State Of California

The Resources Agency of California

Memorandum

DOCKET
06-AFC-7
DATE NOV 3 2006
RECD. NOV 3 2006

Date: November 3, 2006
Telephone: (916) 654-4996

To: Jackalyne Pfannenstiel, Chairman
James D. Boyd, Vice Chair
Arthur H. Rosenfeld, Ph.D., Commissioner
John L. Geesman, Commissioner
Jeffrey Byron, Commissioner

From: California Energy Commission – B. B. Blevins
1516 Ninth Street Executive Director
Sacramento, CA 95814-5512

Subject: **HUMBOLDT BAY REPOWERING PROJECT, REVISED DATA ADEQUACY RECOMMENDATION (06-AFC-7)**

Staff's October 26, 2006 initial data adequacy review of the Humboldt Bay Repowering Project 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 2 of 23 areas: Socioeconomics and Transmission System Engineering. Subsequent to publishing our October 26, 2006 recommendation that the Commission deem the AFC data inadequate, PG&E provided an AFC Supplement on November 3, 2006. Staff has reviewed the supplemental information and believes the AFC now meets the above-listed requirements in all 23 technical disciplines.

Attached is a summary table and revised data adequacy worksheets for the two technical disciplines previously determined to be data inadequate, reflecting that the supplemental information submitted by Pacific Gas and Electric Company (PG&E) achieves AFC data adequacy.

On September 29, 2006, PG&E submitted an Application for Certification (AFC) for the proposed Humboldt Bay Repowering Project (HBRP) near Eureka, California. The HBRP will be a load following plant consisting of ten (10) natural gas-fired Wärtsilä 16.3 megawatt (MW) reciprocating engine-generator sets and associated equipment with a combined nominal capacity of 163 MW. The HBRP will also be capable of running on California Air Resources Board (CARB) - certified diesel fuel in order to ensure local area reliability in the event of natural gas curtailments, which occur fairly often during winter in the Eureka area. This project is a repowering of the existing Units 1 and 2, which have a combined capacity of 105 MW, and the two 15 MW Mobile Emergency Power Plants at PG&E's Humboldt Bay Power Plant. By use of a closed-loop cooling system, HBRP would limit its demand for combined industrial and potable water use to approximately 2.9 acre-feet/year. The generators would connect to the existing switchyard via two 60-kV tie lines and one 115-kV tie line.

At the Energy Commission's Business Meeting on November 8, 2006, I will now recommend that the Energy Commission accept the Humboldt Bay Repowering Project AFC with the supplemental information as data adequate, and request that a Committee be appointed.

If you have any questions, please call John S. Kessler, staff's Project Manager, at (916) 654-4679.

Attachments

ATTACHMENT A
OVERVIEW OF ENERGY COMMISSION STAFF'S
DATA ADEQUACY DETERMINATION
HUMBOLDT BAY REPOWERING PROJECT
06-AFC-7

TECHNICAL AREA	ATTACHMENT B PAGE NO	ADEQUATE ?
SOCIOECONOMICS.....	4	YES
TRANSMISSION SYSTEM ENGINEERING.....	10	YES

ATTACHMENT B

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

HUMBOLDT BAY REPOWERING PROJECT
06-AFC-7

November 3, 2006

Adequacy Issue: Adequate x Inadequate ___ **DATA ADEQUACY WORKSHEET** Revision No. 1 Date November 3, 2006

Technical Area: **Socioeconomics** Project: Humboldt Bay Repowering Project Technical Staff: Joseph Diamond Ph. D.

Project Manager: John Kessler Docket: 06-AFC-7 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 8.10.1 Affected Environment, pages 8.10-1 and 2. Section 8.10.2.2 Construction Impacts, pages 8.10-15 to 17. Section 8.10.2.2.4 Impacts to the Local Economy and Employment, pages 8.10-17&18. Section 8.10.2.3.1 Operational Workforce, page 8.10-19. Section 8.10.2.3.4 Impacts to the Local Economy and Employment, pages 8.10-19&20. Section 8.10.3 Cumulative Impacts, page 8.10-22. Section 8.10.4 Mitigation Measures, page 8.10-22. Section 8.10.7 Permits and Permitting Schedule, Page 8.10-24. Supplement In Response to Data Adequacy Review of the AFC, November 2006, Section 8.10 Socioeconomics, page DA-9.	~~No~~ Yes	~~1. Please indicate the year for all economic estimates.~~
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:	—	—	

Adequacy Issue: Adequate x Inadequate ___ **DATA ADEQUACY WORKSHEET** Revision No. 1 Date November 3, 2006

Technical Area: **Socioeconomics** Project: Humboldt Bay Repowering Project Technical Staff: Joseph Diamond Ph. D.

Project Manager: John Kessler Docket: 06-AFC-7 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) (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 8.10.1.4 Economy and Employment, pages 8.10-9 to 11. Section 8.10.1.5 Fiscal Resources, pages 8.10-11 to 8.10-12.	Yes	
Appendix B (g) (7) (A) (ii)	The social characteristics, including population and demographic and community trends;	Section 8.10.1.1 Population, pages 8.10-1&2. Section 8.10.1.2 Minority and Low Income Populations, page 8.10-3. Section 8.10.1.2.1 Minority Populations, pages 10-3 and 4. Section 8.10.1.2.2 Low Income Populations, page 8.10-4. Figure 8.10-1 Minority Populations Within 6 Miles of HBRP. Figure 8.10-2 Poverty Populations Within 6 Miles of HBRP.	Yes	
Appendix B (g) (7) (A) (iii)	Existing and projected unemployment rates;	Section 8.10.1.4 Economy and Employment, pages 8.10-9 to 11.	Yes	
Appendix B (g) (7) (A) (iv)	Availability of skilled workers by craft required for construction and operation of the project;	Section 8.10.2.2 Construction Impacts, pages 8.10-15 to 17. Section 8.10.2.3.1 Operational Workforce, page 8.10-19.	Yes	
Appendix B (g) (7) (A) (v)	Availability of temporary and permanent housing; and	Section 8.10.1.3 Housing, page 8.10-9. Section 8.10.2.2.3 Housing Impacts, page 8.10-17.	Yes	

Adequacy Issue: Adequate x Inadequate ___ **DATA ADEQUACY WORKSHEET** Revision No. 1 Date November 3, 2006

Technical Area: **Socioeconomics** Project: Humboldt Bay Repowering Project Technical Staff: Joseph Diamond Ph. D.

Project Manager: John Kessler Docket: 06-AFC-7 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 construction schedule.	Section 8.10.1.6 Education, pages 8.10-12 and 13. Section 8.10.1.7 Public Services and Facilities, pages 8.10-13 and 14. Section 8.10.1.8 Utilities, page 8.10-14.	Yes	
Appendix B (g) (7) (B)	A discussion of the socioeconomic impacts caused by the construction and operation of the project, including:	—	—	
Appendix B (g) (7) (B) (i)	The number of workers to be employed each month by craft during construction and operation;	Table 8.10-11 Construction Personnel Craft by Month (months after Notice to Proceed), page 8.10-16. Table 8.10-13 Typical Plant Operation Workforce, page 8.10-19.	Yes	
Appendix B (g) (7) (B) (ii)	An estimate of the number and percentage of workers who will commute daily, commute weekly, or relocate in order to work on the project;	Section 8.10.2.2.2 Population Impacts, page 8.10-15. Section 8.10.2.3.2 Population Impacts, page 8.10-19. Section 8.12.2.2 Construction Traffic, pages 8.12-12 and 13.	Yes	
Appendix B (g) (7) (B) (iii)	An estimate of the potential population increase caused directly and indirectly by the project;	Section 8.10.2.2.2 Population Impacts, page 8.10-15. Section 8.10.2.3.2 Population Impacts, page 8.10-19.	Yes	

Adequacy Issue: Adequate x Inadequate ___ **DATA ADEQUACY WORKSHEET** Revision No. 1 Date November 3, 2006

Technical Area: **Socioeconomics** Project: Humboldt Bay Repowering Project Technical Staff: Joseph Diamond Ph. D.

Project Manager: John Kessler Docket: 06-AFC-7 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) (iv)	The potential impact of population increase on housing during the construction and operations phases;	Section 8.10.2.2.3 Housing Impacts, page 8.10-17. Section 8.10.2.3.2 Population Impacts, page 8.10-19.	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. 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 operation phases;	Section 8.10.2.2.6 Impacts on Education, page 8.10-18. Section 8.10.2.2.7 Impacts on Public Services and Facilities, pages 8.10-18 to 19. Section 8.10.2.2.8 Impacts on Utilities, page 8.10-19. Section 8.10.2.3.6 Impacts on Education, page 8.10-20. Section 8.10.2.3.7 Impacts on Public Services and Facilities, page 8.10-20. Section 8.10.2.3.7 Impacts on Public Services, page 8.10-20.	Yes	
Appendix B (g) (7) (B) (vi)	An estimate of applicable school impact fees;	Section 8.10.2.3.6 Impacts on Education, page 8.10-20.	Yes	
Appendix B (g) (7) (B) (vii)	An estimate of the total construction payroll and an estimate of the total operation payroll;	Section 8.10.2.2.4 Impacts to the Local Economy and Employment, page 8.10-17. Supplement In Response to Data Adequacy Review of the AFC, November 2006, Section 8.10 Socioeconomics, page DA-9.	~~No~~ Yes	~~Please provide an estimate of the total operation payroll.~~

Adequacy Issue: Adequate x Inadequate ___ **DATA ADEQUACY WORKSHEET** Revision No. 1 Date November 3, 2006

Technical Area: **Socioeconomics** Project: Humboldt Bay Repowering Project Technical Staff: Joseph Diamond Ph. D.

Project Manager: John Kessler Docket: 06-AFC-7 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) (viii)	An estimate of the expenditures for locally purchased materials for the construction and operation phases of the project; and	Section 8.10.2.2.4 Impacts to the Local Economy and Employment, page 8.10-17. Section 8.10.2.3.4 Impacts to the Local Economy and Employment, page 8.10-20. Supplement In Response to Data Adequacy Review of the AFC, November 2006, Section 8.10 Socioeconomics, page DA-9.	~~No~~ Yes	~~Please provide an estimate for locally purchased materials for the operation phase of the project.~~
Appendix B (g) (7) (B) (ix)	An estimate of the capital cost of the project of the potential impacts on tax revenues from construction and operation of the project.	Section 8.10.2.2.5 Fiscal Impacts, page 8.10-18. Section 8.10.2.3.5 Fiscal Impacts, page 8.10-20. Supplement In Response to Data Adequacy Review of the AFC, November 2006, Section 8.10 Socioeconomics, pages DA-9 & 10.	~~No~~ Yes	~~Please provide a quantitative estimate of the potential impact on tax revenues from the operation of the project (i.e., sales and use tax and property tax).~~
Appendix B (h) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of 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;	Section 8.10.5 Laws, Ordinances, Regulations, and Standards, pages 8.10-22 to 24.	Yes	

Adequacy Issue: Adequate x Inadequate ___ **DATA ADEQUACY WORKSHEET** Revision No. 1 Date November 3, 2006

Technical Area: **Socioeconomics** Project: Humboldt Bay Repowering Project Technical Staff: Joseph Diamond Ph. D.

Project Manager: John Kessler Docket: 06-AFC-7 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 (h) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits 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 (h) (2)	A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).	8.10.4 Mitigation Measures, page 8.10-22.	Yes	
Appendix B (h) (3)	The name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for the agency.	Table 8.10-15 Agencies and Agency Contacts for HBRP Socioeconomics, page 8.10-24.	Yes	
Appendix (h) (4)	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 8.10.7 Permits and Permitting Schedule, page 8.10-24.	Not Applicable	

Adequacy Issue: Adequate **X** Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. 1 Date November 3, 2006

Technical Area: **Transmission System Eng.**

Project: Humboldt Bay Repowering Project

Technical Staff: Ajoy Guha, P.E.

Project Manager: John Kessler

Docket: 06-AFC-7

Technical Senior: Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (i) (2) (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 2.4, Page 2-5. Section 5.2, Page 5-1to 5-2.	Yes	
Appendix B (i) (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.	Sections 5.2, Pages 5-1 to 5-2. Appendix 5A. Figures 5.2-1, 5.2-3 & 5.2-4.	Yes	

Adequacy Issue: Adequate **X** Inadequate ___

DATA ADEQUACY WORKSHEET

Revision No. 1 Date November 3, 2006

Technical Area: **Transmission System Eng.**
Project Manager: John Kessler

Project: Humboldt Bay Repowering Project
Docket: 06-AFC-7

Technical Staff: Ajoy Guha, P.E.
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. This description shall include power load flow diagrams which demonstrate conformance or nonconformance with utility reliability and planning criteria at the time the facility is expected to be placed in operation and five years thereafter; and	Section 1.3 Section 5.2, Pages 5-1 to 5-2. Section 5.3, Pages 5-11 to 5-12. Transmission Interconnection System Impact Study, Appendix 5B. Supplement In Response to Data Adequacy Review of the AFC, November 2006. Pages DA-2 to DA-7. Attachments DA5-1, DA5-2, & DA5-3.	~~No~~ Yes	~~1.Provide a complete electrical one-line diagram of the HBRP Plant substation (hard or electronic copies) showing all the equipment for generators' interconnection with the substation including any bus duct connectors, 15 kV switchgear, breakers and disconnect switches on the low voltage side and their ratings. Also provide in the diagram continuous ratings of breakers, buses and disconnect switches on the 60 kV and 115 kV sides.~~ ~~2.Provide a conceptual drawing of poles or structures and terminations of the proposed new 500-700 feet long 115 kV and 60 kV overhead lines within the fence lines of HBRP substation showing ground clearances, insulators and their configuration, size of conductors and routes.~~ ~~3.The HBRP target on line date is Summer/Fall, 2009, but the System Impact Study (SIS) is based on 2008 system conditions. In order to demonstrate conformance with the NERC/WECC, and/or Utility planning standards and reliability criteria, please submit a new or updated SIS (to demonstrate conformance with utility reliability and planning criteria) for the nominal 163 MW HBRP under 2009 Summer peak & off peak and Winter system conditions. Alternatively provide confirmation from PG&E and the CAISO verifying the validity of the submitted SIS for the aforementioned 2009 system conditions. In addition as far as the submitted SIS or revised SIS is concerned, provide the following additional information:~~ ~~a. List all major study assumptions in the base cases including imports and exports to the system, major Path flows (such as Path 15 & 26, COI), major generations including queue generation projects and hydro, loads in the area systems (refer to Section 3 of the SIS).~~ ~~b. Reactive Power Analysis results indicate several low voltage criteria violations under N-1 contingency conditions due to addition of the proposed HBRP. List mitigation measures considered (required) including if any alternate planned PG&E mitigation measures or projects have been considered (like installing new lines or shunt capacitors) in the area (refer to section 10 of the SIS). Dynamic Stability study results indicate stability and frequency criteria violations under contingency conditions. List mitigation measures considered (required) and those selected (if available) for all criteria violations (refer to section 7 of the SIS).~~ ~~c. Provide electronic copies of *.sav and *.drw, *.dyd and *.swt GE PSLF files and EPCL contingency files in a CD (if available).~~

Adequacy Issue: Adequate **X** Inadequate ___ **DATA ADEQUACY WORKSHEET** Revision No. 1 Date November 3, 2006

Technical Area: **Transmission System Eng.** Project: Humboldt Bay Repowering Project Technical Staff: Ajoy Guha, P.E.

Project Manager: John Kessler Docket: 06-AFC-7 Technical Senior: Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	ADEQUATE YES OR NO	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS
Appendix B (b) (2) (D)	A description of how the route and additional transmission facilities were selected, and the consideration given to engineering constraints, environmental impacts, resource conveyance constraints, and electric transmission constraints.	Section 5.2, Pages 5-1 to 5-2. Transmission Interconnection System Impact Study, Appendix 5B.	Yes	
Appendix B (g) (18) (A)	The locations and a description of the existing switchyards and overhead and underground transmission lines that would be affected by the proposed project.	Section 5.2, Page 5-1 to 5-2	Yes	
Appendix B (g) (18) (B)	An estimate of the existing electric and magnetic fields from the facilities listed in (A) above and the future electric and magnetic fields that would be created by the proposed project, calculated at the property boundary of the site and at the edge of the rights of way for any transmission line. Also provide an estimate of the radio and television interference that could result from the project.		NA	
Appendix B (g) (18) (C)	Specific measures proposed to mitigate identified impacts, including a description of measures proposed to eliminate or reduce radio and television interference, and all measures taken to reduce electric and magnetic field levels.		NA	
Appendix B (h) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of 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;	Section 5.5, Page 5-16 to 5-17. Appendix 10D. Section 10.4, Pages 10-3 to 10-4..	Yes	

Adequacy Issue: Adequate **X** Inadequate ____

DATA ADEQUACY WORKSHEET

Revision No. 1 Date November 3, 2006

Technical Area: **Transmission System Eng.**

Project: Humboldt Bay Repowering Project

Technical Staff: Ajoy Guha, P.E.

Project Manager: John Kessler

Docket: 06-AFC-7

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) (1) (B)	Tables which identify each agency with jurisdiction to issue applicable permits and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.	Section 5.5.7, Pages 5-19 to 5-20.	Yes	
Appendix B (h) (2)	A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).	Section 5.5, Pages 5-16 to 5-17. Appendix 10D.	Yes	
Appendix B (h) (3)	The name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for the agency.		NA	
Appendix B (h) (4)	A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.	~~Section 5.5.7, Pages 5-19 to 5-20~~. Supplement in Response to Data Adequacy Review of the AFC, November 2006 Pages DA7-DA-8.. Attachment DA5-4	~~No~~ Yes	~~Indicate when the CA ISO preliminary and final approvals are expected to be obtained~~.