

**DOCKET****09-AFC-7****Memorandum**

DATE NOV 12 2009

**Date:** November 12, 2009

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**Telephone:** (916) 654-4996

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

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

**Subject:** PALEN SOLAR POWER PROJECT, REVISED DATA ADEQUACY RECOMMENDATION (09-AFC-7)

On August 24, 2009, the California Energy Commission received an Application for Certification (AFC) from Solar Millennium, LLC and Chevron Energy Solutions. The Palen Solar Power Project (project) is a concentrated solar thermal electric generating facility with two adjacent, independent, and identical solar plants of 250 megawatt (MW) nominal capacity each for a total nominal capacity of 500 Megawatts (MW). The project will be located in the Southern California inland desert, approximately 10 miles east of the small community of Desert Center (population 125), in eastern Riverside County, California, approximately halfway between the cities of Indio and Blythe, and about three miles east of the southeast end of Joshua Tree National Park. The Applicants have applied for a right-of-way grant for approximately 5,200 acres of lands owned by the Federal government and managed by the Bureau of Land Management (BLM). Construction and operation of the project will disturb a total of about 2,970 acres.

The project will generate electric power through solar energy using parabolic trough technology. Pipelines supplying water will be routed from on-site wells to water treatment units. Water will be used principally for solar mirror washing, feedwater makeup, onsite domestic use, cooling of auxiliary equipment, and firewater supply. Total consumption for the project is estimated at 300 acre-feet per year.

The Project will use two propane-fueled boilers for quick startup and two heaters for freeze protection. Electrical transmission lines will connect each steam turbine generator to a central internal switchyard. From this switchyard, a new double-circuited 230 kilovolt (kV) transmission line will interconnect with Southern California Edison's (SCE) regional transmission system at the planned Red Bluff substation.

Staff's September 23, 2009 initial data adequacy review of Solar Millennium, LLC and Chevron Energy Solutions 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 thirteen of 23 areas. At the October 7, 2009 Business Meeting, the Energy Commission accepted staff's initial data adequacy recommendation. Please note, on the September 23, 2009 data adequacy recommendation, it was noted that the Public Health section was data inadequate. This was an error on the part of the Project Manager. The section was data adequate on September 23, 2009. The original Public Health data adequacy worksheets have been included as part of this revised recommendation.

On October 26, 2009, Solar Millennium, LLC and Chevron Energy Solutions filed their AFC Supplement. Staff has reviewed the supplemental information and believes the AFC now meets the above listed requirements in all of the previously deficient technical disciplines. Attached is a summary table and data adequacy worksheets for the thirteen technical disciplines previously determined to be deficient reflecting that the supplemental information submitted by the applicant achieves data adequacy. At the Energy Commission's business meeting on November 18, 2009, I will recommend that the Energy Commission accept the AFC with the supplemental information as complete and request that a Committee be appointed.

Please note that, according to the information provided in the AFC Supplement, (Biological Resources pages 1-2) the remaining rare plant protocol surveys for the project's transmission line have not been conducted. As proposed by the applicant, the Rare Plant Surveys will be conducted between February and July 2010 (possibly finishing in June).

The Palen project site may have California Native Plant Society listed plants. Staff wants to point out that the results of the surveys could impact the project schedule. If you have any questions, please call Alan Solomon, staff's Project Manager, at (916) 653-8236.

Attachments

**Attachment A**  
**Overview of Energy Commission Staff's**  
**Data Adequacy Determination**  
**Palen Solar Power Project**  
**09-AFC-7**

Technical Area	Attachment B Page No.	Adequate ?
AIR QUALITY .....	5	YES
BIOLOGICAL RESOURCES .....	12	YES
CULTURAL RESOURCES .....	25	YES
POWER PLANT EFFICIENCY.....	39	YES
PALEONTOLOGICAL RESOURCES.....	41	YES
PROJECT OVERVIEW .....	44	YES
PUBLIC HEALTH .....	50	YES
POWER PLANT RELIABILITY.....	53	YES
SOILS .....	56	YES
TRANSMISSION SYSTEM DESIGN .....	60	YES
VISUAL RESOURCES .....	66	YES
WASTE MANAGEMENT .....	74	YES
WATER RESOURCES .....	78	YES

**ATTACHMENT B**

**ENERGY COMMISSION STAFF'S  
List of Data Adequacies**

**Palen Solar Power Project  
09-AFC-7**

**November 12, 2009**

Adequacy Issue:  
 Technical Area:  
 Project Manager:

Adequate  Inadequate   
**Air Quality**  
 Alan Solomon

**DATA ADEQUACY WORKSHEET**

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

Revision No. 1 Date November 12, 2009  
 Technical Staff: Joseph Hughes & Will Walters  
 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	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 E <u>SCAQMD Permit Application Completeness Letters dated 10/23/09</u>	<u>Yes</u> No	<del>Please provide the permit application completeness letter from the South Coast Air Quality Management District. This letter is expected in late September to early October.</del>
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 2.2.1, p 2-2 Section 2.5.5.1, p 2-13 Figure 2-7 Section 5.2.4.2, Table 5.2-35	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. 5.2-22 to 5.2-29 Section 5.2.5 pp. 5.2-55 to 5.2-58	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 5.2.4.1, pp. 5.2-33 through 5.2-34	Yes	

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Appendix B (g) (8) (E)	The emission rates of criteria pollutants and greenhouse gases (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, and SF <sub>6</sub> ) from the stack, cooling towers, fuels and materials handling processes, delivery and storage systems, and from all on-site secondary emission sources.	Section 5.2.4.1, p. 5.2-30 through 5.2-39; Tables 5.2-19 to 5.2-29 Appendix E	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 5.2.4.1, pp. 5.2-29 through 5.2-38 Tables 5.2-19 to 5.2-28 Appendix E-3	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 5.2.2.3, pp. 5.2-17 through 5.2-22 Tables 5.2-8 to 5.2-14 and Table 5.2-32	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.	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.	Section 5.2.2.2, pp. 5.2-15, 16 Appendix E-1 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 <sub>10</sub> ) emissions from grading, excavation and site disturbance, as well as the combustion emissions [nitrogen oxides (NO <sub>x</sub> ), sulfur dioxide (SO <sub>2</sub> ), carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM <sub>10</sub> ) and particulate matter less than 2.5 microns in diameter (PM <sub>2.5</sub> )] from construction-related equipment;	Section 5.2.4.2, pp. 5.2-45 through 5.2-47 Table 5.2-33 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 <sub>x</sub> , SO <sub>2</sub> , CO, PM <sub>10</sub> , and PM <sub>2.5</sub> ) 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 5.2.4.2, pp. 5.2-48 through 5.2-53 Tables 5.2-34 to 5.2-40 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	Section 5.2.4.3, pp. 5.2-53 through 5.2-55	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 <sub>x</sub> , SO <sub>2</sub> , CO, PM <sub>10</sub> , and PM <sub>2.5</sub> .	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 5.2.5, pp. 5.2-55 to 5.2-58	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 5.2.1, pp 5.2-2 through 5.2-14 Table 5.2-1	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 5.2.1.4, pp 5.2-14 through 5.2-15, Table 5.2-4	Yes	

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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.	Section 5.2.1.4, p. 5.2-14, Table 5.2-3	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 5.2.1.5, pages 5.2-14 through 5.2-15 Table 5.2-4	Yes	

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 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: Sect. 5.3.2.5, p. 5.3-15 — 5.3-35  Direct, indirect, and cumulative impacts: Sect. 5.3.3, p. 5.3-3 — 5.3-52; Data Adequacy Supplement, Attachment BIO-A  Mitigation measures: Sect. 5.3.4, p. 5.3-52 — 5.3-63  Monitoring plans: Sect. 5.3.4.1, p. 5.3-52	Yes  YesNo  Yes  Yes	<del>Please provide an analysis of impacts to biological resources resulting from construction, operation and maintenance of the Project's transmission line.</del>
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:	Regional overview: Sect. 5.3.2.1, p. 5.3-9  Map of sensitive resources: Fig. 5.3-2; Data Adequacy Supplement, Attachment BIO-B  Map of HCP boundaries or designated open space Fig. 5.3-11	Yes  YesNo  Yes	<del>Please provide a map at a scale of 1:100,000 showing the location of sensitive biological resources within 10 miles of the project area boundaries, including linear facilities such as transmission lines. The depiction of sensitive resources on Figure 5.3-2 does not cover 10 miles from project boundaries to the north and south.</del>

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Appendix B (g) (13) (A) (i)	species listed under state or federal Endangered Species Acts;	Federal and state Endangered Species: Sect. 5.3.2.3, p. 5.3-9 — 5.3-11; Table 5.3-6, p. 5.3-22 — 5.3-30	Yes	
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. 5.3.2.3, p. 5.3-9 — 5.3-11; Table 5.3-6, p. 5.3-22 — 5.3-30	Yes	
Appendix B (g) (13) (A) (iii)	species identified as state Fully Protected;	State Fully Protected species: Sect. 5.3.2.3, p. 5.3-10 — 5.3-11; Table 5.3-6, p. 5.3-22 — 5.3-30	Yes	
Appendix B (g) (13) (A) (iv)	species covered by Migratory Bird Treaty Act;	Migratory Bird Act species: Sect. 5.3.2.3, p. 5.3-10 — 5.3-11, Table 5.3-6, p. 5.3-22 — 5.3-30	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: Sect. 5.3.2.3, p. 5.3-10 — 5.3-11; Table 5.3-6, p. 5.3-22 — 5.3-30	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: Not applicable	N/A	

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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 F, Attachment C (plants), Attachment G (wildlife)	Yes	
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;	Map of proposed project site: Figure 5.3-1  Map of biological resources: Data Adequacy Supplement, Attachment BIO-B  Map of survey area: Figure 5.3-1	Yes  YesNo  Yes	<del>At 1 inch = 3000 feet some of the figures in the AFC are at too coarse a scale. 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):</del> <del>Fig 5.3-4 Vegetation Communities</del> <del>Fig 5.3-5 State Waters</del> <del>Fig 5.3-6 Special Status Plant Species</del> <del>Fig 5.3-7 Desert Tortoise Observations</del> <del>Fig 5.3-8 Burrowing Owl Observations</del> <del>Fig 5.3-9 Mojave Fringe-toed Lizard</del> <del>Fig 5.3-10 Other Special Status Wildlife</del>

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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	Depiction of the thermal plume: Not applicable  Location of intake and discharge structures: Not Applicable	N/A  N/A	
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: Data Adequacy Supplement, Attachment BIO-B  Coastal zone wetlands map: Not applicable	YesNo  N/A	<del>Some of the figures in Appendix B are at too coarse a scale. Please provide maps of state jurisdictional waters at a scale of 1:2,400, or 1 inch = 200 feet, for the figures below (only those portions of the project site with the resources of interest need be provided):</del> <del>App B, Fig 9 Vegetation Subsampling</del> <del>App B Fig 10 State Jurisdictional Waters</del>

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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. 5.3.2.5, p 5.3-15 — 5.3-35  Discussion of biological resources at related facilities: Data Adequacy Supplement, Attachments BIO-A & BIO-C	Yes  YesNo	<del>Please provide survey results and information about the vegetation and wildlife resources along the Project's transmission line route.</del>
Appendix B (g) (13) (C) (i)	A list of all the species actually observed;	List of species observed: Appendix F, Attachment C (plants), Attachment G (wildlife)	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. 5.3.2.3, p. 5.3-9 — 5.3-11; Table 5.3-6, p. 5.3-22 — 5.3-30	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>	

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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:	Description and results of field studies: Section 5.3.2.5, p. 5.3-13—5.3-35  Copies of CNDDDB records and field survey forms: Data Adequacy Supplement, Attachment BIO-E  Qualifications of biologists: App F, Attachment A	Yes  YesNo  Yes	<del>Please provide CNDDDB records and field survey forms</del>
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: Section 5.3.2.5, p. 5.3-13 — 5.3-35; Appendix F: Attachments B, F, H, I, J	Yes	

Adequacy Issue:

Adequate  Inadequate

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 Project Manager: Alan Solomon

Project: Palen Solar Power Project  
 Docket: Docket Number 09-AFC-7

Technical Staff: Susan Sanders  
 Technical Senior: Rick York

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Appendix B (g) (13) (D) (ii)	<p>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</p>	<p>Aquatic resource studies and surveys: Not applicable</p> <p>Aquatic resource survey data or impingement and entrainment impact study: Not applicable</p>	<p>N/A</p> <p>N/A</p>	

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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.	Completed USACE wetland delineation forms: Appendix F: Attachment 2 of Attachment B (Approved Jurisdictional Determination Forms)  Determination of jurisdictional status: Data Adequacy Supplement, Attachment BIO-F  Delineation results, table showing impacts Table 5.3-5, p. 5.3-19; Table 5.3-8, p. 5.3-38; Appendix F, Table 8 in Attachment B	Yes  YesNo  Yes	<del>Please provide correspondence indicating that the Jurisdictional Determination has been submitted for review to the USACE.</del>
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;	Project site impacts: Section 5.3.3, p. 5.2-35 – 5.2-52  Air emission impacts on sensitive species: Not applicable	Yes  N/A	

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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. 5.3.4, p. 5.3-52 — 5.3-63	Yes	

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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 5.3.4.1, BIO-37, p. 5.3-59  Contacts for compensation habitat: AFC, Appendix F, Attachment K	Yes  YesNo	Please identify contacts that have been made regarding desert tortoise habitat compensation and management
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. 5.3.4.1, BIO-1 p.5.3-52, BIO-2 p. 5.3-53	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. 5.3.4.1. BIO-1p.5.3-52—5.3-53,	Yes	

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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: Data Adequacy Supplement Attachment BIO-F	YesNo	<del>Please provide preliminary correspondence with CDFG, USFWS, USACE and any other appropriate agencies regarding permits that might be required for this project. Appendix F, Attachment K "Regulatory Agency Correspondence" includes only a USFWS species list request and an e-mail exchange about proposed survey protocol. Please include correspondence indicating that the Jurisdictional Determination has been submitted for review to the USACE.</del>
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	Table identifying applicable biological resources laws, ordinances, regulations and standards: Sect. 5.3.1, Table 5.3.1, p. 5.3-2 — 5.3-4	Yes	

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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 with jurisdiction: Sect. 5.3.1.4, Table 5.3-2, p.5.3-8	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.	Tables identifying agencies with jurisdiction: Sect. 5.3.1.4, Table 5.3-2, p.5.3-8	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.	Agency contact information: Sect. 5.3.1.4, Table 5.3-2, p.5.3-8	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.	Permit schedule: Sect. 5.3.1.5, Table 5.3-3, p. 5.3-8—5.3-9	Yes	



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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. Pp. 5.4-8–5.4-10, vol. 1, AFC.  Expected project impacts. Pp. 5.4-21–5.4-28, vol. 1, AFC.  Proposed mitigation measures. Pp. 5.4-28–5.4-29, vol. 1, AFC.  Effectiveness of proposed mitigation measures. Pp. CUL-2 and CUL-3, vol. 3, <u>Data Adequacy Supplement, October 2009.</u>  Monitoring plans proposed to verify mitigation effectiveness. Pp. CUL-2 and CUL-3, vol. 3, <u>Data Adequacy Supplement, October 2009.</u>	Yes  Yes  Yes  NoYes  NoYes	<del>The applicant proposes mitigation measures in section 5.4 of the AFC, but does not discuss the potential effectiveness of these measures. Please revise section 5.4 to discuss the potential effectiveness of each proposed mitigation measure.</del>  <del>The applicant proposes monitoring of construction-related ground disturbance in CUL-2 of section 5.4 of the AFC, but does not propose any plan or protocol to monitor the effectiveness of the overall mitigation program for cultural resources. Please revise section 5.4 to propose a plan or protocol to monitor the effectiveness of the overall mitigation program for cultural resources.</del>
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. Pp. 5.4-10–5.4-14, vol. 1, AFC. Pp. CUL-3–CUL-6, vol. 3,	NoYes	The <i>Prehistoric Background</i> section of the AFC (pp. 5.4-10–5.4-12, vol. 1, AFC) provides the broad prehistory of the region, but does not develop an explicit summary of

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		<u>Data Adequacy Supplement, October 2009.</u>		the known local archaeology in the vicinity of the project area. Please revise the <i>Prehistoric Background</i> section of the AFC to include a summary of the peer-reviewed and proprietary archaeological literature that is germane to an understanding of the character of archaeological deposits known for the near vicinity of the project area.
Appendix B (g) (2) (B)	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.	Literature search results per the regulations. Pp. 5.4-14–5.4-16, vol. 1, AFC. <u>Confidential att. 1, vol. 3, Data Adequacy Supplement, October 2009.</u>  Cultural resources listed under a city or county ordinance. Pp. CUL-6 and <u>CUL-7, vol. 3, Data Adequacy Supplement, October 2009</u>  Cultural resources recognized by local heritage society or museum. Pp. 5.4-19–5.4-20, vol. 1, AFC.	No Yes  No Yes  Yes	The literature search area does not include data for the transmission line route or the substation that are integral parts of the proposed project. Please provide this information.  There is no discussion in the <i>Cultural Resources</i> section of the AFC of the applicant having consulted with local governments that maintain, by ordinance, lists of cultural resources, and whether there are any cultural resources so listed in the project area of analysis. Please revise the <i>Cultural Resources</i> section of the AFC to include this discussion.

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	<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>Interior Secretary's PQS for archaeology. Att. 1, app. G, vol. 2, AFC.</p> <p>Interior Secretary's PQS for history or architectural history. Att. 1, app. G, vol. 2, AFC.</p> <p>DPR 523 forms. Att. 2, app. G, vol. 2, AFC. <u>Confidential att. 5, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</u>  <u>Confidential att. 1, vol. 3, Data Adequacy Supplement, October 2009.</u></p> <p>Map of literature search area with areas of past surveys and CHRIS Nos. Att. 2, app. G, vol. 2, AFC. <u>Records search vol. 1, confidential att. 2, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County.</u></p>	<p>Yes</p> <p>Yes</p> <p>NoYes</p> <p>NoYes</p>	<p><del>Attachment 2, Record Search, is absent. Please provide attachment 2.</del></p> <p><del>Attachment 2, Record Search, is absent. Please provide attachment 2.</del></p>

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		California, September 2009. Confidential att. 2, vol. 3, Data Adequacy Supplement, October 2009.  CHRIS reports. Att. 2, app. G, vol. 2, AFC. <u>Records search vols. 1 and 2, confidential att. 2, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009. Confidential att. 1, vol. 3, Data Adequacy Supplement, October 2009.</u>	No/Yes	<del>Attachment 2, Record Search, is absent. Please provide attachment 2.</del>

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Appendix B (g) (2) (C)	<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>Interior Secretary's PQS for archaeology. Att. 1, app. G, vol. 2, AFC.</p> <p>Interior Secretary's PQS for history or architectural history. Att. 1, app. G, vol. 2, AFC.</p> <p>Archaeology survey coverage. Pp. 5.4-16 and 5.4-17, vol. 1, AFC. <u>Att. CUL-B and confidential att. 2, vol. 3, Data Adequacy Supplement, October 2009.</u></p> <p>Built-environment survey coverage. Pp. 5.4-16 and 5.4-17, vol. 1, AFC. <u>Att. 5, att. CUL-B, vol. 3, Data Adequacy Supplement, October 2009.</u></p>	<p>Yes</p> <p>Yes</p> <p>NoYes</p> <p>NoYes</p>	<p><del>The archaeological survey area does not include the transmission line route or the substation which are integral parts of the proposed project. Please revise the archaeological survey area to include this infrastructure, and provide the archaeological survey data for these areas.</del></p> <p><del>The built-environment survey area does not include the transmission line route or the substation which are integral parts of the proposed project. Please revise the built-environment survey area to include this infrastructure, and provide the built-environment survey data for these areas.</del></p>
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Appendix B (g) (2) (C) cont.	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:	AFC must include non-confidential technical report data. Section 5.4, vol. 1, AFC. Att. CUL-B and att. 5, att. CUL-B, vol. 3, <u>Data Adequacy Supplement, October 2009.</u>	<del>No</del> Yes	<del>Absent the data above from the transmission line route and the location of the substation, staff cannot assess whether the technical reports are adequate and cannot, therefore, incorporate that information into the AFC.</del> Please revise the technical reports of the archaeological and built-environment surveys to include survey data for the transmission line route and the location of the substation and then incorporate those revisions into the Cultural Resources section of the AFC.
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 of the ethnology, prehistory, and history. Pp. 24–37, att. 1, app. G, vol. 2, AFC.  Literature search and results. Pp. 39–43, atts. 1 and 2, app. G, vol. 2, AFC. <u>Records search vols. 1 and 2, confidential att. 2, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</u>	Yes  <del>No</del> Yes	<del>Attachment 2, Record Search, is absent. Please provide attachment 2.</del>

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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 survey methodology. Pp. 47 and 48, att. 1, app. G, vol. 2, AFC.	Yes	<del>Attachment 6, Historic Architecture Field Survey Report, is absent. Please provide attachment 6.</del>  <del>Absent the data above from the transmission line route and the location of the substation, staff cannot assess whether the Archaeological Results section of the technical report is adequate. Please revise the Archaeological Results section of the technical report to include archaeological survey data for the transmission line route and the location of the substation.</del>  <del>Attachment 6, Historic Architecture Field Survey Report, is absent. Please provide attachment 6.</del>
		Built-environment survey methodology. Att. 6, app. G, vol. 2, AFC. <u>Att. CUL-A, vol. 3, Data Adequacy Supplement, October 2009.</u>	NoYes	
		Discussion of archaeological resources. Att. 1, app. G, vol. 2, AFC. <u>Att. CUL-B, vol. 3, Data Adequacy Supplement, October 2009.</u>	NoYes	
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;	Archaeology forms. Att. 5, app. G, vol. 2, AFC. <u>Confidential att. 5, Cultural Resources Class III Report</u>	NoYes	<del>Attachment 5, DPR Site Forms, is absent. Please provide attachment 5.</del>

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		<p>for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</p> <p>Built-environment forms. Atts. 5 or 6, app. G, vol. 2, AFC. <u>Confidential att. 5, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009. Att. CUL-A, vol. 3, Data Adequacy Supplement, October 2009.</u></p>	No/Yes	<p><del>Attachments 5, DPR Site Forms, and 6, Historic Architecture Field Survey Report, are absent. Please provide attachments 5 and 6.</del></p>
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	1:24,000 scale, USGS 7.5' topographic quadrangle map, one map, of all previously recorded and newly found cultural resources. Att. 4, app. G, vol. 2, AFC. <u>Confidential att. 4, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</u>	No/Yes	<p><del>Attachment 4, Project Maps, is absent. Please provide attachment 4.</del></p>



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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.	<p>Personnel and qualifications to conduct archaeological research. P. 12, att. 5, app. G, vol. 2, AFC.</p> <p>Personnel and qualifications to conduct built-environment research. Att. 6, app. G, vol. 2, AFC. <u>Att. CUL-A, vol. 3, Data Adequacy Supplement, October 2009.</u></p>	<p>Yes</p> <p><del>No</del> Yes</p>	<p><del>Attachment 6, Historic Architecture Field Survey Report, is absent. Please provide attachment 6.</del></p>
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.	<p>NAHC request. Att. 3, app. G, vol. 2, AFC. <u>Confidential att. 3, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</u></p> <p>NAHC response(s). Att. 3, app. G, vol. 2, AFC. <u>Confidential att. 3, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</u></p>	<p><del>No</del> Yes</p> <p><del>No</del> Yes</p>	<p><del>Attachment 3, Contact Program, is absent. Please provide attachment 3.</del></p> <p><del>Attachment 3, Contact Program, is absent. Please provide attachment 3.</del></p>

Adequacy Issue: Adequate X Inadequate \_\_\_\_\_  
 Technical Area: **Cultural Resources**  
 Project Manager: Alan Solomon

**DATA ADEQUACY WORKSHEET**  
 Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Revision No. 1 Date November 12, 2009  
 Technical Staff: Mike McGuirt  
 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
		Letters sent to Native Americans. Att. 3, app. G, vol. 2, AFC. <u>Confidential att. 3, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</u>	NoYes	<del>Attachment 3, Contact Program, is absent. Please provide attachment 3.</del>
		Response(s) from Native Americans. Att. 3, app. G, vol. 2, AFC. <u>Confidential att. 3, Cultural Resources Class III Report for the Proposed Palen Solar Power Project, Riverside County, California, September 2009.</u>	NoYes	<del>Attachment 3, Contact Program, is absent. Please provide attachment 3.</del>
		Summary of oral responses from Native Americans. Pp. 43-45, att. 1, app. G, vol. 2, AFC.	Yes	
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;	Proposed mitigation measures. P. 5.4-22, vol. 1, AFC. <u>P. CUL-10, vol. 3,</u>	NoYes	<del>Discussion of mitigation measures for known cultural resources does not include discussion of explicit mitigation measures for</del>

Adequacy Issue: Adequate  X  Inadequate \_\_\_\_\_  
 Technical Area: **Cultural Resources**  
 Project Manager: Alan Solomon

Project: Solar Millennium Palen Power Project  
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Revision No.  1  Date  November 12, 2009   
 Technical Staff: Mike McGuirt  
 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
		<del>Data Adequacy Supplement, October 2009.</del>		<del>archaeological sites in the project area of analysis that may be historically significant. Please revise the discussion of the proposed mitigation measures to include proposals for the mitigation of each archaeological site that may be historically significant.</del>
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. P. 5.4-28, and CUL-1 and CUL-3-7, vol. 1, AFC.	Yes	
Appendix B (g) (2) (E) (iii)	Educational programs to enhance employee awareness during construction and operation to protect cultural resources.	Labor education. CUL-2 and CUL-8, vol. 1, AFC. <u>P. CUL-11, vol. 3, Data Adequacy Supplement, October 2009.</u>	<del>No</del> Yes	<del>The discussion of proposed mitigation measures on pages 5.4-22 and 5.4-28 does not include the educational programs that would enhance employee awareness of cultural resources during the construction and operation of the project. Please revise this discussion to include this information.</del>
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. Table 5.4-1, vol. 1, AFC.  Discussion of LORS applicability and conformance. Pp. 5.4-3-5.4-8, vol. 1, AFC. <u>Pp. CUL-11-CUL-17, vol. 3, Data Adequacy Supplement, October 2009.</u>	Yes  <del>No</del> Yes	<del>Provide a description of LORS conformance and their applicability to the proposed project.</del>

Adequacy Issue: Adequate X Inadequate \_\_\_\_\_  
 Technical Area: **Cultural Resources**  
 Project Manager: Alan Solomon

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 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
		Conformance page references. Table 5.4-1, vol. 1, AFC.	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.	Jurisdictional agencies. Table 5.4-2, vol. 1, AFC. Pp. CUL-18–CUL-20, vol. 3, <u>Data Adequacy Supplement, October 2009.</u>	NoYes	<del>Table 5.4-2 does not include the potential obligation of the US Army Corps of Engineers, the US Fish and Wildlife Service, and other Federal agencies to comply with NEPA and the NHPA as part of the issuance of various Federal permits. The table also mistakenly lists the SHPO as having the sole role in NHPA compliance. Please revise Table 5.4-2 to change the title of the last column to “Permit Jurisdiction” and include a new column, following the “Permit Jurisdiction” column, entitled “Cultural Resources Regulatory Role.” Please add the US Army Corps of Engineers and the US Fish and Wildlife Service, as potential jurisdictional agencies, to the “Agency Contact” column. Also include other potential Federal jurisdictional agencies, as appropriate. Please delete “Native American cultural issues” from the present “Permit/Issue” column and add “Consulting party on Native American concerns” to the new “Cultural Resources Regulatory Role” column for that record. Please delete “NHPA compliance” from the present “Permit/Issue” column and add “Consulting party in the Section 106 process” to the new “Cultural</del>

Adequacy Issue: Adequate X Inadequate \_\_\_\_\_  
 Technical Area: **Cultural Resources**  
 Project Manager: Alan Solomon

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 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
				<p><del>Resources Regulatory Role” column for that record. Please delete content of present “Permit/Issue” field for the BLM record in Table 5.4-2 and add “ROW grant and Fieldwork Authorization permit.” Please also add “Agency official in the Section 106 process, lead agency in the NEPA process” to the new “Cultural Resources Regulatory Role” column for that record. Please add, respectively and as appropriate, “Section 404 permit,” and “Section 7 permit” or “Section 10 permit” to the new “Permit Jurisdiction” column for the US Army Corps of Engineers and the US Fish and Wildlife Service. Please also add “Agency official in the Section 106 process, cooperating agency in the NEPA process” to the “Cultural Resources Regulatory Role” column for those records. Please add additional information, as appropriate, for other potential Federal jurisdictional agencies.</del></p>
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.	Agency contacts. Table 5.4-2, vol. 1, AFC. Pp. <u>CUL-18–CUL-20</u> , vol. 3, <u>Data Adequacy Supplement, October 2009.</u>	NoYes	<p><del>Table 5.4-2 omits the Federal agencies noted above and does not include the contact information for Commission staff. Please revise Table 5.4-2 to include this information.</del></p>
Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and	Extra-agency Permits. P.5.4-8, vol. 1, AFC. Pp.	NoYes	<p><del>The discussion in section 5.4.1.5 (p. 5.4-8) does not incorporate the permitting authority</del></p>

Adequacy Issue: Adequate  X  Inadequate \_\_\_\_\_  
 Technical Area: **Cultural Resources**  
 Project Manager: Alan Solomon

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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
	the steps the applicant has taken or plans to take to obtain such permits.	<u>CUL-20 and CUL-21, vol. 3, Data Adequacy Supplement, October 2009.</u>		<del>of the Federal agencies noted above, the role of those agencies in NEPA and NHPA compliance, or how the applicant plans to help integrate such compliance with the issuance of pertinent permits. Please revise the subject discussion to include this information.</del>

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Power Plant Efficiency**  
 Project Manager: Alan Solomon

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

Technical Staff: Erin Bright  
 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.	§§ 1.0, 1.1, 1.2, 2.1, 2.2.1, 2.2.2, 2.4.1, 2.5, 2.5.1, 2.5.2, 2.5.3, 2.5.3.2, 2.5.5.1, 2.5.5.4	Yes	
Appendix B (h) (4) (A)	Heat and mass balance diagrams for design conditions for each mode of operation.	Figure 2-7	Yes	
Appendix B (h) (4) (B)	Annual fuel consumption in BTUs for each mode of operation, including hot restarts and cold starts.	§§ 2.5.2, 2.5.3.2, 2.5.5.1; Fact Sheet; DA Supplement DA-PPE-1	No Yes	<del>Annual fuel consumption in BTUs for start up, shutdown and freeze protection.</del>
Appendix B (h) (4) (C)	Annual net electrical energy produced in MWh for each mode of operation including starts and shutdowns.	Fact Sheet	Yes	
Appendix B (h) (4) (D)	Number of hours the plant will be operated in each design condition in each year.	Fact Sheet; DA Supplement DA-PPE-2	No Yes	<del>Number of hours per year operating in warm up, shut down, and freeze protection modes.</del>
Appendix B (h) (4) (E)	If the project will be a cogeneration facility, calculations showing compliance with applicable efficiency and operating standards.	N/A	N/A	
Appendix B (h) (4) (F)	A discussion of alternative generating technologies available for the project, including the projected efficiency of each, and an explanation why the chosen equipment was selected over these alternatives.	§ 4.8	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Power Plant Efficiency**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Palen Solar Power Project  
 Docket: 09-AFC-7  
 \_\_\_\_\_

Technical Staff: Erin Bright  
 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	N/A	N/A	
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.	N/A	N/A	
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.	N/A	N/A	
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	N/A	



Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Paleontological Resources**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

Technical Staff: Patrick Pilling, Ph.D., P.E., G.E., D.GE.  
 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 5.9.2, page 5.9-6; Section 5.9.3, page 5.9-10 and 5.9-11; Section 5.9.4, page 5.9-11 through 5.9-13	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 5.9.2.3, page 5.9-7 and 5.9-8; Section 5.9.2.4, page 5.9-8 through 5.9-10; Appendix H	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 5.9.2.2, page 5.9-7; Section 5.9.2.4, page 5.9-8; Figure 5.9-1; Appendix H	Yes	None

Adequacy Issue: Adequate **X** Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Paleontological Resources**

Project: Palen Solar Power Project

Technical Staff: Patrick Pilling, Ph.D.,  
P.E., G.E., D.GE.

Project Manager: Alan Solomon

Docket: 09-AFC-7

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 5.9.2.1, page 5.9-6 and 5.9-7; Appendix H	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 5.9.2.4, page 5.9-8 through 5.9-10; Appendix H <u>Data Adequacy Supplemental</u>	<del>Yes</del> No	<del>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</del>
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 5.9.4, page 5.9-11 through 5.9-13	Yes	None

Adequacy Issue: Adequate  Inadequate

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Technical Area: **Paleontological Resources**

Project: Palen Solar Power Project

Technical Staff: Patrick Pilling, Ph.D.,  
P.E., G.E., D.GE.

Project Manager: Alan Solomon

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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 5.9.1, page 5.9-1 through 5.9-4; Table 5.9-1, page 5.9-2 and 5.9-3; Appendix H	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 5.9.1.5, page 5.9-5; Table 5.9-2, page 5.9-6	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.	Section 5.9.1.5, page 5.9-5; Table 5.9-2, page 5.9-6	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 5.9.1.6, page 5.9-6	Yes	None

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Project Overview**

Project: Solar Millennium Palen Power Project

Technical Staff: Alan Solomon

Project Manager: Alan Solomon

Docket: 09-AFC-07

Technical Senior: Eileen Allen

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Cal. Code Regs., tit. 20, § 1704, (a) (3) (A)	Descriptions of all significant assumptions, methodologies, and computational methods used in arriving at conclusions in the document.	AFC Sections 1.0 Pages 1-1 through 1-10.	Yes	
Cal. Code Regs., tit. 20, § 1704, (a) (3) (B)	Descriptions, including methodologies and findings, of all major studies or research efforts undertaken and relied upon to provide information for the document; and a description of ongoing research of significance to the project (including expected completion dates; and	AFC Section 2.0 Pages 2-1-2-28. <u>Data Adequacy Supplemental Figure 2-1.</u>	<del>No</del> <u>Yes</u>	<del>Please finalize location of gen-tie line Environmental surveys have not been completed along transmission route. Please provide when completed.</del>
Cal. Code Regs., tit. 20, § 1704, (a) (3) (C)	A list of all literature relied upon or referenced in the documents, along with brief discussions of the relevance of each such reference	Reference Sections, within each AFC Section	Yes	
Cal. Code Regs., tit. 20, § 1704, (a) (4)	Each principal subject area covered in a notice or application shall be set forth in a separate chapter or section, each of which shall identify the person or persons responsible for its preparation.	Section 6, List of Contributors <u>Data Adequacy Supplemental Revised Section 6.0.</u>	<del>No</del> <u>Yes</u>	<del>Section 6 should list subject areas, not company names.  Please show a list by principal subject areas identifying the person or persons responsible for its preparation.</del>



Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Project Overview**  
 Project: Alan Solomon  
 Manager: Alan Solomon

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-07

Technical Staff: Alan Solomon  
 Technical Senior: Eileen Allen

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (a) (1) (E)	In an appendix to the application, a list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of the proposed transmission line and other linear facilities, and within 1000 feet of the proposed powerplant and related facilities.	AFC Appendix A <u>Data Adequacy Supplemental Project Overview Section.</u>	<u>No</u> <u>Yes</u>	<del>Please include a list of current assessor's parcel numbers and owners' names and addresses for all parcels within 500 feet of the proposed transmission line and other linear facilities, and within 1000 feet of the proposed powerplant and related facilities.</del>
Appendix B (a) (2)	Project Schedule: Proposed dates of initiation and completion of construction, initial start-up, and full-scale operation of the proposed facilities.	Section 2.5.7, page 2-24.	Yes	
Appendix B (a) (3) (A)	A list of all owners and operators of the site(s), the power plant facilities, and, if applicable, thermal host, the geothermal leasehold, the geothermal resource conveyance lines, and the geothermal re-injection system, and a description of their legal interest in these facilities.	Section 2.1, page 2-1;	Yes	
Appendix B (a) (3) (B)	A list of all owners and operators of the proposed electric transmission facilities.	Section 2.6.1, page 2-26	Yes	
Appendix B (a) (3) (C)	A description of the legal relationship between the applicant and each of the persons or entities specified in subsections (a)(3)(A) and (B).	<u>Data Adequacy Supplemental Project Overview Section page 3.</u>	<u>No</u> <u>Yes</u>	<del>Please provide a description of the legal relationship between the applicant, Chevron, and SCE.</del>
Appendix B (b) (1)	In a section entitled, "Generation Facility Description, Design, and Operation" provide the following information:			

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Project Overview**  
 Project: Alan Solomon  
 Project Manager: Alan Solomon

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-07

Technical Staff: Alan Solomon  
 Technical Senior: Eileen Allen

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (b) (1) (A)	Maps at a scale of 1:24,000 (1" = 2000'), (or appropriate map scale agreed to by staff) along with an identification of the dedicated leaseholds by section, township, range, county, and county assessor's parcel number, showing the proposed final locations and layout of the power plant and all related facilities;	<u>Data Adequacy Supplemental Project Overview Section. Revised Figure 2-1, Revised Figure 2-4.</u>	No Yes	<del>Please put Figure 2-1 on one page. Figure 2-4 is not legible. Please reprint at a scale of 1"=2000'. Use color if necessary.</del>
Appendix B (b) (1) (B)	Scale plan and elevation drawings depicting the relative size and location of the power plant and all related facilities to establish the accuracy of the photo simulations required in Sections (a)(1)(D) and (g)(6)(F);	<u>Data Adequacy Supplemental Project Overview Section. Revised Figure 2-4, Revised Figure 2-5.</u>	No Yes	<del>Figure 2-4 is not legible. Please reprint at a scale of 1"=2000'. Use color if necessary. Figure 2-5 is not legible. Please reprint at a larger scale.</del>
Appendix B (b) (1) (C)	A detailed description of the design, construction and operation of the facilities, specifically including the power generation, cooling, water supply and treatment, waste handling and control, pollution control, fuel handling, and safety, emergency and auxiliary systems, and fuel types and fuel use scenarios; and	Section 2.5.5, 2.5.6, 2.5.7, and 2.5.8., pages 2-13 to 2-25.	Yes	
Appendix B (b) (1) (D)	A description of how the site and related facilities were selected and the consideration given to engineering constraints, site geology, environmental impacts, water, waste and fuel constraints, electric transmission constraints, and any other factors considered by the applicant.	AFC Section 4.0	Yes	

Adequacy Issue: Adequate  Inadequate   
 Technical Area: **Project Overview**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

**DATA ADEQUACY WORKSHEET**  
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Revision No. 1 Date November 12, 2009  
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 Technical Senior: Eileen Allen

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)	In a section entitled, "Transmission Lines Description, Design, and Operation" provide the following information:			
Appendix B (b) (2) (A)	Maps at a scale of 1:24,000 (or appropriate map scale agreed to by staff) of each proposed transmission line route, showing the settled areas, parks, recreational areas, scenic areas, and existing transmission lines within one mile of the proposed route(s);	<u>Data Adequacy Supplemental Project Overview Section. Revised Figure 2-1.</u>	No <u>Yes</u>	<del>Please put Figure 2-1 on one page.</del>
Appendix B (b) (2) (B)	A full-page color photographic reproduction depicting a representative above ground section of the transmission line route prior to construction and a full-page color photographic simulation of that section of the transmission line route after construction.	<u>Data Adequacy Supplemental Figure 2-9, 2-14, 2-15, 2-16. Figures 2-3 a and b.</u>	No <u>Yes</u>	<del>Please provide finalized transmission line information. Please provide the photos so that they can be compared to each other, not back to back.</del>
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.	Section 2.6, pages 2-26 to 2-28.  <u>Data Adequacy Supplemental Figure 2-9, 2-14, 2-15.</u>	No <u>Yes</u>	<del>Please provide finalized transmission line information. (Please see requested criteria listed in Transmission System Design Appendix B (b) (2) (C))</del>



Adequacy Issue: Adequate  Inadequate   
 Technical Area: **Project Overview**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

**DATA ADEQUACY WORKSHEET**

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-07

Revision No. 1 Date November 12, 2009  
 Technical Staff: Alan Solomon  
 Technical Senior: Eileen Allen

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; and	<u>Data Adequacy Supplemental Figure 2-16.</u>	No <u>Yes</u>	<del>Please provide finalized transmission line information. (Please see requested criteria listed in Transmission System Design Appendix B (b) (2) (D))</del>
Appendix B (e) (1)	A discussion of how facility closure will be accomplished in the event of premature or unexpected cessation of operations.	AFC Section 3.0	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Public Health  
 Project Manager: Alan Solomon

Project: Solar Millennium Palen Power Plant  
 Docket: 09-AFC-7

Technical Staff: Alvin Greenberg  
 Technical Senior: Rick Tyler

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 5.10.2 Section 5.10.3 Section 5.10.4 Section 5.2.2 Section 5.2.4 Appendix E	Yes	
Appendix B (g) (9) (A)	An assessment of the potential risk to human health from the project's hazardous air emissions using the Air Resources Board Hotspots Analysis and Reporting Program (HARP) (HSC §§44360-44366) or its successor and Approved Risk Assessment Health Values. These values should include the cancer potency values and noncancer reference exposure levels approved by the Office of Environmental Health Hazard Assessment (OEHHA Guidelines, Cal-EPA 2005).	Section 5.10.3	Yes	
Appendix B (g) (9) (B)	A listing of the input data and output results, in both electronic and print formats, used to prepare the HARP health risk assessment.	Appendix E-3 Appendix E-4	Yes	
Appendix B (g) (9) (C)	Identification of available health studies through the local public health department concerning the potentially affected population(s) within a six-mile radius of the proposed power plant site related to respiratory illnesses, cancers or related diseases.	Section 5.10.2	Yes	

Adequacy Issue: Adequate **X** Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Public Health**  
 Project Manager: Alan Solomon

Project: **Solar Millennium Palen Power Plant**  
 Docket: 09-AFC-7

Technical Staff: Alvin Greenberg  
 Technical Senior: Rick Tyler

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (9) (D)	A map showing sensitive receptors within the area exposed to the substances identified in subsection (g)(9)(A).	Figure 5.10-2	Yes	
Appendix B (g) (9) (E)	For purposes of this section, the following definitions apply:			
Appendix B (g) (9) (E) (i)	A sensitive receptor refers to infants and children, the elderly, and the chronically ill, and any other member of the general population who is more susceptible to the effects of the exposure than the population at large;	Section 5.10.2	Yes	
Appendix B (g) (9) (E) (ii)	An acute exposure is one which occurs over a time period of less than or equal to one (1) hour; and	Section 5.10.3.1	Yes	
Appendix B (g) (9) (E) (iii)	A chronic exposure is one which is greater than twelve (12) percent of a lifetime of seventy (70) years.	Section 5.10.3.1	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	Table 5.10-1	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Public Health  
 Project Manager: Alan Solomon

Project: Solar Millennium Palen Power Plant  
 Docket: 09-AFC-7

Technical Staff: Alvin Greenberg  
 Technical Senior: Rick Tyler

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 5.10.1.4	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 5.10-2	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 5.10.1.5	Yes	

Adequacy Issue: Adequate  Inadequate   
 Technical Area: **Power Plant Reliability**  
 Project Manager: Alan Solomon

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

Technical Staff: Erin Bright  
 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.	§§ 1.1, 2.1, 2.4.1, 2.5, 2.5.1, 2.5.3, 2.5.5.1, 2.5.5.2, 2.5.5.4, 2.5.5.5, 2.5.5.11, 2.5.5.12, 2.5.6.4, 5.5.2.2, 5.17.2.9	Yes	
Appendix B (h) (3) (A)	A discussion of the sources and availability of the fuel or fuels to be used over the estimated service life of the facilities.	§ 2.5.5.1	Yes	
Appendix B (h) (3) (B)	A discussion of the anticipated service life and degree of reliability expected to be achieved by the proposed facilities based on a consideration of:	---	---	
Appendix B (h) (3) (B) (i)	Expected overall availability factor, and annual and lifetime capacity factors;	DA Supplement DA-PPR-1	No Yes	<del>Expected overall availability factor, and annual and lifetime capacity factors</del>
Appendix B (h) (3) (B) (ii)	The demonstrated or anticipated feasibility of the technologies, systems, components, and measures proposed to be employed in the facilities, including the power generation system, the heat dissipation system, the water supply system, the reinjection system, the atmospheric emission control system, resource conveyance lines, and the waste disposal system;	§§ 2.5, 2.5.2, 2.5.3, 2.5.4, 2.5.5.1, 2.5.5.2, 2.5.5.4, 2.5.5.5, 2.5.5.11, 2.5.6.4, 2.6	Yes	
Appendix B (h) (3) (B) (iii)	Geologic and flood hazards, meteorological conditions and climatic extremes, and cooling water availability;	§§ 2.5.5.2, 5.5, 5.5.2.2, 5.17.2.9	Yes	

Adequacy Issue: Adequate  Inadequate   
 Technical Area: **Power Plant Reliability**  
 Project Manager: Alan Solomon

**DATA ADEQUACY WORKSHEET**

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

Revision No. 1 Date November 12, 2009  
 Technical Staff: Erin Bright  
 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 (h) (3) (B) (iv)	Special design features adopted by the applicant or resource supplier to ensure power plant reliability including equipment redundancy; and	§§ 2.1, 2.5.1, 2.5.5.2, 2.5.5.4, 2.5.5.11, 2.5.5.12, 2.5.6.4	Yes	
Appendix B (h) (3) (B) (v)	For technologies not previously installed and operated in California, the expected power plant maturation period.	N/A	N/A	
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	N/A	N/A	
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.	N/A	N/A	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Power Plant Reliability**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

Technical Staff: Erin Bright  
 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) (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.	N/A	N/A	
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	N/A	

Adequacy Issue: Adequate **X** Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Soils**  
 Project Manager: Paul Marshall

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: M. Donovan, J. Thornton  
 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.	Environmental Information, Section 5.12 – Soils, pgs 5.12-1 Environmental Impacts Section 5.12.3,pg 5.12-6; Cumulative Impacts Section 5.12.4, pg 5.12-8; Mitigation Measures Section 5.12.4, pg 5.12-8;	No Yes <u>Soils Pg. 1</u> <u>App. A &amp;B</u>	<del>Please provide soils information for the project site.</del>
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:	Environmental Information, Section 5.12 – Soils, pgs 5.12-1	No Yes <u>Soils Pg. 1</u> <u>App. A &amp;B</u>	<del>Please provide 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.</del>
Appendix B (g) (15) (A) (i)	The depth, texture, permeability, drainage, erosion hazard rating, and land capability class of the soil;	Environmental Information, Section 5.12 – Soils, pgs 5.12-1	No Yes <u>Soils Pg. 1</u> <u>App. A&amp;B</u> <u>Table 15.12-4</u>	<del>Please provide soils information on depth, texture, permeability, drainage, erosion hazard rating, and land capability class of the soil</del>
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;	Environmental Information, Section 5.12 – Soils, pgs 5.12-1	No Yes <u>Soils Pg. 2</u> <u>App. A&amp;B</u>	<del>Please provide information 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</del>
Appendix B (g) (15) (A) (iii)	The location of any proposed fill disposal or fill procurement (borrow) sites; and	Environmental Information, Section 5.12 – Soils, Environmental Impacts – Construction, Section 5.12.3.1,pg 5.12-6;	No Yes <u>Soils Pg.2</u>	<del>Please provide the location of proposed fill disposal or fill procurement (borrow) sites.</del>



Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Soils  
 Project Manager: Paul Marshall

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: M. Donovan, J. Thornton  
 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) (A)(iv)	The location of any contaminated soils that could be disturbed by project construction.	Hazards related to Soil Conditions Section 5.12.2.3	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:	Environmental Information, Section 5.12 – Soils, pgs 5.12-1 & Environmental Impacts Section 5.12.3,pg 5.12-6;	No <u>Yes</u> <u>Soils Pg. 2</u>	<del>Please an assessment of the effects of the proposed project on soil resources and agricultural land uses.</del>
Appendix B (g) (15) (B) (i)	The quantification of accelerated soil loss due to wind and water erosion; and	Environmental Information, Section 5.12 – Soils, pgs 5.12-1 & Environmental Impacts Section 5.12.3,pg 5.12-6;	No <u>Yes</u> <u>Soils Pg. 3</u> <u>App. A&amp;B</u> <u>Attach.</u> <u>SOIL-C</u>	<del>The AFC did not quantify and provide supporting information and calculations for all potential soil loss scenarios.</del> <ol style="list-style-type: none"> <li><del>1. Please quantify the 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.</del></li> <li><del>2. Please quantify the annual soil loss due to water erosion during operation of the proposed project.</del></li> <li><del>3. For all soil loss estimates (annual loss of soil due to wind and water erosion under a no-project scenario, during construction, and during operation); please provide supporting information and calculations.</del></li> </ol> <p><del>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.</del></p>

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Soils**  
 Project: Paul Marshall  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: M. Donovan, J. Thornton  
 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) (ii)	The effect of power plant emissions on surrounding soil-vegetation systems.	Environmental Impacts - Operations Section 5.12.3.2, pg 5.12-7;	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	Environmental Information, Section 5.12 – Soils – LORS Compliance Section 5.12-1, pg 5.12-1	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.	Environmental Information, Section 5.12 – Soils – LORS Compliance Section 5.12-1, pg 5.12-1	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.	Environmental Information, Section 5.12 – Soils Involved Agencies Section 5.12.1.4, pg 5.12-4	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Soils**  
 Project Manager: Paul Marshall

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: M. Donovan, J. Thornton  
 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) (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.	Environmental Information, Section 5.12 – Soils Required Permits and Permit Schedule Section 5.12.1.5, pg 5.12-4	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Transmission System Design  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

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 2.0 Project description. pages 2-1 to 2-3  Section 2.5.3 pages 2-7 to 2-10  Section 2.5.4 Electrical System description.  Section 2.6 Transmission System description.	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 2.0 Project description. pages 2-1 to 2-3  Section 2.5.3 pages 2-7 to 2-10  Section 2.5.4 Electrical System description.  Section 2.6 Transmission System description.  Figure 2.8 Conceptual one line Power plant diagram  Figure 2-9 Project interconnection one line diagram	Yes	

Adequacy Issue: Adequate **X** Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Transmission System Design  
 Project Manager: Alan Solomon

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

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.	Section 2.0 Project description. pages 2-1 to 2-3  Section 2.5.3 pages 2-7 to 2-10  Section 2.5.4 Electrical System description.  Section 2.6 Transmission System description.  Figure 2-4 Layout of Project facilities.  Figure 2.8 Conceptual One line Power plant diagram  Figure 2-9 Project interconnection one line diagram  Figure 5.14-1 230kV single circuit structure elevation.  Appendix C.6 Electrical Engineering Design criteria	No-Yes  Data Adequacy Supplement submitted to the CEC on October 26, 2009	<ol style="list-style-type: none"> <li><del>1. Provide a one-line diagram for the proposed 230kV Red Bluff substation 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.</del></li> <li><del>2. Resubmit Figure 2-9 (Project Interconnection One Line diagram) with the breaker ratings; disconnect switches and relay details of the proposed 230 kV Central Switchyard.</del></li> <li><del>3. Provide a detailed drawing of the proposed 230kV mono-pole structure configuration to be utilized to interconnect the project to the Red Bluff substation.</del></li> <li><del>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.</del></li> </ol>

Adequacy Issue: Adequate **X** Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Transmission System Design**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

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 2.6 Transmission System description.  Figure 2-9 Project interconnection one line diagram  Cluster Phase 1 Interconnection study	<del>No</del> -Yes Data Adequacy Supplement submitted to the CEC on October 26, 2009	<del>Submit a drawing showing the alternate routes of the proposed 230kV generator tie line and describe how the preferred route and their environmental effects</del>

Adequacy Issue: Adequate **X** Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Transmission System Design  
 Project Manager: Alan Solomon

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

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>	Transition Cluster Phase 1 Interconnection Study Exhibit A	<p><del>No</del>—Yes</p> <p>Data Adequacy Supplement submitted to the CEC on October 26, 2009</p>	<p><del>In reference to the Transition Cluster Phase 1 Interconnection Study dated August 5, 2009, please provide the following information:</del></p> <p><del>Provide Cluster Phase 1 Interconnection Study. 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:</del></p> <p><del>a. Identify major assumptions in the base cases including imports to the system, major generation and load changes in the system and queue generation.</del></p> <p><del>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.</del></p> <p><del>Analyze the SCE system for Short Circuit currents with and without the Palen Solar Power Plant at strategic buses for three-phase and single phase line to ground faults. Provide a summary of results in a table.</del></p> <p><del>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.</del></p>

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Transmission System Design  
 Project Manager: Alan Solomon

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

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
				<p><del>d. List mitigation measures considered (required) and those selected (optional Data Requests will follow) for all criteria violations.</del></p> <p><del>e. Provide electronic copies of *.sav and *.drw PSLF files.</del></p> <p><del>Provide power flow diagrams (MW, % loading &amp; 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</del></p>
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	Appendix C.6 Electrical Engineering Design Criteria  Transmission System Design and Construction LORS Table 5-14-1	<del>No</del> -Yes  Data Adequacy Supplement submitted to the CEC on October 26, 2009	<del>CPUC G.O. 95 and G.O 128 rules for overhead and underground Electric Line construction need to be discussed.</del>
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	Transmission System Design and Construction LORS Table 5-14-1	Yes	



Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: Transmission System Design  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Palen Solar Power Project  
 Docket: 09-AFC-7

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) (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.		<del>No</del> -Yes  Data Adequacy Supplement submitted to the CEC on October 26, 2009	<del>Provide names, phone numbers, address and e-mail address of the official contact person of each agency.</del>
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.		<del>No</del> -Yes  Data Adequacy Supplement submitted to the CEC on October 26, 2009	<del>Transition Cluster Phase 1 Interconnection study submitted under confidential cover is not adequate. Please provide the detail study as per Siting Regulation Appendix B (b) (2) (E).</del>

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project Manager: Alan Solomon

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David 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.	Pgs. 5.15-7 through 5.15-9, Section 5.15.2.1.  Pgs. 5.15-10 through 5.15-12, Section 5.15.2.4.  Pgs. 5.15-16 through 5.15-21, Sections 5.15.3.4, 5.15.3.5, and 5.15.4.  <u>Data Adequacy Supplemental Visual Section</u>	No YES	<del>The AFC on Pages 5.15-19 identifies a number of "potentially" significant impacts and a "possibly" substantial adverse effect on a scenic vista. Page 5.15-20 identifies a "possible" significant cumulative impact. However, Section 5.15.4 concludes no significant impacts will occur and no mitigation measures are required. Please provide an unequivocal determination of significance for each impact and identify any appropriate mitigation measures.</del>
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:	Pgs. 5.15-7 through 5.15-9, Section 5.15.2.1.  Pgs. 5.15-10 through 5.15-12, Section 5.15.2.4.	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	<u>Data Adequacy Supplemental Visual Section</u>	No YES	<del>Please provide 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</del>

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David 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) (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.	Pgs. 5.15-7 through 5.15-9, Section 5.15.2.1.  Pgs. 5.15-10 through 5.15-12, Section 5.15.2.4	YES	
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.	Pgs. 5.15-7 through 5.15-9, Section 5.15.2.1.  Pgs. 5.15-10 through 5.15-12, Section 5.15.2.4.	YES	

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project Manager: Alan Solomon

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David 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) (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.	Pgs. 5.15-4 through 5.15-6, Sections 5.15.1.2 and 5.15.1.3.  Pg. 5.15-9, Section 5.15.2.3.  Pgs. 5.15-10 through 5.15-12, Section 5.15.2.4.  <u>Data Adequacy Supplemental Visual Section</u>	<del>No</del> YES	<del>Please provide the approximate number of recreationists that use:</del> <ul style="list-style-type: none"> <li><del>• Palen/McCoy Wilderness</del></li> <li><del>• Chuckwalla Wilderness</del></li> <li><del>• Chuckwalla Mountains ACEC</del></li> <li><del>• Desert Wildlife Management Area</del></li> <li><del>• Palen Dry Lake/Dunes ACEC</del></li> <li><del>• Desert Lily Sanctuary</del></li> </ul> <del>Please provide the approximate number of vehicles per day for:</del> <ul style="list-style-type: none"> <li><del>• I-10 in the vicinity of the project area</del></li> <li><del>• Highway 177</del></li> <li><del>• Corn Springs Road</del></li> <li><del>• Eagle Mountain Road</del></li> </ul>

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David 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.	Pgs. 5.15-13 through 5.15-15, Section 5.5.3.2.  Table 5.15-3  <u>Data Adequacy Supplemental Visual Section</u>	No YES	<del>Please provide complete descriptions of the proposed color(s), materials, finishes, patterns, and other proposed design characteristics for each major component visible from off the project site, including the electrical transmission line facilities.</del>  <del>Please provide the linear distance for the high-voltage transmission line.</del>  <del>Please provide a diagram illustrating the design and dimensions of the high-voltage line steel poles.</del>

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David 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) (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).	N/A	N/A	

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David 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) (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.	Figure 5.15-3 Figures 5.15-5a through 5.15-13b.	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.	Pg. 5.15-15, Section 5.15.3.2.  Pgs. 5.15-16 through 5.15-21, Sections 5.15.3.4, 5.15.3.5, and 5.15.4.	YES	

Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David 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) (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.	None proposed.	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	Pgs. 5.15-2 through 5.15-6, Section 5.15.1.  Table 5.15-1.	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.	Pg. 5.15-6, Section 5.15.1.  Table 5.15-2	YES	



Adequacy Issue: Adequate \_\_\_\_\_ Inadequate **X**

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Visual Resources**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen Power Project  
 Docket: 09-AFC-7

Technical Staff: Michael Clayton  
 Technical Senior: David Flores

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
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.	Pg. 5.15-6, Section 5.15.1.  Table 5.15-2.	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	N/A	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Waste Management**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen  
 Docket: 09-AFC-7

Technical Staff: J. Thurber  
 Technical Senior: P. Marshall

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (b) (1) (C)	A detailed description of the design, construction and operation of the facilities, specifically including the power generation, cooling, water supply and treatment, waste handling and control, pollution control, fuel handling, and safety, emergency and auxiliary systems, and fuel types and fuel use scenarios; and	Pages 1-1 through 1-3, Pages 1-5 through 1-6, and 1-9 through 1-10 Section 1;	Yes	
Appendix B (e) (1)	A discussion of how facility closure will be accomplished in the event of premature or unexpected cessation of operations.	Pages 3-1 through 3-2 Section 3.2; Page 5.16-14 Section 5.16.3	Yes	
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.	Page 5.16-10 Section 5.16.2, Pages 5.16-12 through 5.15-13 Section 5.16.2.3, Pages 5.16-13 through 5.16-14 Section 5.16.3, Pages 5.16-21 to 5.16-22 Section 5.16.3.3, Pages 5.16-22 through 5.16-24 Section 5.16.4	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Waste Management**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen  
 Docket: 09-AFC-7

Technical Staff: J. Thurber  
 Technical Senior: P. 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) (12) (A)	A Phase I Environmental Site Assessment (ESA) for the proposed power plant site using methods prescribed by the American Society for Testing and Materials (ASTM) document entitled "Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process" (Designation: E 1527-93, May 1993), which is incorporated by reference in its entirety; or an equivalent method agreed upon by the applicant and the CEC Staff that provides similar documentation of the potential level and extent of site contamination. The Phase I ESA shall have been completed no earlier than one year prior to the filing of the AFC.	Pages 5.16-12 through 5.16-13 Section 5.16.2.3; Appendix I  <u>DATA ADEQUACY SUPPLEMENT, Page WAS-1 and attached EDR Radius Report (dated October 9, 2009)</u>	No Yes	<del>Please provide a Phase 1 ESA or equivalent that addresses the transmission line alignment.</del>
Appendix B (g) (12) (B)	A description of each waste stream estimated to be generated during project construction and operation, including origin, hazardous or nonhazardous classification pursuant to Title 22, California Code of Regulations, § 66261.20 et seq., chemical composition, estimated annual weight or volume generated, and estimated frequency of generation.	Pages 5.16-14 through 5.16-21 Sections 5.16.3.1 and 5.16.3.2 Table 5.16-5 Table 5.16-6	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Waste Management**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen  
 Docket: 09-AFC-7  
 \_\_\_\_\_

Technical Staff: J. Thurber  
 Technical Senior: P. 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) (12) (C)	A description of all waste disposal sites which may feasibly be used for disposal of project wastes. For each site, include the name, location, classification under Title 23, California Code of Regulations, § 2530 et seq., the daily or annual permitted capacity, daily or annual amounts of waste currently being accepted, the estimated closure date and remaining capacity, and a description of any enforcement action taken by local or state agencies due to waste disposal activities at the site.	Table 5.16-4	Yes	
Appendix B (g) (12) (D)	A description of management methods for each waste stream, including methods used to minimize waste generation, length of on- and off-site waste storage, re-use and recycling opportunities, waste treatment methods used, and use of contractors for treatment.	Table 5.16-5 Table 5.16-6	Yes	
Appendix B (h) (1) (B)	A discussion of any measures proposed to improve adverse site conditions.	Page 5.16-5 Section 5.16.3.1	Yes	
Appendix B (h) (1) (D) (v)	The waste disposal system and on-site disposal sites;	Table 5.16-5 Table 5.16-6	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 5.16.1.1 Tables 5.16-1	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Waste Management**  
 Project: Alan Solomon  
 Manager: \_\_\_\_\_

Project: Solar Millennium Palen  
 Docket: 09-AFC-7

Technical Staff: J. Thurber  
 Technical Senior: P. 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) (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 5.16.1.4 Tables 5.16-2	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 5.16-2	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 5.16.5 Table 5.16-3	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Water Resources**

Project: Solar Millennium Palen Power Project

Technical Staff: M. Donovan, M. Daly  
J. Thornton

Project Manager: Alan Solomon

Docket: 09-AFC-7 Vol. 3 Supplement 10/09

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.	Environmental Information, Section 5.17 – Water Resources – Affected Environment Section 5.17.2, pgs 5.17-17 Environmental Impacts Section 5.17.3,pg 5.17-31; Cumulative Impacts Section 5.17.3.3, pg 5.17-42; Mitigation Measures Section 5.17.4, pg 5.17-43; <u>WR Pg. 1</u>	<del>No</del> <u>Yes</u>	<del>Please provide 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.</del>
Appendix B (g) (14) (A)	All the information required to apply for the following permits, if applicable, including:			
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);	Environmental Information, Section 5.17 – Water Resources –Federal LORS Section 5.17.1.1, pg 5.17-4. <u>WR Pg. 1</u> <u>Attach. BIO-F</u>	<del>No</del> <u>Yes</u>	<del>Please provide the information necessary for the USACE to make a determination indicating whether the drainages on the project site are “waters of the United States.”</del>
Appendix B (g) (14) (A) (ii)	Construction and Industrial Waste Discharge and/or Industrial Pretreatment permits from wastewater treatment agencies;	Not Applicable (NA)	NA	
Appendix B (g) (14) (A) (iii)	Nationwide Permits and/or Section 404 Permits from the U.S. Army Corps of Engineers; and	Environmental Information, Section 5.17 – Water Resources –Federal LORS Section 5.17.1.1, pg 5.17-5. <u>WR Pg. 1</u>	<del>No</del> <u>Yes</u>	<del>Please provide the information necessary for the USACE to make a determination indicating whether the drainages on the project site are “waters of the United States.”</del>

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Water Resources**

Project: Solar Millennium Palen Power Project

Technical Staff: M. Donovan, M. Daly  
J. Thornton

Project Manager: Alan Solomon

Docket: 09-AFC-7 Vol. 3 Supplement 10/09

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) (14) (A) (iv)	Underground Injection Control Permit(s) from the U.S. Environmental Protection Agency, California Division of Oil and Gas, and RWQCB.	Not Applicable	NA	
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:	Environmental Information, – Water Resources – Affected Environment – Section 5.17.2, pgs 5.17-17. WR Pg.2 <u>Attach. A Table WATER-4</u>	<del>No</del> <u>Yes</u>	<del>Please provide the site specific chemical and physical characteristics of the groundwater beneath and adjacent to the site that may be affected by the proposed project.</del>
Appendix B (g) (14) (B) (i)	Ground water bodies and related geologic structures;	Environmental Information, – Water Resources – Affected Environment – Groundwater Section 5.17.2.2, pgs 5.17-19	Yes	
Appendix B (g) (14) (B) (ii)	Surface water bodies;	Environmental Information, – Water Resources – Affected Environment – Surface Water Section 5.17.2.9, pgs 5.17-31	Yes	
Appendix B (g) (14) (B) (iii)	Water inundation zones, such as the 100-year flood plain and tsunami run-up zones;	Environmental Information, – Water Resources – Affected Environment – Surface Water Section 5.17.2.9, pgs 5.17-31	Yes	

Adequacy Issue: Adequate  Inadequate

**DATA ADEQUACY WORKSHEET**

Revision No. 1 Date November 12, 2009

Technical Area: **Water Resources**

Project: Solar Millennium Palen Power Project

Technical Staff: M. Donovan, M. Daly  
J. Thornton

Project Manager: Alan Solomon

Docket: 09-AFC-7 Vol. 3 Supplement 10/09

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) (14) (B) (iv)	Flood control facilities (existing and proposed); and	Environmental Impacts Section, 5.17.3, pg 5.17-33 Operation Section 5.17.3.2, pg 5.17-40 Appendix L – Drainage Plans; Drainage Report	Yes	
Appendix B (g) (14) (B) (v)	Groundwater wells within ½ mile if the project will include pumping.	Environmental Information, – Water Resources – Affected Environment – Groundwater Section 5.17.2.2, pgs 5.17-19 & Table 5.17-7	Yes	
Appendix B (g) (14) (C)	A description of the water to be used and discharged by the project. This information shall include:			
Appendix B (g) (14) (C) (i)	Source(s) of the primary and back-up water supplies and the rationale for their selection;	Project Alternatives, Water Supply Alternatives, Section 4.7, pgs 4-12; Project Description – Water Supply and Use, Section 2.5.5.2, pg. 2-13 & Figure 2-10	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);	Environmental Information, – Water Resources – Affected Environment – Groundwater Geochemistry Section 5.17.2.8, pgs 5.17-29. <u>WR Pg. 4</u> <u>Table WATER-5</u>	<del>No</del> <u>Yes</u>	<del>Please provide detailed water quality characteristics associated with water supply source water and reverse osmosis reject water.</del>
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;	Project Description – Water Supply and Use, Section 2.5.5.2, pg. 2-13 & Figure 2-10; Water Generation and Management - Wastewater Section 2.5.5.5, pg. 2-17	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;	Project Description – Water Supply and Use, Section 2.5.5.2, pg. 2-13 & Figure 2-10; Water Generation and Management - Wastewater Section 2.5.5.5, pg. 2-17	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;	Environmental Information, Section 5.17 – Water Resources –Federal LORS Section 5.17.1.1 – Bureau of Reclamation – Colorado River “Accounting Surface”, pg 5.17-6. <u>WR Pg. 5-6</u>	<del>No</del> <u>Yes</u>	<del>Please provide documentation showing that the applicant has authority to extract groundwater from beneath the project site and will be consistent with the Law of the River.</del>
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);	Environmental Information, Section 5.17 – Water Resources –Federal LORS Section 5.17.1.1 – Bureau of Reclamation – Colorado River “Accounting Surface”, pg 5.17-6. <u>WR Pg. 5-6</u>	<del>No</del> <u>Yes</u>	<del>Please provide documentation showing that the applicant has authority to extract groundwater from beneath the project site and will be consistent with the Law of the River</del>

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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	Project Description – Water Supply and Use, Section 2.5.5.2, pg. 2-13 & Figure 2-10; Water Generation and Management - Wastewater Section 2.5.5.5, pg. 2-17	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>	Environmental Information, Section 5.17 – Water Resources – Local LORS Section 5.17.1.3 – Riverside County Ordinance Code Title 8, Chapter 8.124 – Sewage Discharge”, pg 5.17-14	Yes	
Appendix B (g) (14) (D)	Identify all project elements associated with stormwater drainage, including a description of the following:			

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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;	<b>Seasonal Precipitation:</b> Environmental Information, – Water Resources – Affected Environment – Climate and Precipitation Section 5.17.2.1, pg 5.17-17  <b>Drainage Patterns:</b> Environmental Information, – Water Resources – Affected Environment – Surface Water Section 5.17.2.9, pg 5.17-31 Environmental Impacts Section, 5.17.3, pg 5.17-33 Operation Section 5.17.3.2, pg 5.17-40 Appendix L – Drainage Plans; Drainage Report. WR Pg. 7-10	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;	Environmental Information, Section 5.17 – Water Resources –Local LORS Section 5.17.1.3, pg 5.17-14	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 L – Drainage Plans; Drainage Report	Yes	

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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.	Appendix J – Water Resources Supporting Documentation	Yes	
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:			
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;	Environmental Information, Section 5.17 – Water Resources – Affected Environment Section 5.17.2, pgs 5.17-17 Environmental Impacts Section 5.17.3,pg 5.17-31. <u>WR Pg. 11-14</u>	<del>No</del> Yes	<del>Please provide information on water quality impacts associated with discharge of RO reject water for dust control.</del>
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;	Environmental Information, Section 5.17 – Water Resources – Affected Environment Section 5.17.2, pgs 5.17-17 Environmental Impacts Section 5.17.3,pg 5.17-31	Yes	

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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;	Environmental Information, Section 5.17 – Water Resources – Affected Environment Section 5.17.2, pgs 5.17-17 Environmental Impacts – Construction Section 5.17.3.1, pg 5.17-36 and Operation Section 5.17.3.2 pg. 5.17-37	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;”	Environmental Information, Section 5.17 – Water Resources – Affected Environment Section - Environmental Impacts – Operation Section 5.17.3.2 Process and Sanitary Waste Water Management pg. 5.17-40	NA	
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;”	Project Alternatives, Water Supply Alternatives, Section 4.7, pgs 4-12	Yes	

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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	Appendix L – Drainage Plans; Drainage Report. <u>WR Pg. 15</u> <u>Attach. WATER-C and D</u>	No <u>Yes</u>	<del>Please provide mapping showing the 100-year flood plain and the HEC-RAS input files used for modeling along with a copy of the drainage report.</del>
Appendix B (g) (14) (vii)	All assumptions, evidence, references, and calculations used in the analysis to assess these effects.	Appendix L – Drainage Plans; Drainage Report. <u>WR Pg. 15</u>	No <u>Yes</u>	<del>Please provide all assumptions, evidence, references, and calculations used in the analysis to assess the effects of the project on the 100-year floodplain.</del>
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	Environmental Information, Section 5.17 – Water Resources – LORS Compliance Section 5.17.1, pg 5.17-2	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.	Environmental Information, – Water Resources – Involved Agencies and Local Contacts Section 5.17.1.4, pg 5.17-15	Yes	



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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.	Environmental Information, – Water Resources – Involved Agencies and Local Contacts Section 5.17.1.4, pg 5.17-15	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.	Environmental Information, – Water Resources – Required Permits and Permit Schedule Section 5.17.1.5, pg 5.17-16	Yes	