

Memorandum

Date: April 4, 2008
 Telephone: (916) 654-4966

To: Jackalyne Pfannenstiel, Chairman
 James D. Boyd, Vice Chair
 Arthur H. Rosenfeld, Ph.D., Commissioner
 Jeffrey Byron, Commissioner
 Karen Douglas, Commissioner

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



DOCKET	
08-AFC-1	
DATE	APR 04 2008
RECD.	APR 09 2008

Subject: **AVENAL ENERGY, REVISED DATA ADEQUACY RECOMMENDATION (08-AFC-1)**

Staff's March 21, 2008 initial data adequacy review of the Avenal Energy Application for Certification (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 5 of 23 areas: Air Quality, Cultural Resources, Socioeconomics, Transmission System Design, and Water Resources. On March 27, 2008, Avenal Power Center, LLC (Avenal Power) provided revised sections of the AFC Supplement to staff for review. Staff has reviewed the supplemental information and believes the AFC now meets the above-listed requirements in all five of the previously deficient technical disciplines. The applicant formally filed one hundred and twenty-five copies of the AFC Supplement on March 28, 2008. Attached is a summary table and revised data adequacy worksheets for the five technical disciplines previously determined to be data inadequate, reflecting staff's determination that the supplemental information submitted by Avenal Power satisfies the data deficiencies specified by the Commission at the April 2, 2008 Business Meeting.

On February 21, 2008, Avenal Power filed an AFC for Avenal Energy, a combined-cycle electrical power plant facility in the City of Avenal, Kings County. Avenal Energy would be a 600 megawatt (MW) combined-cycle generating plant consisting of two natural gas-fired General Electric 7FA gas turbines with heat recovery steam generators (HRSG) and one General Electric steam turbine. Natural gas would be provided via a 2.5-mile, 20-inch underground pipeline interconnection to Pacific Gas and Electric's (PG&E's) natural gas pipeline transmission system at the Kettleman compressor station. The plant would use a dry cooling process to minimize water consumption. The City of Avenal would provide raw water for non-cooling uses, such as the plant's emission control system, to the proposed project from the city's turnout on the San Luis Canal portion of the California Aqueduct. Groundwater from three local wells would provide a back-up water source to the project via two separate pipelines, totaling less than 1.4 miles. The proposed project would use a zero liquid discharge system which would eliminate wastewater discharge. The facility would be connected to the PG&E transmission grid via a new 6.4-mile single-circuit 230 kV transmission line, traversing agricultural land to the Gates Substation in Fresno County.

At the Energy Commission Business Meeting on April 16, 2008, I will recommend that the Energy Commission accept the Avenal Energy AFC with the supplemental information as complete, and request that a Committee be appointed. If you have any questions, please call Christopher Meyer, staff's Project Manager, at (916) 653-1639.

Attachments

Attachment A
Overview of Energy Commission Staff's
Revised Data Adequacy Determination
Avenal Energy
08-AFC-1

Technical Area	Attachment B Page No.	Adequate ?
AIR QUALITY.....	1	YES
CULTURAL RESOURCES.....	8	YES
SOCIOECONOMICS.....	14	YES
TRANSMISSION SYSTEM DESIGN.....	20	YES
WATER RESOURCES	23	YES

ATTACHMENT B

**ENERGY COMMISSION STAFF'S
Data Adequacy Determination
Revised to Reflect AFC Supplement**

**Avenal Energy
08-AFC-1**

April 4, 2008

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: Air Quality

Project: Avenal Energy

Technical Staff: Brewster Birdsall

Project Manager: Christopher Meyer

Docket: 08-AFC-1

Technical Senior: Keith Golden

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 6.2.1 pp. 6.2-2 to 6.2-4 Section 6.2.5 pp. 6.2-39 to 70 Section 6.2-3.3; p. 6-2-3.2 Section 6.2.8 p. 6.2-85	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.	Not provided <u>AFC Supplement, Attachment A.1</u>	No <u>Yes</u>	The letter of application completeness, or comparable communication, from the San Joaquin Valley Air Pollution Control District is needed. The application was filed in February of 2008. SJVAPCD Rule 2201, Section 5.8.3 requires the District to notify the CEC of completeness within 20 days of receipt of the AFC.
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.	Table 2.3-3, p. 2-33 Table 6.2-17, 18, and 22 pp. 6.2-41 to 44 Table 6.2-2.2 and 2.4 Section 2.3.16, p. 2-43	Yes	
Appendix B (g) (8) (C)	A description of the control technologies proposed to limit the emission of criteria pollutants.	Section 2.3.9 pp. 2-22 to 24 Section 6.2.6.3 pp. 6.2-73 to 76 Appendix 6.2-4	Yes	

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 Technical Area: Air Quality
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Revision No. 1 Date April 4, 2008
 Technical Staff: Brewster Birdsall
 Technical Senior: Keith Golden

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (8) (E)	The emission rates of criteria pollutants and greenhouse gases (CO2, CH4, N2O, and SF6) from the stack, cooling towers, fuels and materials handling processes, delivery and storage systems, and from all on-site secondary emission sources.	Table 6.2-19, 20, and 21 Table 6.2-41 p. 6.2-84 to 85	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.	Table 6.2-19, 20, and 21 Table 6.2-23 and 24 p. 6.2-45 to 46 Appendix 6.2-1	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.	Section 6.2.5.1.1 p. 6.2-47 p. 6.2-60 pp. 6.2-64 to 65	Yes	
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 6.2.3 Table 6.2-2 to 9 Figure 6.2-6 to 16 pp. 6.2-7 to 15	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.	Appendix 6.2-2 On 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.	Appendix 6.2-2 On CD	Yes	
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.	Figure 6.2-5a through 5y Appendix 6.2-2 On CD	Yes	
Appendix B (g) (8) (I)	An evaluation of the project's direct and cumulative air quality impacts, consisting of the following:	See below		

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Appendix B (g) (8) (I) (i)	A screening level air quality modeling analysis, or a more detailed modeling analysis if so desired by the applicant, of the direct criteria pollutant impacts of project construction activities on ambient air quality conditions, including fugitive dust (PM ₁₀) emissions from grading, excavation and site disturbance, as well as the combustion emissions [nitrogen oxides (NO _x), sulfur dioxide (SO ₂), carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM ₁₀) and particulate matter less than 2.5 microns in diameter (PM _{2.5})] from construction-related equipment;	Section 6.2.5.3 Table 6.2-35 p. 6.2-70 Appendix 6.2-3 Table 6.2-3.11 and 3.12 On CD	Yes	
Appendix B (g) (8) (I) (ii)	A screening level air quality modeling analysis, or a more detailed modeling analysis if so desired by the applicant, of the direct criteria pollutant (NO _x , SO ₂ , CO, PM ₁₀ , and PM _{2.5}) impacts on ambient air quality conditions of the project during typical (normal) operation, and during shutdown and startup modes of operation. Identify and include in the modeling of each operating mode the estimated maximum emissions rates and the assumed meteorological conditions;	Section 6.2.5.1.2 Table 6.2-27 and 31 pp. 6.2-63 to 66 Appendix 6.2-2 Table 6.2-2.4 and 2.5 On CD	Yes	

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Appendix B (g) (8) (I) (iii)	A protocol for a cumulative air quality modeling impacts analysis of the project's typical operating mode in combination with other stationary emissions sources within a six mile radius which have received construction permits but are not yet operational, or are in the permitting process. The cumulative inert pollutant impact analysis should assess whether estimated emissions concentrations will cause or contribute to a violation of any ambient air quality standard; and	Appendix 6.2-6	Yes	
Appendix B (g) (8) (I) (iv)	An air dispersion modeling analysis of the impacts of the initial commissioning phase emissions on state and federal ambient air quality standards for NO _x , SO ₂ , CO, PM ₁₀ , and PM _{2.5} .	Table 6.2-29 p. 6.2-65 Table 6.2-1.9 and 1.10 Table 6.2-2.7 On CD	Yes	
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:	See below		
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	Table 6.2-38 and 39 pp. 6.2-76 to 78 Appendix 6.2-5	Yes	
Appendix B (g) (8) (J) (ii)	Potential offset sources, including location, and quantity of emission reductions;	Appendix 6.2-5	Yes	

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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 6.2.8 p. 6.2-85 Section 6.2-3.3; p. 6-2-3.2	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 6.2.4.1 pp.6.2-17 to 34 Table 6.2-15 pp. 6.2-35 to 38 Section 6.2.6 pp. 6.2-71 to 81	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 6.2.4.1 pp.6.2-17 to 34 Table 6.2-15 pp. 6.2-35 to 38 Section 6.2.6 pp. 6.2-71 to 81	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 6.2-10 p. 6.2-17	Yes	

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Appendix B (i) (3)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	Figure 3.0-1 Table 6.2-15 pp. 6.2-35 to 38	Yes	
Appendix B (g) (8) (E)	The emission rates of criteria pollutants and greenhouse gases (CO2, CH4, N2O, and SF6) from the stack, cooling towers, fuels and materials handling processes, delivery and storage systems, and from all on-site secondary emission sources.	Table 6.2-19, 20, and 21 Table 6.2-41 pp. 6.2-84 to 85	Yes	

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DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: **Cultural Resources**

Project: Avenal Energy

Technical Staff: Beverly Bastian

Project Manager: Christopher Meyer

Docket: 08-AFC-1

Technical Senior: Rick York

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Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	existing site conditions: Vol. 1, pp. 6.7-1–6.7-2	Yes	Applicant needs to incorporate mitigation measures for impacts to the integrity of the setting of new historic architectural resources, if any are identified in the required new historic architecture survey (see item (g)(2)(C) below). Response to this item will also satisfy the requirement for item (g)(2)(E)(i).
		impacts due to project: Vol. 1, p. 6.7-13–6.7-14	Yes	
		mitigation measures for known impacts	No <u>N/A</u>	
		effectiveness of the proposed measures	N/A	
Appendix B (g) (2) (A)	A summary of the ethnology, prehistory, and history of the region with emphasis on the area within no more than a 5-mile radius of the project location.	summary of the ethnology, prehistory, and history: Vol. 1, pp. 6.7-6–6.7-10; Vol. 2, App. 6.7-1, pt. 1, pp. 9–12	Yes	

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Technical Area: Cultural Resources

Project: Avenal Energy

Technical Staff: Beverly Bastian

Project Manager: Christopher Meyer

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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
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 searches: <u>AFC Supplement, Attachment C.1</u>	No <u>Yes</u>	Applicant needs to request a California Historical Information System records search, inclusive of an area with a radius of one mile around the project site and 0.25 mile on each side of the linear facilities, and incorporate the results in the technical report and the AFC.
	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 numbers 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.	cultural resources listed under a city or county ordinance: <u>AFC Supplement, Attachment C.2</u>	No <u>Yes</u>	Applicant needs to contact Kings County and the City of Avenal to identify cultural resources listed per local ordinance that are located within a one-mile radius of the proposed plant site, and incorporate the results in the technical report and the AFC.
		cultural resources recognized by local societies: <u>AFC Supplement, Attachment C.2</u>	No <u>Yes</u>	Applicant needs to contact local historical and archaeological societies to identify recognized local cultural resources that are located within a one-mile radius of the proposed plant site, and incorporate the results in the technical report and the AFC.
		names/quals for lit searchers/directors: <u>AFC Supplement, p. 3</u>	No <u>Yes</u>	Applicant needs to add the name(s) and qualifications of person(s) doing the new literature search to the technical report.
		DPR 523s for known resources:	No <u>N/A</u>	If the new literature search reveals the presence of known cultural resources, applicant needs to provide, under confidential cover, copies of DPR 523 forms for the additional resources.
		map of lit search area with past surveys and CHRIS #s: <u>AFC Supplement, Attachment C.2</u>	No <u>Yes</u>	Applicant needs to provide a copy of the USGS 7.5' quadrangle map(s) of the new literature search area delineating the coverage of past cultural resources surveys and labeled with the CHRIS survey report numbers, if any.
		CHRIS reports: <u>Addition to AFC Supplement Docketed 04-02-08.</u>	No <u>Yes</u>	Applicant needs to provide copies, under confidential cover, of the technical reports, obtained from the CHRIS, reporting on any archaeological excavations or architectural surveys within the new literature search area.

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: Cultural Resources

Project: Avenal Energy

Technical Staff: Beverly Bastian

Project Manager: Christopher Meyer

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Technical Senior: Rick York

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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>A technical report of the results of the new surveys, conforming to the Archaeological Resource Management Report format (CA Office of Historic Preservation Feb 1990), which is incorporated by reference, shall be separately provided and submitted (under confidential cover if archaeological site locations are included).</p>	<p>names/quals for archaeological surveyors or directors:</p> <p>names/quals for historical architecture surveyors or directors. <u>AFC Supplement, Attachment C.3</u></p> <p>survey coverage, archaeology: Vol. 2, App. 6.7-1, pt. 3, fig. 2.2007</p> <p>survey coverage, architecture: <u>AFC Supplement, Attachment C.3</u></p> <p>tech report for new archaeological survey: Vol. 2, App. 6.7-1, pts. 2 and 3</p> <p>tech report for new historical architecture survey: <u>AFC Supplement, Attachment C.3</u></p>	<p>Yes</p> <p>No <u>Yes</u></p> <p>Yes</p> <p>No <u>Yes</u></p> <p>Yes</p> <p>No <u>Yes</u></p>	<p>Applicant needs to provide the name(s) and qualifications of person(s) doing the new historic architecture survey (see below).</p> <p>Applicant needs to have a qualified architectural historian survey the area 0.5 mile out from the proposed plant site and from the 2006 proposed transmission line route for structures and districts that appear older than 45 years.</p> <p>Applicant needs to have a qualified architectural historian write a technical report on the methods and findings from the new historic architecture survey and provide this report to the Energy Commission.</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 includes tech report data, unless confidential: Vol. 1, section 6.7 <u>AFC Supplement</u>	No <u>Yes</u>	Applicant needs to incorporate into AFC Section 6.7 non-confidential information on any new archaeological and/or architectural resources identified from the new literature search and the new historic architecture survey.
Appendix B (g) (2) (C) (i)	The summary from Appendix B (g)(2)(A) and the literature search results from Appendix B (g)(2)(B);	summary: Vol. 2, App. 6.7-1, pt. 1, pp. 9-12 lit-search results: <u>AFC Supplement</u>	Yes No <u>Yes</u>	Applicant needs to update the literature search results in the AFC to include the new literature search.
Appendix B (g) (2) (C) (ii)	The survey procedures and methodology used to identify cultural resources and a discussion of the cultural resources identified by the survey;	archaeological methodology: Vol. 2, App. 6.7-1, pt. 2, pp. 4-5 historical architecture methodology: <u>AFC Supplement, Attachment C.3</u>	Yes No <u>Yes</u>	Applicant needs to have a qualified architectural historian add to Section 6.7 of the AFC the methods and findings from the new historic architecture survey.
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: architecture forms: <u>AFC Supplement, Attachment C.3</u>	N/A No <u>Yes</u>	Applicant needs to provide copies of DPR-523 forms for any new historic architectural resources identified in the new historic architecture survey.
Appendix B (g) (2) (C) (iv)	A map at a scale of 1:24,000 U.S. Geological Survey quadrangle depicting the locations of all previously known and newly identified cultural resources compiled through the research required by Appendix B (g)(2)(B) and Appendix B (g)(2)(C) (ii); and	archaeology and architecture map: <u>AFC Supplement, Attachment C.3</u>	No <u>Yes</u>	Applicant needs to provide a copy of the USGS 7.5' quadrangle map(s) of the literature search area, under confidential cover, depicting the locations of all known archaeological and architectural resources identified in the new literature search and all new architectural resources identified in the new historic architecture survey.

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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.	names/quals for archaeologists: <u>AFC Supplement, p.3</u>	No <u>Yes</u>	Applicant needs to add the name(s) and qualifications of person(s) doing the new literature search.
		names/quals for architectural historians: <u>AFC Supplement, Attachment C.3</u>	No <u>Yes</u>	Applicant needs to add the name(s) and qualifications of person(s) doing the new literature search and/or the new historic architecture survey.
Appendix B (g) (2) (D)	Provide a copy of your request to the Native American Heritage Commission (NAHC) for information on Native American sacred sites and lists of Native Americans interested in the project vicinity, and copies of any correspondence received from the NAHC. Notify the Native Americans on the NAHC list about the project, including a project description and map. Provide a copy of all correspondence sent to Native American individuals and groups listed by the NAHC and copies of all responses. Provide a written summary of any oral responses.	NAHC request: <u>AFC Supplement, Attachment C.4</u>	No <u>Yes</u>	Applicant needs to provide a copy of the letter sent to the NAHC requesting information.
		NAHC response: Vol. 2, App. 6.7-1, pt. 2, Att. A	Yes	
		letters sent to Native Americans: Vol. 2, App. 6.7-1, pt. 2, Att. B	Yes	
		responses from Native Americans: Vol. 2, App. 6.7-1, pt. 3, App. 6.7-2	No <u>Yes</u>	
	summary of oral responses from Native Americans:		N/A	An email exchange with one Native American was provided, but the report was unclear if this was the only response received. Applicant needs to report in AFC Section 6.7 all responses from Native Americans and provide a conclusion on information received from these sources.
Appendix B (g) (2) (E)	Include in the discussion of proposed mitigation measures required by subdivision (g)(1):	-	-	-
Appendix B (g) (2) (E) (i)	A discussion of measures proposed to mitigate project impacts to known cultural resources;	mitigation measures for known impacts: <u>AFC Supplement, Attachment C.3</u>	No <u>Yes</u>	Applicant needs to incorporate mitigation measures for impacts to the integrity of the setting of new historic architectural resources, if any are identified in the required new historic architecture survey.
Appendix B (g) (2) (E) (ii)	A set of contingency measures proposed to mitigate potential impacts to previously unknown cultural resources and any unanticipated impacts to known cultural resources; and	contingency mitigation measures: Vol. 1, pp. 6.7-13-6.7-14 Vol. 2, App. 6.7-1, pt. 3, p. 3	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: Cultural Resources

Project: Avenal Energy

Technical Staff: Beverly Bastian

Project Manager: Christopher Meyer

Docket: 08-AFC-1

Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (2) (E) (iii)	Educational programs to enhance employee awareness during construction and operation to protect cultural resources.	worker education: Vol. 1, 6.7-13; Vol. 2, App. 6.7-1, pt. 3, p. 3	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	tables identifying applicable LORS: Vol. 1, Table 6.7-1 explicitly referenced pages: Vol. 1, Table 6.7-1 discussion of applicability of LORS: Vol. 1, Table p. 6.7-1	Yes Yes 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: Vol. 1, Table p. 6.7-1	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.	official within each agency who will serve as a contact person for the agency: Vol. 1, Table p. 6.7-1	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.	schedule indicating when outside permits will be obtained: Vol. 1, p. 6.7-15	Yes	

Adequacy Issue: Adequate Inadequate
 Technical Area: Socioeconomics
 Project Manager: Christopher Meyer

DATA ADEQUACY WORKSHEET

Project: Avenal Energy
 Docket: 08-AFC-1

Revision No. 1 Date April 4, 2008
 Technical Staff: Joseph Diamond Ph. D.
 Technical Senior: Dale Edwards

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 6.10 Socioeconomics, p. 6.10-1. Section 6.10.1 Existing Conditions, pp. 6.1-2. Section 6.10.2 Impacts, pp. 6.10-15 to 32. Section 6.10.2.3 Cumulative Impacts, p. 6.10-32. Section 6.1.4 Cumulative Projects, p. 6-4. Table 6.1-1 Projects For Cumulative Impact Analysis, p. 6-5. Section 6.10.3 Mitigation Measures, p. 6.10-33. Section 6.10.2.2.10 Environmental Justice Screening Analysis, pp. 6.10-30 to 32.	Yes	
Appendix B (g) (7) (A)	A description of the socioeconomic circumstances of the vicinity and region affected by construction and operation of the project. Include:			
Appendix B (g) (7) (A) (i)	The economic characteristics, including the economic base, fiscal resources, and a list of the applicable local agencies with taxing powers and their most recent and projected revenues;	Section 6.10.1.2 Economy, pp. 6.10-5 to 8. Section 6.10.1.7 Fiscal Resources, pp. 6.10-13 to 15.	Yes	
Appendix B (g) (7) (A) (ii)	The social characteristics, including population and demographic and community trends;	Section 6.10.1.1 Population, pages 6.10-2 to 6.10-5.	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: Socioeconomics

Project: Avenal Energy

Technical Staff: Joseph Diamond Ph. D.

Project Manager: Christopher Meyer

Docket: 08-AFC-1

Technical Senior: Dale Edwards

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (A) (iii)	Existing unemployment rates;	Section 6.10.1.2 Economy, p. 6.10-7. Section 6.10.2.1.3 Employment and Economy, pp. 6.10-20&21. Table 6.10-6 2006 Employment Data For Kings and Adjacent Counties, p. 6.10-8.	Yes	
Appendix B (g) (7) (A) (iv)	Availability of skilled workers by craft required for construction and operation of the project;	Section 6.10.2.1.2 Population, p. 6.10-19. Table 6.10-12 Estimated Number of Construction Craft Workers In Year 2005, p. 6.10-20.	Yes	
Appendix B (g) (7) (A) (v)	Availability of temporary and permanent housing and current vacancy rate; and	Section 6.10.1.3 Housing, p. 6.10-8&9. Section 6.10.2.1.4 Housing, p. 6.10-22.	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: Socioeconomics

Project: Avenal Energy

Technical Staff: Joseph Diamond Ph. D.

Project Manager: Christopher Meyer

Docket: 08-AFC-1

Technical Senior: Dale Edwards

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (A) (vi)	Capacities, existing and expected use levels, and planned expansion of utilities (gas, water and waste) and public services, including fire protection, law enforcement, emergency response, medical facilities, other assessment districts, and school districts. For projects outside metropolitan areas with a population of 500,000 or more, information for each school district shall include current enrollment and yearly expected enrollment by grade level groupings, excluding project-related changes for the duration of the project schedule.	Section 6.10.1.4 Schools, p. 6.10-10. Section 6.10.1.5 Utilities, p. 6.10-11. Section 6.10.1.5.1 Electricity and Gas, p. 6.10-11. Section 6.10.1.5.2 Sewer, p. 6.10-11. Section 6.10.1.5.3 Water, p. 6.10-11. Section 6.10.1.5.4 Telephone, pp. 6.10-11&12. Section 6.10.1.6 Emergency and Other Services, p. 6.10-12. Section 6.10.1.6.2 Fire Protection, p. 6.10-12. Section 6.10.1.6.3 Hospitals, p. 6.10-13.	Yes	
Appendix B (g) (7) (B)	A discussion of the socioeconomic impacts caused by the construction and operation of the project (note year of estimate, model, if used, and appropriate sources), including:			
Appendix B (g) (7) (B) (i)	An estimate of the number of workers to be employed each month by craft during construction, and for operations, an estimate of the number of permanent operations workers during a year;	Table 6.10-11 Construction Staff By Month and Craft, p. 6.10-18. Section 6.10.2.2. Operations and Maintenance-Related Impacts, p. 6.10-24.	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: Socioeconomics

Project: Avenal Energy

Technical Staff: Joseph Diamond Ph. D.

Project Manager: Christopher Meyer

Docket: 08-AFC-1

Technical Senior: Dale Edwards

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (B) (ii)	An estimate of the percentage of non-local workers who will relocate to the project area to work on the project;	Section 6.10.1.1 Population, p. 6.10-2. Section 6.10.2 Impacts, p. 6.10-16. Section 6.10.2.1.2 Population, p. 6.10-19. Section 6.10.2.2.2 Population, p. 6.10-25. Section 6.10.2.2.4 Housing, p. 6.10-25.	Yes	
Appendix B (g) (7) (B) (iii)	An estimate of the potential population increase caused directly and indirectly by the project;	Section 6.10.2.1.2 Population, p. 6.10-19. Section 6.10.2.2.2 Population, p. 6.10-24. <u>AFC Supplement, Section 5.1, p. 5</u>	No <u>Yes</u>	Please provide an estimate of the potential population increase caused indirectly by the project.
Appendix B (g) (7) (B) (iv)	The potential impact of population increase on housing during the construction and operations phases;	Section 6.10.2.1.4 Housing, p. 6.10-22.	Yes	
Appendix B (g) (7) (B) (v)	The potential impacts, including additional costs, on utilities (gas, water, and waste) and public services, including fire, law enforcement, emergency response, medical facilities, other assessment districts, and school districts. Include response times to hospitals and for police, and emergency services. For projects outside metropolitan areas with a population of 500,000 or more, information on schools shall include project-related enrollment changes by grade level groupings and associated facility and staffing impacts by school district during the construction and operating phases;	Section 6.10.2.1.5 Schools, p. 6.10-22. Section 6.10.2.1.6 Utilities, p. 6.10-23. Section 6.10.2.1.7 Emergency and Other Services, p. 6.10-23. Section 6.10.2.2.5 Schools, pp. 6.10-25&26. Section 6.10.2.2.6 Utilities, p. 6.10-27. Section 6.10.2.2.7 Emergency and Other Services, p. 6.10-28.	Yes	
Appendix B (g) (7) (B) (vi)	An estimate of applicable school impact fees;	Section 6.10.2.2.5 Schools, School Impact Fees, p. 6.10-26.	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: **Socioeconomics**

Project: Avenal Energy

Technical Staff: Joseph Diamond Ph. D.

Project Manager: Christopher Meyer

Docket: 08-AFC-1

Technical Senior: Dale Edwards

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (7) (B) (vii)	An estimate of the total construction payroll and separate estimates of the total operation payroll for permanent and short-term (contract) operations employees;	Section 6.10.2.1.3 Employment and Economy, p. 6.10-21. Section 6.10.2.2.3 Employment and Economy, p. 6.10-25. <u>AFC Supplement, Section 5.2, p. 5, Estimates of Operations Payroll for Perm. And Short-Term Contract Employees</u>	No <u>Yes</u>	Please provide separate estimates of the total operation payroll for permanent and short term (contract) operation employees.
Appendix B (g) (7) (B) (viii)	An estimate of the expenditures for locally purchased materials for the construction and operation phases of the project;	Section 6.10.2.1.3 Employment and Economy, p. 6.10-21. Section 6.10.2.2.3 Employment and Economy, p. 6.10-25.	Yes	
Appendix B (g) (7) (B) (ix)	An estimate of the capital cost (plant and equipment) of the project;	Section 6.10.2.1.3 Employment and Economy, p. 6.10-21.	Yes	
Appendix B (g) (7) (B) (x)	An estimate of sales taxes generated during construction and separately during an operational year of the project;	Section 6.10.2.1.3 Employment and Economy, p. 6.10-23&24. Section 6.10.2.2.3 Employment and Economy, p. 6.10-25.	Yes	
Appendix B (g) (7) (B) (xi)	An estimate of property taxes generated during an operational year of the project; and	Section 6.10.2.2.5 Schools, p. 6.10-25.	Yes	
Appendix B (g) (7) (B) (xii)	The expected direct, indirect, and induced income and employment effects due to construction, operation, and maintenance of the project.	Section 6.10.2.1.3 Employment and Economy, pp. 6.10-20 to 22. Section 6.10.2.1.3 Employment and Economy, p. 6.10-25.	Yes	

Adequacy Issue: Adequate Inadequate
 Technical Area: Socioeconomics
 Project Manager: Christopher Meyer

DATA ADEQUACY WORKSHEET

Project: Avenal Energy
 Docket: 08-AFC-1

Revision No. 1 Date April 4, 2008
 Technical Staff: Joseph Diamond Ph. D.
 Technical Senior: Dale Edwards

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	Table 6.10-17 SOCIOECONOMIC LORS COMPLIANCE, p. 6.10-34.	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.	Same as above.	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.	<u>AFC Supplement, Section 5.3, p. 5</u> <u>AFC Supplement, Attachment S.1</u>	No <u>Yes</u>	Please provide 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.
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 6.10.3 Mitigation Measures, p. 6.10-33. Table 6.10-17. SOCIOECONOMIC LORS AND COMPLIANCE, p. 6.10-34.	N/A.	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2007

Technical Area: Transmission System Design

Project: Avenal Energy

Technical Staff: Ajoy Guha

Project Manager: Christopher Meyer

Docket: 08-AFC-1

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 1.2, p. 1-2. Sections 1.5.2 & 1.5.3, pp. 1-6 to 1-7.	Yes	
Appendix B (h) (2) (B)	A discussion of the extent to which the proposed electric transmission facilities have been designed, planned, and routed to meet the transmission requirements created by additional generating facilities planned by the applicant or any other entity.	Section 2.3.13, p. 2-29. Section 2.3.13.1, p. 2-30. Section 2.4, pp. 2-53 to 2-54. Figures 2.1-1B & 2.4-3.	Yes	
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 2.3.13, p. 2-29. Section 2.3.13.1, p. 2-30. Section 2.4, pp. 2-53 to 2-54. Figures 2.3-3, 2.3-6 & 2.4-4. <u>AFC Supplement, p. 6, and Attachments T.1 and T.2</u> <u>The post-project physical layout drawings of the PG&E Gates Substation will be addressed in a data request.</u>	No <u>Yes</u>	Provide one-line electrical diagrams of the pre and post-project PG&E 230 kV Gates substation showing the buses, breakers, disconnect switches and their respective ratings, along with the existing/proposed transmission outlets. Provide pre and post-project physical layout drawings of the PG&E Gates substation showing all major equipment and transmission outlets.
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 2.4.6, p. 2-55. Section 5.5, pp. 5-8 to 5-10. Figure 5.5-1.	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2007

Technical Area: Transmission System Design

Project: Avenal Energy

Technical Staff: Ajoy Guha

Project Manager: Christopher Meyer

Docket: 08-AFC-1

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 (CA ISO) and proof of payment. When not connecting to the California Independent System Operator controlled grid, provide the executed System Impact Study agreement and proof of payment to the interconnecting utility.</p> <p>If the interconnection and operation of the proposed project will likely impact an transmission system that is not controlled by the interconnecting utility (or California Independent System Operator), provide evidence of a System Impact Study or agreement and proof of payment (when applicable) with/to the impacted transmission owner or provide evidence that there are no system impacts requiring mitigation.</p>	<p>Section 2.4-5, p. 2-55.</p> <p><u>AFC Supplement, p. 6 and Attachment T.3</u></p>	No <u>Yes</u>	<p>Staff observes that the applicant has only signed a Feasibility Study agreement with the California Independent System Operator (California ISO). Staff also observes that the previous 2002 & 2003 System Impact Study (SIS) reports and 2003 Facility Study report are no longer valid and therefore, considered null & void due to the Avenal Energy Project's new interconnection queue position in 2007 and new 2012 expected commercial operation date.</p> <p>Please provide a new completed System Impact Study report based on projected system conditions of 2012 commercial operation date or a copy of the signed System Impact Study Agreement with the California ISO and proof of payment.</p>
Appendix B (i) (1) (A)	<p>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</p>	<p>Section 2.5, p. 2-56.</p> <p>Tables 2.5-1 to 2.5-4.</p>	Yes	

Adequacy Issue: Adequate Inadequate
 Technical Area: Transmission System Design
 Project Manager: Christopher Meyer

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2007
 Technical Staff: Ajoy Guha
 Technical Senior: Mark Hesters

Project: Avenal Energy
 Docket: 08-AFC-1

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 2.5, pp. 2-56. Table 2.5-5.	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.	Section 2.5, pp. 2-56. Table 2.5-1.	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 2.5, p. 2-56. Section 3.0, p. 3-1. Figure 3.0-1. <u>AFC Supplement, p. 6</u>	No <u>Yes</u>	Provide the expected date when the final Large Generator Interconnection Agreement would be executed with the California ISO.

Adequacy Issue: Adequate Inadequate
 Technical Area: Water Resources
 Project Manager: Christopher Meyer

DATA ADEQUACY WORKSHEET

Project: Avenal Energy
 Docket: 08-AFC-1

Revision No. 1 Date April 4, 2008
 Technical Staff: Casey Weaver
 Technical Senior: Paul Marshall

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (1)	...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.	Section 1.1, p. 1-2 Section 1.5, p. 1-3 Section 6.1.2, p. 6-2 Section 6.1.3, p. 6-3 Section 6.1.4, p. 6.4 pp. 6.5-2 to17	Yes	
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);	Section 2.3.7.8, p. 2-21 Section 6.5, p. 6.5-2 Section 6.5.2.2, p. 6.5-14	Yes	
Appendix B (g) (14) (A) (ii)	Construction and Industrial Waste Discharge and/or Industrial Pretreatment permits from wastewater treatment agencies;	Appendix 6.5-1.1 and 1.2	Yes	
Appendix B (g) (14) (A) (iii)	Nationwide Permits and/or Section 404 Permits from the U.S. Army Corps of Engineers; and	N/A		
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.	N/A		
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:	-----		

Adequacy Issue: Adequate Inadequate
 Technical Area: Water Resources
 Project Manager: Christopher Meyer

DATA ADEQUACY WORKSHEET

Project: Avenal Energy
 Docket: 08-AFC-1

Revision No. 1 Date April 4, 2008
 Technical Staff: Casey Weaver
 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) (i)	Ground water bodies and related geologic structures;	Section 6.5.1.3, p. 6.5-5 and 6.5-6 Appendix 6.5-2	Yes	
Appendix B (g) (14) (B) (ii)	Surface water bodies;	p.6.5-4 Appendix 6.5-1.2 Figure 6.5-1A <u>AFC Supplement Section 7.1, p. 6, Section 7.2, p. 7, Section 7.3, p.7, Section 7.4, p.7, Section 7.5, p. 7, Attachments W.1 and W.2</u>	No <u>Yes</u>	Surface water bodies in the project vicinity need to be identified on maps at a scale of 1:24,000 and a narrative discussion of the water bodies must be provided. Appendix 6.5.1.2 identifies an unnamed intermittent pond that receives storm flows but there is no map showing it or other text discussing it. San Luis Canal passes within 100 feet of the site's eastern boundary. A potable water treatment facility with "ponds" occurs adjacent to the northeast corner of the site. All three features (i.e., intermittent pond receiving storm flows, San Luis Canal, and ponds at water treatment facility) need to be shown on maps and discussed.
Appendix B (g) (14) (B) (iii)	Water inundation zones, such as the 100-year flood plain and tsunami run-up zones;	Section 6.3.1.5.3, p. 6.3-8 p. 6.5-5 <u>AFC Supplement Section 7.4, p.7, Attachment W.2.</u>	No <u>Yes</u>	The limits of inundation caused by the 100 year flood need to be identified on maps at a scale of 1:24,000 and a narrative discussion of the delineation relative to the project site must be provided.
Appendix B (g) (14) (B) (iv)	Flood control facilities (existing and proposed); and	Section 2.3.17.2 and 3, p. 2-44 <u>AFC Supplement Section 7.5, p.7, Attachment W.3.</u>	No <u>Yes</u>	Flood control facilities in the project vicinity need to be identified on maps at a scale of 1:24,000 and a narrative discussion of the flood control facilities must be provided.
Appendix B (g) (14) (B) (v)	Groundwater wells within ½ mile if the project will include pumping.	<u>AFC Supplement Section 7.6, p.7, Attachment W.4.</u>	No <u>Yes</u>	All groundwater wells located within ½ mile of the project need to be identified on maps at a scale of 1:24,000 and a narrative discussion of the groundwater wells must be provided.
Appendix B (g) (14) (C)	A description of the water to be used and discharged by the project. This information shall include:	_____		

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date April 4, 2008

Technical Area: Water Resources

Project: Avenal Energy

Technical Staff: Casey Weaver

Project Manager: Christopher Meyer

Docket: 08-AFC-1

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) (C) (i)	Source(s) of the primary and back-up water supplies and the rationale for their selection;	Section 1.5.5, p.1-7 Section 1.8.4, p. 1-12 Section 2.3.7.1, p. 2-16 Section 2.3.15.5, p. 2-40 Section 6.5, p.6.5-1 Section 6.5.1.1, p. 6.5-2 Section 6.5.2.2, p. 6.5-13 to 15	Yes	
Appendix B (g) (14) (C) (ii)	The expected physical and chemical characteristics of the source and discharge water(s) including identification of both organic and inorganic constituents before and after any project-related treatment. For source waters with seasonal variation, provide seasonal ranges of the expected physical and chemical characteristics. Provide copies of background material used to create this description (e.g., laboratory analysis);	Section 2.3.7.3, p. 2-18 p. 2-19 Table 2.3-2 p. 6.5-8 Table 6.5-3	Yes	
Appendix B (g) (14) (C) (iii)	Average and maximum daily and annual water demand and waste water discharge for both the construction and operation phases of the project;	Section 1.8.4, p. 1-11 p. 2-17 Table 2.3-1	Yes	
Appendix B (g) (14) (C) (iv)	A detailed description of all facilities to be used in water conveyance (from primary source to the power plant site), water treatment, and wastewater discharge. Include a water mass balance diagram;	Section 2.3.7.3, p. 2-18 Appendix 2-6 Appendix 2-8	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;	Appendix 6.5-3	Yes	
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);	<u>AFC Supplement Section 7.7, p.8, Attachment W.5.</u>	No <u>Yes</u>	<p>Provide documentation that demonstrates the farmer/landowner supplying the backup groundwater agrees to reducing his groundwater use for farming should the backup supply be needed for project consumption. In addition, provide documentation that the farmer/landowner is capable of meeting plant water use requirements and that the transfer of groundwater for the proposed use is allowed.</p> <p>For both items, please provide the information per the requirements of Appendix B (g) (14) (C) (vi).</p>
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	Table 2.3-5 Table 2.6-1 Appendix 2-8	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>	<p>Appendix 6.5-1.2</p> <p><u>AFC Supplement Section 7.8, p.8, Section 7.9, p.9, Attachment W.6.</u></p>	<p>No <u>Yes</u></p>	<p>The unsubmitted Notice of Intent form provided in the Appendix identifies an "unnamed intermittent pond" as the receiver of stormwater. Provide all information required in Siting Regulations Appendix B (g) (14) (C) (viii) that pertain to this pond that is identified as accepting wastewater from the project.</p> <p>In addition, disposal of sanitary waste is proposed to be accomplished using an on-site sewage disposal system. Provide system design and required permit for onsite sewage disposal.</p>
Appendix B (g) (14) (D)	<p>Identify all project elements associated with stormwater drainage, including a description of the following:</p>	<p>-----</p>		
Appendix B (g) (14) (D) (i)	<p>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;</p>	<p>Section 6.5.1.2, p. 6.5-4 Section 6.5.2.1, p. 6.5-11</p>	<p>Yes</p>	

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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;	Section 2.3.7.9, p. 2-21 Section 2.3.17, pp. 2-44 and 2-45 Section 6.5.2.1, p. 6.5-11 Appendix 2-1	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	p. 6.5-12 Section 6.5.2.2, p. 6.5-14	Yes	
Appendix B (g) (14) (D) (iv)	A copy of applicable regional and local requirements regulating the drainage systems, and a discussion of how the project's drainage design complies with these requirements.	p. 6.5-19 Table 6.5-5	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:	pp. 6.5-13 and 6.5-15 Section 6.5.2.4, p. 6.5-17 Section 6.5.5, p. 6.5-17	Yes	
Appendix B (g) (14) (E) (i)	The effects of project demand on the water supply and other users of this source, including, but not limited to, water availability for other uses during construction or after the power plant begins operation, consistency of the water use with applicable RWQCB basin plans or other applicable resource management plans, and any changes in the physical or chemical conditions of existing water supplies as a result of water use by the power plant;	p. 6.5-15 Section 6.5.2.4, p. 6.5-17	Yes	

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Appendix B (g) (14) (E) (ii)	If the project will pump groundwater, an estimation of aquifer drawdown based on a computer modeling study shall be conducted by a professional geologist and include the estimated drawdown on neighboring wells within 0.5 mile of the proposed well(s), any effects on the migration of groundwater contaminants, and the likelihood of any changes in existing physical or chemical conditions of groundwater resources shall be provided;	p. 6.5-16 <u>AFC Supplement Section 7.6 p.7, Section 7.10, p.9, Section 7.11, p. 9, Attachment W.4, Attachment W.7.</u>	No <u>Yes</u>	A map was provided that shows the locations of the three proposed backup water supply wells, but it does not show any other wells in the site vicinity. Provide a map that shows all wells within 1/2 mile of all wells considered for project water supply. For the wells considered to supply backup water, provide an aquifer drawdown estimate based on a computer modeling study conducted by a professional geologist. Provide a discussion regarding the potential for migration of groundwater contaminants and any changes in physical or chemical conditions of groundwater resources due to groundwater withdrawal.
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;	pp. 2-44 and 2-45 Appendix 2-1	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;"	N/A		

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Appendix B (g) (14) (v)	If using fresh water, include a discussion of the cumulative impacts, alternative water supply sources and alternative cooling technologies considered as part of the project design. Include an explanation of why alternative water supplies and alternative cooling are "environmentally undesirable," or "economically unsound;"	Section 2.3.7, p. 2-17 Section 2.3.15.5, p. 2-40 Section 5.4, pp. 5-7 to 5-8	Yes	
Appendix B (g) (14) (vi)	The effects of the project on the 100-year flood plain, flooding potential of adjacent lands or water bodies, or other water inundation zones; and	p. 6.5-5 <u>AFC Supplement Section 7.12, p.10, Attachment W.2.</u>	No <u>Yes</u>	Discuss the potential for site flooding resulting from failure of San Luis Canal levee. Provide a map showing the 100-year flood boundary and location of project site relative to the boundary.
Appendix B (g) (14) (vii)	All assumptions, evidence, references, and calculations used in the analysis to assess these effects.	p. 6.5-5 <u>AFC Supplement Section 7.13, p.10</u>	No <u>Yes</u>	Provide documentation including all assumptions, evidence, references, and calculations used in the analysis to assess the effects of the project on the 100-year flood plain, flooding potential of adjacent lands or water bodies, or other water inundation zones.
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	p. 2-57, Table 2.5-1 p. 6.5-19 and 6.5-20, Table 6.5-5	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.	p. 2-64, Table 2.5-5 p. 6.5-21, Table 6.5-6	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.	p. 2-64, Table 2.5-5 p. 6.5-21, Table 6.5-6	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 3.0, p.3.1, Figure 3.0-1 <u>AFC Supplement p.10, final paragraph</u>	No <u>Yes</u>	Provide an explanation of steps taken or plan to take to obtain permits that are outside the authority of the commission.