ground rupture, seismic shaking, mass wasting and slope stability, liquefaction, subsidence, tsunami runup, and expansion or collapse of soil structures at the plant site. Describe known geologic hazards along or crossing linear facilities.	Section 5.5.1.1, pages 5.5-1 and 5.5-2; Section 5.5.1.4, pages 5.5-3 through 5.5-6; Section 5.5.1.7, pages 5.5-7 through 5.5-11; and Figures 5.5-1 through 5.5-4. <u>AFC Data Adequacy Supplement, Appendix B(g)(17)(A), pages 341 through 37; and Figures D-1.1 and D-1.2.</u>	No Yes	Provide a map at a scale of 1:24,000 that shows all recognized stratigraphic units, geologic structures and geomorphic features along proposed off-site linears.

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/14/2009
10/19/09

Technical Area: **Geological Hazards & Resources**

Project: Genesis Solar Energy Project

Technical Staff: Michael S. Lindholm, P.G.

Project Manager: Mike Monasmith

Docket: 09-AFC-8

Technical Senior: Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (17) (C)	A map and description of geologic resources of recreational, commercial, or scientific value which may be affected by the project. Include a discussion of the techniques used to identify and evaluate these resources.	Section 5.5.1.8, page 5.5-11.	Yes	None
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Section 5.5.2, pages 5.5-11 through 5.5-14; Section 5.5.6, pages 5.5-14 and 5.5-15; Section 5.5.8, page 5.5-16; and Tables 5.5-4 and 5.5-5, page 5.5-14.	Yes	None
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.5.7, page 5.5-15; Table 5.5-5, page 5.5-15.	Yes	None
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Table 5.5-5, page 5.5-15.	Yes	None

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/14/2009
10/19/09

Technical Area: **Geological Hazards & Resources**

Project: Genesis Solar Energy Project

Technical Staff: Michael S. Lindholm, P.G.

Project Manager: Mike Monasmith

Docket: 09-AFC-8

Technical Senior: Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.5.8, page 5.5-16; and Table 5.5-6, page 5.5-16.	Yes	None

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/14/2009
10/19/09

Technical Area: **Paleontological Resources**
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Michael S. Lindholm, P.G.
Technical Senior: Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 3.0, pages 3-1 through 3-4; Section 5.17.2, page 5.17-5; Section 5.17.3, pages 5.17-5 and 5.17-6; and Section 5.17.4, page 5.17-6.	Yes	None
Appendix B (g) (16) (A)	Identification of the physiographic province and a brief summary of the geologic setting, formations, and stratigraphy of the project area. The size of the paleontological study area may vary depending on the depositional history of the region.	Section 5.17.1.1, page 5.17-1; Section 5.17.1.2, pages 5.17-1 and 5.17-2; and Section 5.17.4, page 5.17-6.	Yes	None
Appendix B (g) (16) (B)	A discussion of the sensitivity of the project area described in subsection (g)(16)(A) and the presence and significance of any known paleontologic localities or other paleontologic resources within or adjacent to the project. Include a discussion of sensitivity for each geologic unit identified on the most recent geologic map at a scale of 1:24,000. Provide rationale as to why the sensitivity was assigned.	Section 5.17.1.3, page 5.17-3; Section 5.17.1.5, page 5.17-4; and Section 5.17.2.1, page 5.17-5. <u>AFC Data Adequacy Supplement, Appendix B(g)(16)(B), page 39 and attached table; and Figures 5.5-1, 5.5-2, D-1.1 and D-1.2.</u>	No <u>Yes</u>	Provide the most recent geologic map at a scale of 1:24,000 which shows all geologic units on and adjacent to the project site, as well as all project linears outside the site. Provide a discussion of the sensitivity of each identified geological unit, including all mapped Quaternary sediments. Also provide rationale as to why sensitivity was assigned.

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/14/2009
10/19/09

Technical Area: **Paleontological Resources**
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Michael S. Lindholm, P.G.
Technical Senior: Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (16) (C)	A summary of all local museums, literature searches and field surveys used to provide information about paleontologic resources in the project area described in subsection (g)(16)(A). Identify the dates of the surveys, methods used in completing the surveys, and the names and qualifications of the individuals conducting the surveys.	Section 5.17.1.3, pages 5.17-2 and 5.17-3; and Section 5.17.8, page 5.17-8.	Yes	None
Appendix B (g) (16) (D)	Information on the specific location of known paleontologic resources, survey reports, locality records, and maps at a scale of 1:24,000, showing occurrences of fossil finds, if known, within a one-mile radius of the project and related facilities shall be included in a separate appendix to the Application and submitted to the Commission under a request for confidentiality, pursuant to Title 20, California Code of Regulations, s 2501 et seq.	Section 5.17.1.5, page 5.17-4. <u>AFC Data Adequacy Supplement, Appendix B(g)(16)(D), page 39; and Figures 5.5-1, 5.5-2, D-1.1 and D-1.2.</u>	No Yes	Provide a map at a scale of 1:24,000 showing occurrences of fossil finds within a 1-mile radius of the project and related facilities, including project linears outside the site.
Appendix B (g) (16) (E)	A discussion of any educational programs proposed to enhance awareness of potential impacts to paleontological resources by employees, measures proposed for mitigation of impacts to known paleontologic resources, and a set of contingency measures for mitigation of potential impacts to currently unknown paleontologic resources.	Section 5.17.4, page 5.17-6.	Yes	None

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/14/2009
10/19/09

Technical Area: **Paleontological Resources**
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Michael S. Lindholm, P.G.
Technical Senior: Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Section 5.17.5, pages 5.17-6 through 5.17.8; Section 5.17.7, page 5.17-8; and Table 5.17-1, page 5.17-7. <u>AFC Data Adequacy Supplement, Appendix B(i)(1)(A), pages 39 and 40.</u>	No <u>Yes</u>	Provide explicit reference for pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed, on the table which identifies LORS.
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Table 5.17-2, page 5.17-8; and Section 5.17.6, page 5.17-8.	Yes	None
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Table 5.17-2, page 5.17-8.	Yes	None
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.17.7, page 5.17-8; Section 5.17.6, page 5.17-8; and Table 5.17-2, page 5.17-8.	Yes	None

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/21/09
10/22/09

Technical Area: **Soils**

Project: Genesis Solar Energy Project

Technical Staff: John Thornton, Michael Donovan

Project Manager: Mike Monasmith

Docket: 09-AFC-08 DA Supplement

Technical Senior: Paul Marshall

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.		Yes	
Appendix B (g) (15) (A)	A map at a scale of 1:24,000 and written description of soil types and all agricultural land uses that will be affected by the proposed project. The description shall include:		Yes	
Appendix B (g) (15) (A) (i)	The depth, texture, permeability, drainage, erosion hazard rating, and land capability class of the soil;		Yes	
Appendix B (g) (15) (A) (ii)	An identification of other physical and chemical characteristics of the soil necessary to allow an evaluation of soil erodibility, permeability, re-vegetation potential, and cycling of pollutants in the soil-vegetation system;		Yes	
Appendix B (g) (15) (A) (iii)	The location of any proposed fill disposal or fill procurement (borrow) sites; and		Yes	
Appendix B (g) (15) (A) (iv)	The location of any contaminated soils that could be disturbed by project construction.		Yes	
Appendix B (g) (15) (B)	An assessment of the effects of the proposed project on soil resources and agricultural land uses. This discussion shall include:		Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/21/09
10/22/09

Technical Area: **Soils**

Project: Genesis Solar Energy Project

Technical Staff: John Thornton, Michael Donovan

Project Manager: Mike Monasmith

Docket: 09-AFC-08 DA Supplement

Technical Senior: Paul Marshall

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (15) (B) (i)	The quantification of accelerated soil loss due to wind and water erosion; and	Section 5.6 .. 2.1.2. p.5.6-3 Table 5.6-1 <u>Supplemental page 41-42</u> <u>Table 5.6-1b</u> <u>Table 5.6-1a</u>	No <u>Yes</u>	The AFC did not quantify and provide supporting information and calculations for all potential soil loss scenarios. 1. Please quantify the potential annual soil loss due to wind erosion under a no-project scenario, during construction of the proposed project, and during operation of the proposed project. 2. Please quantify the annual soil loss due to water erosion during operation of the proposed project. 3. For all soil loss estimates, please provide supporting information and calculations. The volume of soil loss due to accelerated wind and water erosion must be numerically quantified using the Revised Universal Soil Loss Equation (RUSLE2 model) and the Wind Erosion Prediction System (WEPS model) or similarly accepted methods.
Appendix B (g) (15) (B) (ii)	The effect of power plant emissions on surrounding soil-vegetation systems.		Yes	

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/21/09
10/22/09

Technical Area: **Soils**

Project: Genesis Solar Energy Project

Technical Staff: John Thornton, Michael Donovan

Project Manager: Mike Monasmith

Docket: 09-AFC-08 DA Supplement

Technical Senior: Paul Marshall

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and		Yes	
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.		Yes	
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.		Yes	
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.		Yes	

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/22/09
10/13/09

Technical Area: **Transmission System Design**
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Sudath Arachchige
Technical Senior: Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (h) (2) (A)	A discussion of the need for the additional electric transmission lines, substations, or other equipment, the basis for selecting principal points of junction with the existing electric transmission system, and the capacity and voltage levels of the proposed lines, along with the basis for selection of the capacity and voltage levels.	Section 3.4.5.2 Electrical Generation Pages 3-8 to 3-9 Section 3.4.5 major Electrical Systems and Equipments Section 3.6.1 Interconnection to substation. Section 3.6.2 Interconnection Design consideration Conceptual Power Block layout unit 1 and 2 Figure 3.4-2 Power Block elevation view Figure 3.4-4 and 3.4-5 Key one line diagram (type 1 of 2 units) Figure 3.4-7	Yes	
Appendix B (h) (2) (B)	A discussion of the extent to which the proposed electric transmission facilities have been designed, planned, and routed to meet the transmission requirements created by additional generating facilities planned by the applicant or any other entity.	Section 3.4.5.2 Electrical Generation Pages 3-8 to 3-9 Section 3.4.5 major Electrical Systems and Equipments Section 3.6.1 Interconnection to substation.	Yes	

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/22/09
10/13/09

Technical Area: **Transmission System Design**
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Sudath Arachchige
Technical Senior: Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (b) (2) (C)	A detailed description of the design, construction, and operation of any electric transmission facilities, such as power lines, substations, switchyards, or other transmission equipment, which will be constructed or modified to transmit electrical power from the proposed power plant to the load centers to be served by the facility. Such description shall include the width of rights of way and the physical and electrical characteristics of electrical transmission facilities such as towers, conductors, and insulators.	<p>Section 3.4.5.2 Electrical Generation Pages 3-8 to 3-9</p> <p>Section 3.4.5 major Electrical Systems and Equipments</p> <p>Section 3.6.1 Interconnection to substation.</p> <p>Section 3.6.2 Interconnection Design consideration</p> <p>Section 3.6.2 Transmission System Upgrades.</p> <p>Conceptual Power Block layout unit 1 and 2 Supplement Figure 3.4-2</p> <p>Power Block elevation view Figure 3.4-4 and 3.4-5 Key one line diagram (type 1 of 2 units) Figure 3.4-7</p> <p>Gen-tie line routing detail Supplement Figure 3.6-1b</p>	<p>No <u>Yes</u></p>	<p>1. Provide a one-line diagram for the proposed 230kV Genesis Switchyard after interconnection of the project. Show proposed bay arrangement of the equipments with ratings such as breakers, disconnect switches and relays, etc. which are required to interconnect the project.</p> <p>2. Provide a electrical one-line diagram showing the planned SCE 500/230 kV Colorado River Substation with the proposed 230kV generator tie-line interconnection facilities along with the existing/planned SCE 500/230kV transmission lines (identify the transmission lines for the first point of interconnection), for buses, breakers, and disconnect switches and their respective sizes and/or ratings.</p> <p>3. Provide a detailed drawing of the proposed 230kV mono-pole structure configuration to be utilized to interconnect the project to the SCE 500/230kV Colorado River substation.</p> <p>4. Provide a detailed one-line diagram illustrating the routing of the generator tie-line including length, conductor type, conductor current carrying capacity, line clearances at circuit crossings and mono-pole structure locations.</p>

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/22/09
10/13/09

Technical Area: Transmission System Design
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Sudath Arachchige
Technical Senior: Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (b) (2) (D)	A description of how the route and additional transmission facilities were selected, and the consideration given to engineering constraints, environmental impacts, resource conveyance constraints, and electric transmission constraints.	Section 3.10.3 Alternative Linear Corridor routes Gen-tie line routing Figure 3.6-1	Yes	

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/22/09
10/13/09

Technical Area: Transmission System Design
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Sudath Arachchige
Technical Senior: Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (b) (2) (E)	<p>A completed System Impact Study or signed System Impact Study Agreement with the California Independent System Operator and proof of payment. When not connecting to the California Independent System Operator controlled grid, provide the executed System Impact Study agreement and proof of payment to the interconnecting utility.</p> <p>If the interconnection and operation of the proposed project will likely impact an transmission system that is not controlled by the interconnecting utility (or California Independent System Operator), provide evidence of a System Impact Study or agreement and proof of payment (when applicable) with/to the impacted transmission owner or provide evidence that there are no system impacts requiring mitigation.</p>	<p><u>Data Adequacy Supplement submitted to the CEC on October- 6- 2009</u> <u>Attachment G</u></p>	<p>No <u>Yes</u></p>	<p>Please provide signed System Impact Study Agreement with the California Independent System Operator and proof of payment or provide a completed System Impact Study (SIS).</p> <p>The Study should analyze the system impact with and without the project during peak and off-peak system conditions, which will demonstrate conformance or non-conformance with the utility reliability and planning criteria with the following provisions:</p> <p>a. Identify major assumptions in the base cases including imports to the system, major generation and load changes in the system and queue generation.</p> <p>b. Analyze system for N-0, important N-1 and critical N-2 contingency conditions and provide a list of criteria violations in a table showing the loadings before and after adding the new generation.</p> <p>Analyze the SCE system for Short Circuit currents with and without the Genesis Solar Energy Plant at strategic buses for three phase and single phase line to ground faults. Provide a summary of results in a table.</p> <p>c. Analyze system for Transient Stability and Post-transient voltage conditions under critical N-1 and N-2 contingencies, and provide related plots, switching data and a list for voltage violations in the studies. Provide a list of contingencies evaluated for each study.</p> <p>d. List mitigation measures considered (required) and those selected (optional Data Requests will follow) for all criteria violations.</p> <p>e. Provide electronic copies of *.sav and *.drw PSLF files.</p> <p>f. Provide power flow diagrams (MW, % loading & P. U. voltage) for base cases with and without the project. Power flow diagrams must also be provided for all N-0, N-1 and N-2 studies where overloads or voltage violations appear.</p>

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/22/09
10/13/09

Technical Area: **Transmission System Design**
Project Manager: Mike Monasmith

Project: Genesis Solar Energy Project
Docket: 09-AFC-8

Technical Staff: Sudath Arachchige
Technical Senior: Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Section 3.11.5.2 codes and standards Section 3.11.5.3 Switchyard. Section 3.11.5.4 Transformers <u>Data Adequacy Supplement submitted to the CEC on October- 6- 2009 Page 47</u>	No <u>Yes</u>	CPUC G.O. 95 and G.O 128 rules for overhead and underground Electric Line construction need to be discussed.
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 4.0 Transmission line safety and nuisance Table 4.4.1	Yes	
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Supplement pp. 47-48	No <u>Yes</u>	Provide names, phone numbers, address and e-mail address of the official contact person of each agency.
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Supplement p. 48	No <u>Yes</u>	Provide a schedule when transmission related permits/study reports will be obtained.

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/15/09
10/23/09

Technical Area: Visual Resources
Project Manager: _____

Project: Genesis Solar
Docket: 09-AFC-8

Technical Staff: Kanemoto
Technical Senior: Flores

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Ex. site conditions: 5.10.1	Yes	
Appendix B (g) (6) (A)	Descriptions of the existing visual setting of the vicinity of the proposed project site and the proposed routes for any project-related linear facilities. Include:	Ex. visual setting: 5.10.1 Linear routes: 5.10.1.2; Fig. 5.7.4	Yes	
Appendix B (g) (6) (A) (i)	Topographic maps at a scale of 1:24,000 that depict directions from which the project would be seen, the view areas most sensitive to the potential visual impacts of the project, and the locations where photographs were taken for (g)(6)(C); and	Fig. 5.10-14; Fig. 5.10-11	Yes	
Appendix B (g) (6) (A) (ii)	Description of the existing visual properties of the topography, vegetation, and any modifications to the landscape as a result of human activities, including existing water vapor plumes, above-ground electrical transmission lines, and nighttime lighting levels in the project viewshed.	Setting: 5.10.1	Yes	

Adequacy Issue:

Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 01 Date 9/15/09
10/23/09

Technical Area: Visual Resources
Project Manager: _____

Project: Genesis Solar
Docket: 09-AFC-8

Technical Staff: Kanemoto
Technical Senior: Flores

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (6) (B)	An assessment of the visual quality of those areas that would be affected by the proposed project. For projects proposed to be located within the coastal zone, the assessment should also describe how the proposed project would be sited to protect views to and along the ocean and scenic coastal areas, would minimize the alteration of natural land forms, would be visually compatible with the character of surrounding areas.	IVRM mapping: Fig. 5.10-11	Yes	
Appendix B (g) (6) (C)	In consultation with Energy Commission staff, identify: i) any designated scenic roadways or scenic corridors and any visually sensitive areas that would be affected by the proposed project, including recreational and residential areas; and ii) the locations of the key observation points to represent the most critical viewing locations from which to conduct detailed analyses of the visual impacts of the proposed project. Indicate the approximate number of people using each of these sensitive areas and the estimated number of residences with views of the project. Also identify any major public roadways and trails of local importance that would be visually impacted by the project and indicate the types of travelers (e.g., local residents, recreationists, workers, commuters, etc.) and the approximate number of vehicles, bicyclists, and/or hikers per day.	pp. 5.10-2; 5.10-4 <u>Supplemental pp. 49-50</u>	No <u>Yes</u>	Because KOPs on I-10 occur within the middle-ground distance zone, and the site directly adjoins the Palen/McCoy Wilderness, CEC staff requires additional information on KOP selection process.

Adequacy Issue:

Adequate Inadequate

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Revision No. 01 Date 9/15/09
10/23/09

Technical Area: Visual Resources
Project Manager: _____

Project: Genesis Solar
Docket: 09-AFC-8

Technical Staff: Kanemoto
Technical Senior: Flores

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (6) (D)	A table providing the dimensions (height, length, and width, or diameter) and, proposed color(s), materials, finishes, patterns, and other proposed design characteristics of each major component visible from off the project site, including any project-related electrical transmission line and/or offsite aboveground pipelines and metering stations.	Table 5.10-3, p. 5.10-11 <u>Supplemental, Attachment H, Figure 1</u>	No <u>Yes</u>	No detailed description of the solar collector arrays and mirrors was provided; no visual depictions of the units are provided.
Appendix B (g) (6) (E)	Provide the cooling tower and heat recovery steam generator (HRSG) exhaust design parameters that affect visible plume formation. For the cooling tower, data shall include heat rejection rate, exhaust temperature, exhaust mass flow rate, liquid to gas mass flow ratio, and, if the tower is plume-abated, moisture content (percent by weight) or plume-abated fogging curve(s). The parameters shall account for a range of ambient conditions (temperature and relative humidity) and proposed operating scenarios, such as duct firing and shutting down individual cells. For the heat recovery steam generator exhausts, data shall include moisture content (percent by weight), exhaust mass flow rate, and exhaust temperature. The parameters must correspond to full-load operating conditions at specified ambient conditions, and shall account for proposed operating scenarios, such as power augmentation (i.e., evaporative coolers, inlet foggers, or steam injection) and duct firing, or proposed HRSG visible plume abatement, such as the use of an economizer bypass. For simple-cycle projects, provide analogous data for the exhaust stack(s).	AFC 5.10.2.5.3, page 5.10-15 <u>Supplemental, Attachment H</u>	No <u>Yes</u>	-AFC indicates that a SACTI plume analysis will be conducted. However, the AFC does not include that analysis.

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Adequate Inadequate

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Appendix B (g) (6) (F)	Provide: i) full-page color photographic reproductions of the existing site, and ii) full-page color simulations of the proposed project at life-size scale when the picture is held 10 inches from the viewer's eyes, including any project-related electrical transmission lines, in the existing setting from each key observation point. If any landscaping is proposed to comply with zoning requirements or to mitigate visual impacts, include the landscaping in simulation(s) representing sensitive area views, depicting the landscaping five years after installation; and estimate the expected time until maturity is reached.		Yes	
Appendix B (g) (6) (G)	An assessment of the visual impacts of the project, including light, glare, and any modeling of visible plumes. Include a description of the method and identify any computer model used to assess the impacts. Provide an estimate of the expected frequency and dimensions (height, length, and width) of the visible cooling tower and/or exhaust stack plumes. Provide the supporting assumptions, meteorological data, operating parameters, and calculations used.	<u>Supplemental, Attachment H</u>	<u>No</u> <u>Yes</u>	No plume study was provided. Necessary data for conducting a plume analysis has not been provided. Please provide modeling data, or indicate when it will be forthcoming.
Appendix B (g) (6) (H)	If any landscaping is proposed to reduce the visual impacts of the project, provide a conceptual landscaping plan at a 1:40 scale (1"=40'). Include information on the type of plant species proposed, their size, quantity, and spacing at planting, expected heights at 5 years and maturity, and expected growth rates.		N/A	

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and		Yes	
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.		Yes	
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.		Yes	
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.		N/A	

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10/28/09

Technical Area: **Water Resources**

Project: Genesis Solar Energy Project

Technical Staff: John Thornton, Michael Donovan, Mike Daly

Project Manager: Mike Monasmith

Docket: 09-AFC-08

Technical Senior: Paul Marshall

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 5.4.1 p. 5.4-1 Section 5.4.2 p. 5.4-11 Section 5.4.5 p. 5.4-25	Yes	
Appendix B (g) (14) (A)	All the information required to apply for the following permits, if applicable, including:	See below	----	
Appendix B (g) (14) (A) (i)	Waste Discharge Requirements; National Pollutant Discharge Elimination System Permit; and/or a Section 401 Certification or Waiver from the appropriate Regional Water Quality Control Board (RWQCB);	Section 5.3.10.1 p. 5.3-35 Section 5.4.2.2 p. 5.4-18 Section 5.4.6.1 p. 5.4-28 Appendix A: Drainage, Erosion and Sediment Control Plan Appendix C1: Survey for Jurisdictional Water and Wetlands at the Solar Genesis Energy Project Appendix H: Draft Report of Waste Discharge	Yes	

Adequacy Issue: Adequate Inadequate

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Project Manager: Mike Monasmith Docket: 09-AFC-08

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Appendix B (g) (14) (A) (ii)	Construction and Industrial Waste Discharge and/or Industrial Pretreatment permits from wastewater treatment agencies;	Appendix H: Draft Report of Waste Discharge	Yes	
Appendix B (g) (14) (A) (iii)	Nationwide Permits and/or Section 404 Permits from the U.S. Army Corps of Engineers; and	Section 5.3.10.1 p. 5.3-35 Section 5.4.2.2 p. 5.4-18 Section 5.4.6.1 p. 5.4-28 Appendix A: Drainage, Erosion and Sediment Control Plan Appendix C1: Survey for Jurisdictional Water and Wetlands at the Solar Genesis Energy Project Appendix H: Draft Report of Waste Discharge	Yes	
Appendix B (g) (14) (A) (iv)	Underground Injection Control Permit(s) from the U.S. Environmental Protection Agency, California Division of Oil and Gas, and RWQCB.	NA	----	

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Appendix B (g) (14) (B)	A detailed description of the hydrologic setting of the project. The information shall include a narrative discussion and on maps at a scale of 1:24,000 (or appropriate scale approved by staff), describing the chemical and physical characteristics of the following nearby water bodies that may be affected by the proposed project:	Section 5.4.1 p. 5.4-1 Figure 5.4-1 to 5.4-11 Tables 5.4-3 to 5.4-8 Appendix D: Water Resources	Yes	
Appendix B (g) (14) (B) (i)	Ground water bodies and related geologic structures;	Section 5.4.1 p. 5.4-1 Appendix D: Water Resources	Yes	
Appendix B (g) (14) (B) (ii)	Surface water bodies;	Section 5.4.1 p. 5.4-1 Appendix D: Water Resources	Yes	
Appendix B (g) (14) (B) (iii)	Water inundation zones, such as the 100-year flood plain and tsunami run-up zones;	Section 5.4.1 p. 5.4-1 Appendix A: Drainage, Erosion and Sediment Control Plan	Yes	
Appendix B (g) (14) (B) (iv)	Flood control facilities (existing and proposed); and	Section 5.4.2.2 p. 5.4-18 Appendix A: Drainage, Erosion and Sediment Control Plan	Yes	

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Appendix B (g) (14) (B) (v)	Groundwater wells within ½ mile if the project will include pumping.	Section 5.4.2.1 p. 5.4-12 Figure 5.4.1 Table 5.4-6	Yes	
Appendix B (g) (14) (C)	A description of the water to be used and discharged by the project. This information shall include:	Section 3.4.7 p. 3-10 Section 3.4.7.3 p. 3-12 Section 5.4.1.4 p. 5.4-10 Section 5.4.1.5 p. 5.4-10 Section 5.4.2.4 p. 5.4-22 Appendix H: Draft Report of Waste Discharge	Yes	
Appendix B (g) (14) (C) (i)	Source(s) of the primary and back-up water supplies and the rationale for their selection;	Section 3.4.7 p. 3-10 Section 5.4.1.4 p. 5.4-10	Yes	

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Appendix B (g) (14) (C) (ii)	The expected physical and chemical characteristics of the source and discharge water(s) including identification of both organic and inorganic constituents before and after any project-related treatment. For source waters with seasonal variation, provide seasonal ranges of the expected physical and chemical characteristics. Provide copies of background material used to create this description (e.g., laboratory analysis);	Section 3.4.7.3 p. 3-12 Section 5.4.1.3 p. 5.4-4 Appendix D: Water Resources Appendix H: Draft Report of Waste Discharge	Yes	
Appendix B (g) (14) (C) (iii)	Average and maximum daily and annual water demand and waste water discharge for both the construction and operation phases of the project;	Section 3.4.7 p. 3-12 Section 5.4.1.5 p. 5.4-10	Yes	
Appendix B (g) (14) (C) (iv)	A detailed description of all facilities to be used in water conveyance (from primary source to the power plant site), water treatment, and wastewater discharge. Include a water mass balance diagram;	Section 3.4.7.2 p. 3-12 Section 3.4.7.4 p. 3-14 Section 3.4.7.5 p. 3-14 Section 5.4.1.4 p. 5.4-10 Figures 3.4-8 and 3.4-9 Appendix H: Draft Report of Waste Discharge	Yes	

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Appendix B (g) (14) (C) (v)	For all water supplies intended for industrial uses to be provided from public or private water purveyors, a letter of intent or will-serve letter indicating that the purveyor is willing to serve the project, has adequate supplies available for the life of the project, and any conditions or restrictions under which water will be provided. In the event that a will-serve letter or letter of intent can not be provided, identify the most likely water purveyor and discuss the necessary assurances from the water purveyor to serve the project;	Section 3.4.7 p 3-10 Section 3.10.5 p 3-38 Section 5.4.1.4 p 5.4-10 <u>Supplement pp. 53-54</u>	No <u>Yes</u>	Please provide documentation showing that the applicant has authority to extract groundwater from beneath the project site and that water use will be consistent with the Law of the River.
Appendix B (g) (14) (C) (vi)	For all water supplied which necessitates transfers and/or exchanges at any point, identify all parties and contracts/agreements involved, the primary source for the transfer and/or exchange water (e.g., surface water, groundwater), and provide the status of all appropriate agencies' approvals for the proposed use, environmental impact analysis on the specific transfers and/or exchanges required to obtain the proposed supplies, a copy of any agency regulations that govern the use of the water, and an explanation of how the project complies with the agency regulation(s);	NA	----	
Appendix B (g) (14) (C) (vii)	Provide water mass balance and heat balance diagrams for both average and maximum flows that include all process and/or ancillary water supplies and wastewater streams. Highlight any water conservation measures on the diagram and the amount that they reduce water demand; and	Figures 3.4-6, 3.4-8, and 3.4-9	Yes	

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Appendix B (g) (14) (C) (viii)	<p>For all projects which have a discharge, provide a copy of the will-serve letter, permit or contract with the public or private entity that will be accepting the wastewater and contact storm water from the project. The letter, permit or contract, if possible, shall identify the discharge volumes and the chemical or physical characteristics under which the wastewater and contact storm water will be accepted.</p> <p>In the event that a will-serve letter, permit, or contract cannot be provided, identify the most likely wastewater/storm water entity and discuss why the applicant was unable to secure the necessary assurances to serve the project's wastewater/storm water needs. Also, discuss the term of the wastewater service to the project, whether the wastewater entity has adequate permit capacity for the volume of wastewater from the project and has adequate permit levels for the chemical/physical characteristics of the project's wastewater and storm water for the life of the project, and any issues or conditions/restrictions the wastewater entity may impose on the project.</p>	NA	---	
Appendix B (g) (14) (D)	Identify all project elements associated with stormwater drainage, including a description of the following:	See below	---	

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (14) (D) (i)	Monthly and/or seasonal precipitation and stormwater runoff and drainage patterns for the proposed site and surrounding area that may be affected by the project's construction and operation;	Section 5.4.1.1 p. 5.4-2 Section 5.4.1.2 p. 5.4-3 Appendix A: Drainage, Erosion and Sediment Control Plan <u>Supplement 1A</u>	No <u>Yes</u>	Please provide mapping showing the pre- and post-development 100-year floodplains.
Appendix B (g) (14) (D) (ii)	Drainage facilities and the design criteria used for the plant site and ancillary facilities, including but not limited to capacity of designed system, design storm, and estimated runoff;	Appendix A: Drainage, Erosion and Sediment Control Plan	Yes	
Appendix B (g) (14) (D) (iii)	All assumptions and calculations used to calculate runoff and to estimate changes in flow rates between pre- and post construction; and	Appendix A: Drainage, Erosion and Sediment Control Plan	Yes	
Appendix B (g) (14) (D) (iv)	A copy of applicable regional and local requirements regulating the drainage systems, and a discussion of how the project's drainage design complies with these requirements.	Section 5.4.6 p. 5.4-26	Yes	

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Appendix B (g) (14) (E)	An impacts analysis of the proposed project on water resources and a discussion of conformance with water-related LORS and policy. This discussion shall include:	Section 5.4.2.1 p. 5.4-12 Section 5.4.2.2 p. 5.4-18 Section 5.4.2.3 p. 5.4-21 Section 5.4.2.4 p. 5.4-21 Section 5.4.2.5 p. 5.4-24 Section 5.4.6 p. 5.4-26 Appendix D: Water Resources	Yes	
Appendix B (g) (14) (E) (i)	The effects of project demand on the water supply and other users of this source, including, but not limited to, water availability for other uses during construction or after the power plant begins operation, consistency of the water use with applicable RWQCB basin plans or other applicable resource management plans, and any changes in the physical or chemical conditions of existing water supplies as a result of water use by the power plant;	Section 5.4.2.1 p. 5.4-12 Section 5.4.2.2 p. 5.4-18 Appendix D: Water Resources	Yes	

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Appendix B (g) (14) (E) (ii)	If the project will pump groundwater, an estimation of aquifer drawdown based on a computer modeling study shall be conducted by a professional geologist and include the estimated drawdown on neighboring wells within 0.5 mile of the proposed well(s), any effects on the migration of groundwater contaminants, and the likelihood of any changes in existing physical or chemical conditions of groundwater resources shall be provided;	Section 5.4.2.1 p. 5.4-12 Appendix D: Water Resources	Yes	
Appendix B (g) (14) (iii)	The effects of construction activities and plant operation on water quality and to what extent these effects could be mitigated by best management practices;	Section 5.4.2.1 p. 5.4-12 Appendix H: Draft Report of Waste Discharge	Yes	
Appendix B (g) (14) (iv)	If not using a zero liquid discharge project design for cooling and process waters, include the effects of the proposed wastewater disposal method on receiving waters, the feasibility of using pre-treatment techniques to reduce impacts, and beneficial uses of the receiving waters. Include an explanation why the zero liquid discharge process is "environmentally undesirable," or "economically unsound;"	Appendix H: Draft Report of Waste Discharge Section 3.10.7 p. 3-47	Yes	

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Appendix B (g) (14) (v)	If using fresh water, include a discussion of the cumulative impacts, alternative water supply sources and alternative cooling technologies considered as part of the project design. Include an explanation of why alternative water supplies and alternative cooling are “environmentally undesirable,” or “economically unsound;”	Section 3.10.5 p. 3-38 Section 3.10.6 p. 3-43 Section 5.4.5 p. 5.4-25	Yes	
Appendix B (g) (14) (vi)	The effects of the project on the 100-year flood plain, flooding potential of adjacent lands or water bodies, or other water inundation zones; and	Section 5.4.2.2 p. 5.4-18 Appendix A: Drainage, Erosion and Sediment Control Plan <u>Supplement 1A</u>	<u>No</u> <u>Yes</u>	Please provide mapping showing the 100-year flood plain and the model input files used for modeling along with a copy of the drainage report.
Appendix B (g) (14) (vii)	All assumptions, evidence, references, and calculations used in the analysis to assess these effects.	Appendix A: Drainage, Erosion and Sediment Control Plan <u>Supplement 1A</u>	<u>No</u> <u>Yes</u>	Please provide all assumptions, evidence, references, and calculations used in the analysis to assess the effects of the project on the 100-year floodplain.
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Section 5.4.6 p. 5.4-26 Table 5.4-14	Yes	

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits, leases, and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.4.6.1 p. 5.4-28 Section 5.4.6.2 p. 5.4-29 Section 5.4.6.3 p. 5.4-33 Table 5.4-15	Yes	
Appendix B (i) (2)	The name, title, phone number, address (required), and email address (if known), of an official who was contacted within each agency, and also provide the name of the official who will serve as a contact person for Commission staff.	Table 5.4-15	Yes	
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Section 5.4.8 p. 5.4-34 Table 5.4-16	Yes	