

Memorandum

Date: August 17, 2009
Telephone: (916) 654-4996

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

DOCKET	
08-AFC-8	
DATE	<u>8/17/2009</u>
RECD.	<u>8/25/2009</u>

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

Subject: HYDROGEN ENERGY CALIFORNIA, DATA ADEQUACY RECOMMENDATION (08-AFC-8)

On May 28, 2009, Hydrogen Energy International (HEI) submitted a revised Application for Certification (AFC) to the California Energy Commission to construct and operate an Integrated Gasification Combined Cycle (IGCC) power generating facility called Hydrogen Energy California (HECA). HEI is jointly owned by BP Alternative Energy North America Incorporated and Rio Tinto Hydrogen Energy, LLC. Previously HEI submitted an AFC to the Energy Commission, which proposed the project on a different site. HEI subsequently decided to move the project when it discovered the existence of previously undisclosed sensitive biological resources at the prior site. This revised AFC supersedes and replaces the July 31, 2008 AFC in its entirety.

The proposed HECA project would gasify petroleum coke (or blends of petroleum coke and coal, as needed) to produce hydrogen to fuel a combustion turbine operating in combined cycle mode. The hydrogen produced by the gasification block would fuel a 390 megawatt (MW) gross/250 MW net combined cycle power plant providing California with baseload power to the grid. The gasification block would also capture approximately 90 percent of the carbon from the raw syngas (the direct end of the gasification process) at steady-state operation, which will be transported to a custody transfer point within the Elk Hills oil field for CO² (carbon dioxide) enhanced oil recovery (EOR) and sequestration. Due to the complex gasification and sequestration (storage) process, there is a larger than usual parasitic load.

In addition, the project would include a 100 MW net output peaking natural gas-fired combustion generator that would provide power for plant startup, power the gasifier when the plant does not generate and provide peaking power to the grid. Essentially 350 MW (250 MW net baseload capacity plus 100 MW of simple cycle peaking power) would be available to the grid during high demand periods (e.g., summer months, etc.).

The proposed project would be located on a 473-acre site (currently used for agricultural production of alfalfa, cotton, and onions), and is comprised of two parcels (Part of Assessor's Parcel # 159-040-16 and 159-040-18, respectively). The project site would be located in western unincorporated Kern County, approximately 1.5 miles northwest of the unincorporated community of Tupman. It is bounded by Adohr Road on

the north, Tupman Road to the east, and the California State Water Project aqueduct to the south, and Dairy Road to the west. The Elk Hills oil field is located approximately 1 mile south of the project site.

If approved, construction of the project would begin in May 2011 with commissioning and initial startup occurring October 2014 through August 15, 2015, with full scale operation by September of 2015.

On July 15, 2009, the Energy Commission determined that the Hydrogen Energy California project 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 four of the 23 technical areas reviewed: air quality, biological resources, cultural resources, and transmission system design.

On July 13, 2009, HEI filed an AFC Data Adequacy Supplement to the AFC containing the required information for review. Staff has completed their review of the supplemental information and believes that the AFC now meets the listed requirements in all four of the previously deficient technical disciplines, and believes the project is data adequate with the filing of the AFC Supplement. Attached is a summary table and data adequacy worksheets for the four technical disciplines previously determined to be data inadequate, reflecting that the supplemental information submitted by HEI achieves data adequacy.

At the Energy Commission's August 26, 2009 Business Meeting, I will recommend Commission approval of the Executive Director's data adequacy recommendation and the appointment of a Siting Committee to oversee the Hydrogen Energy California Project. If you have any questions, please call Rod Jones, staff's Project Manager, at (916) 654-5191.

Attachments

ATTACHMENT A
Overview of Energy Commission Staff's
Data Adequacy Determination
Hydrogen Energy California
08-AFC-8

Technical Area	Attachment B Page No.	Adequate
AIR QUALITY	5	YES
BIOLOGICAL RESOURCES	13	YES
CULTURAL RESOURCES	25	YES
TRANSMISSION SYSTEM DESIGN	33	YES

ATTACHMENT B

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

**HYDROGEN ENERGY CALIFORNIA
08-AFC-08**

August 17, 2009

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date: July 31, 2009

Technical Area: Air Quality

Project: Hydrogen Energy California Project

Technical Staff: Will Walters

Project Manager: Rod Jones

Docket: 08-AFC-8

Technical Senior: Matthew 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 5.1, p. 5.1-1 <u>Supplement to the Revised AFC, Appendix A1, p. 1</u>	No <u>Yes</u>	Please provide the mitigation measures proposed to mitigate adverse environmental impacts from project construction.
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 5.1, p.5.1-1 <u>Responses to SJVAPCD Notice of Incomplete Application</u> <u>SJVAPCD Completeness Letter dated 8/4/09</u>	No <u>Yes</u>	Please submit an application for authority to construction and permit to operate to the San Joaquin Valley Air Pollution Control District and provide a completeness letter for the application from the District.
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.	Tables 2-4, p. 2-12 Tables 2-5, p. 2-13 Tables 2-6, p. 2-13 Tables 2-7, p. 2-15 Tables 2-9, p. 2-18 Appendix D <u>Supplement to the Revised AFC, Appendix A1, p. 2,3</u>	No <u>Yes</u>	Please provide the heating value and chemical characteristics of the hydrogen rich fuel. Please provide the heat rate for the 7FB gas turbine using all applicable fuels/combinations of fuel and with and without duct firing. Please provide the heat rate for the LMS100 gas turbine.

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Appendix B (g) (8) (C)	A description of the control technologies proposed to limit the emission of criteria pollutants.	Appendix D Tables 5.1-45, pp. 5.1-84 to -86 <u>Supplement to the Revised AFC, Appendix A1, p. 3,4</u>	No <u>Yes</u>	Please provide a description of the proposed control technologies to limit the fuel delivery (truck and train) emissions.
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 2.4.7 pp. 2-43,44	Yes	
Appendix B (g) (8) (E)	The emission rates of criteria pollutants and greenhouse gases (CO ₂ , CH ₄ , N ₂ O, and SF ₆) from the stack, cooling towers, fuels and materials handling processes, delivery and storage systems, and from all on-site secondary emission sources.	Tables 5.1-20, p. 5.1-32 Section 5.1.2.2.2 pp. 5.1-43 to -52 Appendix D.1.2 <u>Supplement to the Revised AFC, Appendix A2</u>	No <u>Yes</u>	Please provide an SF6 emissions estimate for the project.
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.	Tables 5.1-11, p. 5.1-19 Tables 5.1-12, p. 5.1-20 Tables 5.1-13, p. 5.1-21 Tables 5.1-14, p. 5.1-23 Tables 5.1-15, p. 5.1-24 Tables 5.1-17, p. 5.1-26 Tables 5.1-18, p. 5.1-27 Tables 5.1-19, p. 5.1-28	Yes	

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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 2.5.4 pp. 2-66 to -68 Section 5.1.2.2.1 pp. 5.1-35 to -43 Tables 5.1-21, pp. 5.1-37,38 Tables 5.1-22, pp. 5.1-40,41 Tables 5.1-23, p. 5.1-42 <u>Supplement to the Revised AFC, Appendix A1, p. 4; Appendix A3</u>	No <u>Yes</u>	Please provide a description of the planned initial commissioning phase for the gasification block, including the ASU and the balance of plant. This description needs to include the types and durations of equipment tests, criteria pollutant emissions, and monitoring techniques to be used during such tests.
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 5.1.1.2 pp. 5.1-7 to -13 Tables 5.1-3, p. 5.1-9 Tables 5.1-4, p. 5.1-10 Tables 5.1-5, p. 5.1-10 Tables 5.1-6, p. 5.1-11 Tables 5.1-7, p. 5.1-12 Tables 5.1-8, p. 5.1-12	Yes	
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.	Included on DVD	Yes	

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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.		N/A	
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 5.1.2.3, pp. 5.1-54,55 Included on DVD	Yes	
Appendix B (g) (8) (I)	An evaluation of the project's direct and cumulative air quality impacts, consisting of the following:			

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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 (PM10) emissions from grading, excavation and site disturbance, as well as the combustion emissions [nitrogen oxides (NOx), sulfur dioxide (SO ₂), carbon monoxide (CO), and particulate matter less than 10 microns in diameter (PM10) and particulate matter less than 2.5 microns in diameter (PM2.5)] from construction-related equipment;	Section 5.1.2.4 pp. 5.1-61 to -63 Included on DVD	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 (NOx, SO ₂ , CO, PM10, and PM2.5) 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;	Sections 5.1.2.3 and 5.1.2.4 pp. 5.1-52 to -70 Appendix D Included on DVD	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 5.1.3 p. 5.1-70 Appendix J	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, PM10, and PM2.5.	Section 5.1.2.4 pp. 5.1-66,67 Appendix D Included on DVD	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:			
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	Section 5.1.4 p. 5.1-70 Appendix T	Yes	

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Appendix B (g) (8) (J) (ii)	Potential offset sources, including location, and quantity of emission reductions;	Appendix T	Yes	
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.		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	Table 5.1.40 pp. 5.1-72 to -76	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 5.1.6, p. 5.1-89 Table 5.1-46, p. 5.1-90	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.	Table 5.1-46 p. 5.1-90	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 5.1-7, p. 5.1-90	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.	<p>Existing site conditions: Section 5.2.1, p. 5.2-8</p> <p><u>Revised AFC Supplement, App B1, p. 1</u></p> <p>Direct, indirect, and cumulative impacts: Section 5.2.2, p. 5.2-43 Section 5.2.3, p. 5.2-56</p> <p>Mitigation measures: Section 5.2.4, p. 5.2-57</p> <p>Monitoring plans: Section 5.2.4.2 p. 5.2-67</p>	<p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>Please provide a description of existing habitats and vegetation communities within the Biological Resources Study Area.</p>

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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: Section 5.2.1, p. 5.2-8 Table 5.2-4, p. 5.2-9 <u>Revised AFC Supplement, App B1, p. 1-3</u> Map of sensitive resources: Figure 5.2-3 Figure 5.2-4 Map of regional HCP boundaries or designated open space: Table 5.2-4, Figure 5.2-1	No Yes Yes Yes	Please provide a regional overview of terrestrial and aquatic biological resources within 10 miles of the project area. A description of common and sensitive plant communities and wildlife within the region is also needed.
Appendix B (g) (13) (A) (i)	species listed under state or federal Endangered Species Acts;	Federal and state Endangered Species: Section 5.2.1.4, p. 5.2-13 Table 5.2-6, p. 5.2-15 Table 5.2-7, p. 5.2-21	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: Section 5.2.1.4, p. 5.2-13 Table 5.2-6, p. 5.2-15 Table 5.2-7, p. 5.2-21	Yes	

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Appendix B (g) (13) (A) (iii)	species identified as state Fully Protected;	State Fully Protected species: Section 5.2.1.4, p. 5.2-13 Table 5.2-6, p. 5.2-15 Table 5.2-7, p. 5.2-21	Yes	
Appendix B (g) (13) (A) (iv)	species covered by Migratory Bird Treaty Act;	Migratory Bird Act species: Section 5.2.1.4, p. 5.2-13 Table 5.2-7, p. 5.2-21	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: Section 5.2.1.4, p. 5.2-13 Table 5.2-6, p. 5.2-15 Table 5.2-7, p. 5.2-21 Figure 5.2-3 Figure 5.2-4	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: None expected to be present	Yes	
Appendix B (g) (13) (B)	Include a list of the species actually observed and those with a potential to occur within 1 mile of the project site and 1,000 feet from the outer edge of linear facility corridors. Maps or aerial photographs shall include the following:	List of species observed: Table 5.2-2, p. 5.2-4 Table 5.2-3, p. 5.2-6 Table 5.2-6, p. 5.2-15 Table 5.2-7, p. 5.2-21	Yes	

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Appendix B (g) (13) (B) (i)	Detailed maps at a scale of 1:6,000 or color aerial photographs taken at a recommended scale of 1 inch equals 500 feet (1:6,000) with a 30 percent overlap that show the proposed project site and related facilities, biological resources including, but not limited to, those found during project-related field surveys and in records from the California Natural Diversity Database, and the associated areas where biological surveys were conducted. Label the biological resources and survey areas as well as the project facilities;	Map of proposed project site and linears: Figure 5.2-3 Figure 5.2-4 Map of biological resources from field surveys: <u>Revised AFC Supplement, App B1, Figs. 1-16</u>	Yes No Yes	Please provide figures as a scale of 1:6,000 showing the location of biological resources detected during the project related field surveys, including all plant communities within the study area and sightings of sensitive species listed in Tables 5.2-6 and 5.2-7 (Hoover eriastrum, western spadefoot toad, blunt nosed leopard lizard, burrowing owl, loggerhead shrike, California horned lark, Neleson's antelope ground squirrel, San Joaquin kit fox, American Badger)
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	

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Appendix B (g) (13) (B) (iii)	An aerial photo or wetlands delineation maps at a scale of (1:2,400) showing any potential jurisdictional and non-jurisdictional wetlands delineated out to 250 feet from the edge of disturbance if wetlands occur within 250 feet of the project site and/or related facilities that would be included with the US Army Corps of Engineers (USACE) Section 404 Permit application. For projects proposed to be located within the coastal zone, also provide aerial photographs or maps as described above that identify wetlands as defined by the Coastal Act.	Potential jurisdictional or non-jurisdictional wetlands map: Figure 5.2-2 Coastal zone wetlands map: Not applicable	Yes N/A	
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: <u>Revised AFC Supplement, App B1, p.1-3</u>	No <u>Yes</u>	Please provide a discussion of biological resources at the project site and related facilities, including a description of vegetation communities and habitat features important to sensitive species potentially occurring within the study area.
Appendix B (g) (13) (C) (i)	A list of all the species actually observed;	List of species observed: Table 5.2-2, p. 5.2-4 Table 5.2-3, p. 5.2-6	Yes	

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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: Table 5.2-6, p. 5.2-15 and Table 5.2-7, p. 5.2-21	Yes	
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.	Intake structure characteristics: Not applicable Thermal plume description: Not applicable Aquatic habitat and biological resources affected: Not applicable Impingement and entrainment analysis: Not applicable	N/A N/A N/A N/A	

Adequacy Issue: Adequate Inadequate

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Revision No. 1 Date: July 31, 2009

Technical Area: Biological Resources

Project: Hydrogen Energy California Project

Technical Staff: Susan Sanders

Project Manager: Rod Jones

Docket: 08-AFC-8

Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (13) (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 5.2.2, p. 5.2-43	No	Please provide results of blunt-nosed leopard lizard surveys conducted Aug 1—Sept 15 2008 and results or an interim status report on Apr 15—Jul 15, 2009 blunt-nosed leopard lizard surveys.
		<u>Revised AFC Supplement, App B2, p.1-5</u>	Yes	
		Field survey forms: Appendix G	No	Please provide CNDDDB field survey forms for all sensitive species observed during the field surveys, including those listed in Tables 5.2-6 and 5.2-7.
		<u>Revised AFC Supplement, App B3</u>	Yes	
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;	Qualifications of biologists: Appendix G	No	Please provide resumes for biologists Jessica Birnbaum, Alex Brown, David Compton, Ronald Cummings, Kate Eldredge, and Julian Valenzuela.
		<u>Revised AFC Supplement, App B4</u>	Yes	
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: Table 5.2-1, p. 5.2-3 Appendix G	No	Please provide results of blunt-nosed leopard lizard surveys conducted from Aug 1—Sept 15 2008 (p. 5.2-46) and results or an interim status report on blunt-nosed leopard lizard surveys conducted from Apr 15—Jul 15, 2009.
		<u>Revised AFC Supplement, App B1, p. 3</u> <u>App B2, p.1-5</u>	Yes	

Adequacy Issue: Adequate Inadequate

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Appendix B (g) (13) (D) (ii)	If cooling water is proposed to be taken directly from or discharged to a surface water feature source, seasonal aquatic resource studies and surveys shall be conducted. Aquatic resource survey data shall include, but is not limited to, fish trawls, ichthyoplankton and benthic sampling, and related temperature and water quality samples. For new projects or repower projects anticipating a change in cooling water flows, sampling protocols shall be provided to the Energy Commission staff for review and concurrence prior to the start of sampling. For repower projects not anticipating a change in cooling water flows, this information shall be provided in the form of the most recent federal Clean Water Act 316(b) impingement and entrainment impact study completed within five (5) years of the AFC filing date; and	Aquatic resource studies and surveys: Not applicable Aquatic resource survey data or impingement and entrainment impact study: Not applicable	N/A N/A	
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.	Impacts to jurisdictional or non-jurisdictional wetlands: Section 5.2.1.3, p. 5.2-10	Yes	

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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 5.2.2, p. 5.2-43 Air emission impacts on sensitive species: Section 5.2.2.-9, p. 5.2-55	Yes Yes	
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	

Adequacy Issue: Adequate Inadequate

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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) (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: Section 5.2.4, p. 5.2-57 Table 5.2-7, p. 5.2-57	Yes	
Appendix B (g) (13) (F) (ii)	All off-site habitat mitigation and habitat improvement or compensation, and an identification of contacts for compensation habitat and management;	Compensatory mitigation: Section 5.2.4.3 p. 5.2-68 <u>Revised AFC Supplement, App B1, p. 4</u>	No <u>Yes</u>	Please provide a list of contacts indicating efforts to identify and secure lands for habitat compensation.
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: Section 5.2.4.2, p. 5.2-57	Yes	

Adequacy Issue: Adequate Inadequate

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Project: Hydrogen Energy California Project

Technical Staff: Susan Sanders

Project Manager: Rod Jones

Docket: 08-AFC-8

Technical Senior: Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (13) (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: Section 5.2.4.2, p. 5.2-67	Yes	
Appendix B (g) (13) (H)	Submit copies of any preliminary correspondence between the project applicant and state and federal resource agencies regarding whether federal or state permits from other agencies such as the U. S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Game (CDFG), and the Regional Water Quality Control Board (RWQCB) will be required for the proposed project.	Contact with state and federal agencies regarding permits: Section 5.2.6 pg 5.2-62 to 5.2-63 Table 5.2-9 pg 5.2-63	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	LORS Table: Section 5.2.5, p. 5.2-69 and Table 5.2-8, p. 5.2-69	Yes	

Adequacy Issue: Adequate Inadequate

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Project: Hydrogen Energy California Project

Technical Staff: Susan Sanders

Project Manager: Rod Jones

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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 (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.	LORS Table: Section 5.2.6, P. 5.2-75	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 contacts and contact information: Section 5.2.6, P. 5.2-75	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: Section 5.2.7, P. 5.2-75	Yes	

Adequacy Issue: Adequate Inadequate

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Technical Staff: Amanda Blosser

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (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. 5.3-3—5.3-4 impacts due to project: Vol. 1, pp. 5.3-47—5.3-49 mitigation measures to known impacts: Vol. 1, pp. 5.3-50—5.3-54 effectiveness of the proposed measures any monitoring plans proposed to verify the effectiveness of the mitigation	Yes Yes Yes N/A N/A	
Appendix B (g) (2) (A)	A summary of the ethnology, prehistory, and history of the region with emphasis on the area within no more than a 5-mile radius of the project location.	Summary of the ethnology, prehistory, and history: Vol. 1, pp. 5.3-4—5.3-18	Yes	

Adequacy Issue: Adequate Inadequate

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (g) (2) (B)	<p>The results of a literature search to identify cultural resources within an area not less than a 1-mile radius around the project site and not less than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum. Literature searches to identify the above cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.</p> <p>Copies of California Department of Parks and Recreation (DPR) 523 forms (Title 14 CCR §4853) shall be provided for all cultural resources (ethnographic, architectural, historical, and archaeological) identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines, (36CFR60.4(g)). A copy of the USGS 7.5' quadrangle map of the literature search area delineating the areas of all past surveys and noting the California Historical Resources Information System (CHRIS) identifying number shall be provided. Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavations or architectural surveys within the literature search area.</p>	<p>Literature searches: Vol. 1, pp. 5.3-18—5.3-25</p> <p>Cultural resources listed under a city and county ordinance</p> <p>Cultural resources recognized by local societies</p> <p>Names/quals for lit searchers/directors</p> <p><u>Supp. to Revised AFC, App. C</u></p> <p>DPR523s for known resources: Vol. 2, App. H4, App. B, Vol. 2, App. H3, App. C.</p> <p>Map of lit search area with past surveys and CHRIS #: Vol. 2, App. H3, Figure 1-7</p> <p>CHRIS reports: Vol. 2, App. H3</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	<p>The applicant states the searchers/directors meet the qualifications but need to provide resumes for each searcher/director to demonstrate they meet the qualifications.</p>

Adequacy Issue: Adequate Inadequate

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Appendix B (g) (2) (C)	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.	Names/quals for archaeological surveyors or directors	No	The qualifications for the principal investigators and directors are stated to meet the <i>Secretary of the Interior's Standards</i> but resumes are not provided. Please provide resumes for each of the archaeological surveyors and directors.	
		<u>Supp. to Revised AFC, App. C</u>	Yes		
	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.	Names/quals for historical architecture surveyors or directors	No		See above.
		<u>Supp. to Revised AFC, App. C</u>	Yes		
	Survey coverage, archaeology: Vol. 2, App. H3, Fig. 1	Yes			
	Survey coverage, architecture: Vol. 2, App. H4, App. A, Fig. 1	Yes			

Adequacy Issue: Adequate Inadequate

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Appendix B (g) (2) (C) cont.	<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>Information included in the technical report shall also be provided in the Application for Certification, except that confidential information (archaeological sites or areas of religious significance) shall be submitted under a request for confidentiality pursuant to Title 20, California Code of Regulations, § 2501 et seq. At a minimum, the technical report shall include the following:</p>	<p>Tech report for new archaeological survey: Vol. 2, App. H3</p> <p>Technical report for new architectural survey: Vol. 2, App. H4</p> <p>[Vol. 15.3-i-5.36]</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p>	
Appendix B (g) (2) (C) (i)	The summary from Appendix B (g)(2)(A) and the literature search results from Appendix B (g)(2)(B);	<p>Summary: Vol. 2, App. H3, pp. H3-12-H3-</p> <p>Literature search results: Vol. 2, App. H3, pp. 2-8—2-22</p>	<p>Yes</p> <p>Yes</p>	

Adequacy Issue: Adequate Inadequate

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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 methodology: Vol. 2, p. 5.3-H34-H37	Yes	
		Historical architecture methodology: Vol. 2, p. H4-4	Yes	
Appendix B (g) (2) (C) (iii)	Copies of all new and updated DPR 523(A) forms. If a cultural resource may be impacted by the project, also include the appropriate DPR 523 detail form for each such resource;	Archaeological forms: Vol. 2, App. H, App. A	Yes	
		Architecture forms: Vol. 2, App. H, App. H	Yes	
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: Vol. 2, App. H3, Fig. 1-7.	No <u>Yes</u>	
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: Supp. To Revised AFC, App. C	Yes	The qualifications for the principal investigators and directors are stated to meet the Secretary of the Interior's Standards but resumes are not provided. Please provide resumes for each of the archaeological surveyors and directors.
		Names/quals for architectural historians: Supp. To Revised AFC, App. C	Yes	See above.

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Appendix B (g) (2) (D)	Provide a copy of your request to the Native American Heritage Commission (NAHC) for information on Native American sacred sites and lists of Native Americans interested in the project vicinity, and copies of any correspondence received from the NAHC. Notify the Native Americans on the NAHC list about the project, including a project description and map. Provide a copy of all correspondence sent to Native American individuals and groups listed by the NAHC and copies of all responses. Provide a written summary of any oral responses.	<p>NAHC request: Vol. 2, App. B.</p> <p>NAHC response: Vol. 2, App. B</p> <p>Letters sent to Native Americans: Vol. 2. App. B</p> <p>Native American consultation: Vol. 2, App. B</p> <p>Summary of oral responses from Native Americans: Vol. 1, Table 5.3-3</p>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>	
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:	Yes	.
Appendix B (g) (2) (E) (ii)	A set of contingency measures proposed to mitigate potential impacts to previously unknown cultural resources and any unanticipated impacts to known cultural resources; and	Contingency mitigation measures: Vol. 1, pp. 5.3-50—5.3-54	Yes	

Adequacy Issue: Adequate Inadequate

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Appendix B (g) (2) (E) (iii)	Educational programs to enhance employee awareness during construction and operation to protect cultural resources.	Worker education programs: Vol. 1, pp. 5.3-53;	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 5.3-5, Explicitly referenced pages: Vol. 1, Table 5.3-6, Discussion of applicability of LORS: Vol. 1, Table 5.3-6	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 5.3-6,	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.	Official within each agency who will serve as a contact person for the agency: Vol. 1, Table 5.3-6.	Yes	

Adequacy Issue: Adequate Inadequate

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (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. 5.3-58	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date: July 31, 2009

Technical Area: Transmission System Design

Project: Hydrogen Energy California Project

Technical Staff: Sudath Arachchige

Project Manager: Rod Jones

Docket: 08-AFC-8

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 2.1 Project description Pages 2-1 to 2-4 Section 2.1.9.1 Electricity and Transmission Line Section 2.3.4 Major Electrical Equipment and System Figure 2-19 to 2-22 Electrical one line diagram Appendix A- Transmission Network Upgrade Appendix B4- Electrical Engineering Design Criteria	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date: July 31, 2009

Technical Area: Transmission System Design

Project: Hydrogen Energy California Project

Technical Staff: Sudath Arachchige

Project Manager: Rod Jones

Docket: 08-AFC-8

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) (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 2.1 Project description Pages 2-1 to 2-4 Section 2.1.9.1 Electricity and Transmission line Section 2.3.4 Major Electrical Equipment and System Figure 2-19 to 2-22 Electrical one line diagram Section 4.1 to 4.8 Route, Structure , Conductor and Insulator selection Figure 4.2-1,4.3-1,4.3.2 230kV Transmission Line Routing details and 230kV Transmission Line Structures	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date: July 31, 2009

Technical Area: Transmission System Design

Project: Hydrogen Energy California Project

Technical Staff: Sudath Arachchige

Project Manager: Rod Jones

Docket: 08-AFC-8

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 2.1 Project description Pages 2-1 to 2-4 <u>Data response submitted to CEC in June 2009</u> Section 2.1.9.1 Electricity and Transmission Line Section 2.3.4 Major Electrical Equipment and System Figure 2-19 to 2-22 Electrical One line diagram Appendix B4- Electrical Engineering Design Criteria	No Yes	<ol style="list-style-type: none"> 1. Provide a one-line diagram for the existing PG&E Midway Substation after the 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. 2. Provide conductor type and the current carrying capacity of the proposed 230kV N#1 and N#2 transmission lines which utilized to interconnect the plant to the PG&E Midway substation.
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.	Figure 2-19 to 2-22 Electrical one line diagram Section 4.1 to 4.8 Route, Structure , Conductor and Insulator selection Figure 4-1,4-2,4-3 230kV Transmission Line routing details and 230kV Transmission Line Structures	Yes	

Adequacy Issue: Adequate Inadequate

DATA ADEQUACY WORKSHEET

Revision No. 1 Date: July 31, 2009

Technical Area: Transmission System Design

Project: Hydrogen Energy California Project

Technical Staff: Sudath Arachchige

Project Manager: Rod Jones

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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (b) (2) (E)	<p>A completed System Impact Study or signed System Impact Study Agreement with the California Independent System Operator and proof of payment. When not connecting to the California Independent System Operator controlled grid, provide the executed System Impact Study agreement and proof of payment to the interconnecting utility.</p> <p>If the interconnection and operation of the proposed project will likely impact an transmission system that is not controlled by the interconnecting utility (or California Independent System Operator), provide evidence of a System Impact Study or agreement and proof of payment (when applicable) with/to the impacted transmission owner or provide evidence that there are no system impacts requiring mitigation.</p>	<p>Appendix A</p> <p><u>Data response submitted to CEC on June 2009</u></p>	<p>No</p> <p><u>Yes</u></p>	<p>Provide System Impact 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:</p> <p>a. Identify major assumptions in the base cases including imports to the system, major generation and load changes in the system and queue generation.</p> <p>b. Analyze system for N-0, important N-1 and critical N-2 contingency conditions and provide a list of criteria violations in a table showing the loadings before and after adding the new generation.</p> <p>Analyze the PG&E system for Short Circuit currents with and without the Hydrogen Energy Plant at strategic buses for three-phase and single line to ground faults. Submit the following along with a summary of the results.</p> <p>c. Analyze system for Transient Stability and Post-transient voltage conditions under critical N-1 and N-2 contingencies, and provide related plots, switching data and a list for voltage violations in the studies. Provide a list of contingencies evaluated for each study.</p>

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Appendix B (b) (2) (E) (cont.)				<p>d. List mitigation measures considered (required) and those selected (optional- Data Requests will follow) for all criteria violations.</p> <p>e. Provide electronic copies of *.sav and *.drw PSLF files.</p> <p>f. Provide power flow diagrams (MW, % loading & P. U. voltage) for base cases with and without the project. Power flow diagrams must also be provided for all N-0, N-1 and N-2 studies where overloads or voltage violations appear.</p> <p>Or</p> <p>Please provide a signed System Impact Study Agreement with the California Independent System</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	Section 4.12 Pages 4.14 and 4.17	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.	Table 4-12,4-13,4-14,4-15,4-16 and 4-17 Pages 4-14 to 4-17	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 4-18 Page 4-18	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	