

**CALIFORNIA ENERGY COMMISSION**

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512  
www.energy.ca.gov



October 31, 2007

Mr. Gregory Lamberg  
Senior Vice President, Development  
Radback Energy  
Representing Pacific Gas and Electric Company  
P.O. Box 1690  
Danville, CA 94526

<b>DOCKET</b>	
<b>06-AFC-7</b>	
<b>DATE</b>	OCT 31 2007
<b>RECD.</b>	OCT 31 2007

**RE: HUMBOLDT BAY REPOWERING PROJECT - DATA REQUESTS #s 86 - 105**

Dear Mr. Lamberg:

Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests (#s 86 - 105) is being made in the areas of Air Quality (#s 86 - 100), Cultural Resources (#s 101 - 103) and Visual Resources (#s 104 - 105). Written responses to the enclosed data requests are due to the Energy Commission staff on or before December 5, 2007, or at such later date as may be mutually agreeable.

The Air Quality portion of this data request is in response to PG&E's proposal dated September 28, 2007 for modifying the Humboldt Bay Repowering Project Application for Certification (AFC) to increase the exhaust stack height from 75 to 100 feet for the reciprocating engine-generator sets. The proposal included the filing of associated revisions or clarifications to sections of the AFC including Air Quality, Land Use, Noise, Public Health and Visual Resources. The Cultural and Visual Resources portions of this data request are a result of new staff members recently being assigned to the project and requiring some additional information or clarification in these technical areas.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to both the Committee and me within 20 days of receipt of this notice. The notification must contain the reasons for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, Section 1716 (f)).

If you have any questions, please call me at (916) 654-4679 or email me at [jkessler@energy.state.ca.us](mailto:jkessler@energy.state.ca.us).

Sincerely,  
*John S. Kessler*  
John S. Kessler  
Project Manager

## Enclosure

cc: Docket (06-AFC-7)  
Proof of Service List  
Agency List

**PROOF OF SERVICE / REVISED 10/25/07 FILED WITH  
ORIGINAL MAILED FROM SACRAMENTO ON 10/31/07  
TP**

**Technical Area:** Air Quality  
**Authors:** Brewster Birdsall

## **BACKGROUND**

### **Emergency Use**

Staff's Issues Identification Report of November 30, 2006 identified Fuel Supply and Emission Limits as an issue involving potential impacts that could be difficult to mitigate. In September 2007, the Project Description was revised to specify that the Wärtsilä engines would operate up to 50 hours per year for testing and maintenance in a diesel-firing mode and only for periods of 24 hours or less during an "emergency." On October 24, 2007, the North Coast Unified Air Quality Management District (NCUAQMD) issued a Preliminary Determination of Compliance (PDOC) that would allow 100 hours per year per engine in diesel mode, regardless of circumstance. Because PG&E's Air Quality analysis filed on September 28, 2007 did not address operating HBRP in diesel mode for up to 1,000 engine-hours per year, staff's analysis will need to reflect the increased level of diesel mode operation.

The applicant defines "emergency" (AFC Revision p.8.1-76) as any time when the natural gas supply is curtailed. The NCUAQMD definition of "emergency" in the PDOC does not include natural gas curtailments. Staff continues to be concerned that natural gas curtailments during cold winter periods or forced operation for reliability requirements could lead to HBRP operating in diesel mode for more than 50 hours per year. A higher level of diesel use would cause impacts beyond those anticipated by the applicant.

Because HBRP is subject to natural gas curtailment by PG&E's California Public Utilities Commission (CPUC) Gas Tariff Rule 14 (AFC Section 2.7.3), the applicant's definition of "emergency" does not follow that of the Airborne Toxic Control Measure for Stationary Compression Ignition Engines. Section 93115(d)(25), title 17, California Code of Regulations (CCR) that defines "emergency use" as: ". . . providing electrical power or mechanical work during any of the following events and subject to the following conditions: (A) the failure or loss of all or part of normal electrical power service or normal natural gas supply to the facility: 1. which is caused by any reason other than the enforcement of a contractual obligation the owner or operator has with a third party or any other party; and 2. which is demonstrated by the owner or operator to the district APCO's (Air Pollution Control Officer's) satisfaction to have been beyond the reasonable control of the owner or operator; . . ." As such, PG&E's obligation to provide power during a curtailment may not qualify as an "emergency."

### **DATA REQUEST**

86. Please describe the basis for the definition of "emergency" (p.8.1-76) and whether this definition is derived from the guidance, regulations, precedent, or policy of any air quality management agency, the California Public Utilities Commission, or the California Independent System Operator.

87. Please identify whether the operations of Humboldt Bay Power Plant Unit 2 (HB2) on fuel oil during August and September 1-28, 2006 (shown on AFC Revision Table

8.1A-9) and the operations of both HB1 and HB2 during the month of December, 2006 would constitute an "emergency" as defined on p.8.1-76.

88. Please identify whether the operations of Mobile Emergency Power Plant Units 2 and 3 (MEPP2 and MEPP3) for virtually every month from October 2004 through December 2006 (shown on Table 8.1A-9) would constitute an "emergency" as defined on p. 8.1-76 of the AFC Revision.

## **BACKGROUND**

### **Emission Offset Baseline Calculations**

The definition of Historic Actual Emissions, per NCUAQMD Rule 110, Section 6.2.2 excludes emissions that are unrepresentative of normal operations. Staff considers "emergency use" to be unrepresentative of normal operations. In evaluating the emission offset calculations, it appears that some of the baseline emissions from the existing Humboldt Bay Power Plant occurred while that facility was operating in an "emergency" condition. Operations during emergency circumstances (which generate much higher air pollution) may not be suitable for offsetting the "normal" operations of the proposed HBRP.

## **DATA REQUEST**

89. Please quantify the emissions from the existing sources (specifically HB2, MEPP2, and MEPP3) that occurred during "emergency use" of the existing Humboldt Bay Power Plant over the 2-year period immediately preceding the date the AFC was filed—September 29, 2004 through September 28, 2006—according to the applicant's definition of "emergency use."
90. Please provide a table of "emergency use" emissions from the existing sources in a format similar to that of AFC Revision Table 8.1A-1.

## **BACKGROUND**

### **Startups and Nitrogen Dioxide Ambient Impacts**

Steady operation of 8 engines in natural gas mode (at 3.1 lb/hr oxides of nitrogen (NO<sub>x</sub>) each) with simultaneous startup of two engines in diesel mode (at 164 lb/hr NO<sub>x</sub> each) would result in a one hour emission rate of 353 lb/hr NO<sub>x</sub>. In the September 2007 filing of the AFC Revision on page 8.1-28, a limit of 392 lb/hr NO<sub>x</sub> is requested for this operational scenario.

A limit of 676 lb/hr NO<sub>x</sub>, which would allow simultaneous startup of only four engines in diesel mode, is proposed for periods of "emergency use" under the applicant's definition (AFC Revision p.8.1-76), and AFC Revision Table 8.1-27 shows that these emissions would cause impacts equal to the ambient air quality standard for NO<sub>2</sub>.

## **DATA REQUEST**

91. Please provide the assumptions and calculations used to derive the 392 lb/hr NO<sub>x</sub> limit that is being requested or discuss why a limit of 353 lb/hr NO<sub>x</sub> would not be appropriate. This response should indicate whether PG&E would accept

a limit of no more than two simultaneous diesel-mode startups during times of natural gas mode operation.

92. Please provide the assumptions and calculations used to derive the 676 lb/hr NO<sub>x</sub> limit for emergency use that is being requested. This response should indicate whether PG&E would accept a limit of no more than four simultaneous diesel-mode startups at any time.
93. Please summarize the modeling steps leading to the NO<sub>2</sub> impacts shown in Table 8.1-27. For staff to verify the modeling behind these NO<sub>2</sub> results, this response should name the model used for each NO<sub>2</sub> impact in this table, name the specific modeling output files and DVD filepath that show each result, and identify the receptor location and time of each impact.

## **BACKGROUND**

### **PM10 and PM2.5 Emission Limits**

Steady operation of 10 engines in natural gas/diesel pilot mode (at 3.6 lb/hr of Particulate Matter  $\leq$  10 microns (PM10) each) would result in daily emissions of 864 lb/day PM10. In the September 2007 filing of the AFC Revision on page 8.1-31, two daily limits of 1,542 lb/day and 2,203 lb/day PM10 are requested which are apparently intended to serve as limits for natural gas/diesel pilot and diesel modes respectively. The dispersion modeling results depend on the project achieving the 1,542 lb/day PM10 limit, but steady operation of 10 engines in diesel mode (at 10.8 lb/hr PM10 each) would result in maximum emissions of 2,592 lb/day PM10.

## **DATA REQUEST**

94. Please provide the assumptions and calculations used to derive the 1,542 lb/day PM10 limit that is being requested. This response should indicate whether PG&E would accept a limit of no more than 1,542 lb/day PM10 at any time.
95. Please provide the assumptions and calculations used to derive the 2,203 lb/day PM10 limit that is being requested, and explain the discrepancy between the requested limit of 2,203 lb/day and the maximum emissions of 2,592 lb/day PM10 in diesel mode.
96. Please clarify which days the 1,542 lb/day limit would apply because page 8.1-31 of the AFC Revision says that both this limit and the 2,203 lb/day limit would apply on any day when one or more engines are operated in diesel mode. If necessary, please update the impacts analysis to reflect impacts during emissions of 2,203 lb/day PM10.

## **BACKGROUND**

### **PM2.5 Background Data**

Demonstrating compliance with ambient air quality standards normally involves five years of modeled impacts in conjunction with monitored background data. The compliance demonstration supplied in AFC Revision Section 8.1.2.8.3 for PM2.5 addresses four out of five years (2001 – 2004).

## **DATA REQUEST**

97. Please provide information demonstrating that the project would not cause or substantially contribute to violations of the PM<sub>2.5</sub> standards over five years. This response should involve reasonable assumptions of background conditions during 2005 for missing background data (e.g., an assumption of maximum background levels similar to those shown in AFC Revision Table 8.1-25 or interpolation of gaps could be used).

## **BACKGROUND**

### **PM<sub>2.5</sub> Ambient Impacts**

Staff's Issues Identification Report on November 30, 2006 stated the project may have difficulty demonstrating compliance with the new federal PM<sub>2.5</sub> standard. AFC Revision Section 8.1.2.8.3 provides a new analysis that raises numerous questions.

A new CTDMPPLUS modeling analysis is used to generate the PM<sub>2.5</sub> impacts shown in Table 8.1-28 and Appendix 8.1, Table 8.1B-12, but it is not clear how the CTDMPPLUS output files (i.e., "conc" files) provided on the DVD correspond to the daily impacts in Table 8.1B-12. Given the applicant's efforts to use CTDMPPLUS, the role of CTSCREEN in modeling PM<sub>2.5</sub> impacts is unclear. Additional description or a flowchart of modeling steps would be helpful in understanding how these two models are used together with preprocessors and postprocessors.

## **DATA REQUEST**

98. Please describe the role of CTSCREEN in modeling PM<sub>2.5</sub> impacts. This response should include an example calculation for any CTSCREEN results used in determining the highest three-year average 98th percentile daily concentrations (as implied on p.19 of the protocol in Attachment 8.1B-1).
99. Please summarize the steps taken leading to the data shown in Table 8.1B-12. Ideally, this response would choose one day of high modeled impacts in CTDMPPLUS (e.g., the June 20, 2003 modeled impact level of 33.21 µg/m<sup>3</sup>) and identify the name of each model and pre- or post-processing executable file used to arrive at the value in Table 8.1B-12, name the specific modeling output files and DVD filepath that show the interim results of the models and executables, and identify the receptor location for the impact.

## **BACKGROUND**

In Section 8.1 of the revised Air Quality analysis filed on September 28, 2007, it states on page 8.1-69 that "The PM<sub>10</sub> increments analysis will be provided as a separate, supplemental report."

## **DATA REQUEST**

100. Please provide the PM<sub>10</sub> increments analysis.

**Technical Area:** Cultural Resources  
**Author:** Beverly Bastian

## **BACKGROUND**

In comparing AFC Figure 2.3-2 and Figure 4 of PAR Environmental Services' Cultural Resources Study dated 2003 (AFC Appendix 8.3B), it appears that several facilities would need to be demolished to accommodate the proposed HBRP that are not on the list of planned removals (p. 2-1; p. 8.3-13). These possible additional removals are located east of the Hot Machine Shop and include:

- oily water separator
- steam-cleaning station
- low-volume waste facility

Staff assumes that all structures 45 years of age, or older, are associated with the original installation and operation of the HBPP, and thus could be contributing elements to the Humboldt Bay Power Plant Historic District, as defined by J. Feldman. Staff has determined that this historic district is potentially eligible for the California Register of Historical Resources (CRHR). Demolition is a significant adverse impact, so staff needs to identify all structures that are contributors to the historic district that would be demolished to accommodate the construction of the HBRP, so that the impact to these potentially significant historic resources can be mitigated.

## **DATA REQUEST**

101. Please provide a complete list of the structures and facilities that are 45 years of age or older and that would be demolished to accommodate the construction of the HBRP.

## **BACKGROUND**

From the AFC discussion of the interconnection of the proposed HBRP to the existing transmission system (Section 5.0), staff has identified two structures that either are, or may be, 45 years of age or older, making them potential historic resources under CEQA. Information in Section 5.0 seems to indicate that the proposed project would require modifications to these two structures, which could result in significant adverse impacts if the structures are potential historic resources. Staff needs more information on these structures and the potential impacts to complete its analysis.

The first structure of concern is the existing Humboldt Bay Power Plant (HBPP) Substation. The applicant has established that this structure is probably at least 45 years of age (constructed between 1958 and 1963) and has not been significantly altered (J. Feldman's updated Department of Parks and Recreation Historic District Form 523, p. 5). Staff has determined that the Humboldt Bay Power Plant Historic District defined by J. Feldman is potentially a significant historic district (that is, it is potentially eligible for the CRHR), and that the HBPP substation is a contributing element of that district. AFC page 5-2 states that three circuit breakers (two 60-kV, one 115-kV) would be replaced at "the interconnection points." The System Impact Study (p. 13) indicates that these replacements would be made at the HBPP substation. Because the HBPP substation is a contributing element of a potentially significant historic district,

the breaker replacements would require evaluation as a potentially significant impact by a qualified architectural historian.

The second structure of concern is the existing PG&E Humboldt Bay/Humboldt #1 115-kV transmission line. If the existing Humboldt Bay/Humboldt #1 115-kV transmission line is 45 years of age or older, or if it was constructed in connection with the installation or operation of Unit 3, staff must consider it a potential historic resource under CEQA and possibly a contributing element of the Humboldt Bay Power Plant Historic District. HBRP's interconnection to this structure could be a significant impact if the line is a significant cultural resource. Thus a qualified architectural historian may need to assess any interconnection alterations of the Humboldt Bay/Humboldt #1 115-kV transmission line as an impact to a potentially significant cultural resource.

### **DATA REQUESTS**

102. For the proposed replacement of three circuit breakers in the HBPP Substation, please provide the following:
  - a. An evaluation by a qualified architectural historian as to whether the three circuit breaker replacements at the HBPP Substation would be a significant impact; and
  - b. The resume of the evaluator.
  
103. For the proposed alterations to the Humboldt Bay/Humboldt #1 115-kV transmission line, please provide the following:
  - a. The results of research by a qualified architectural historian as to the age of the Humboldt Bay/Humboldt #1 115-kV transmission line and its association, if any, with the installation or operation of Unit 3.
  - b. If the Humboldt Bay/Humboldt #1 115-kV transmission line is 45 years of age or older, or if it was associated with the installation or operation of Unit 3, an evaluation by a qualified architectural historian as to whether the proposed HBRP interconnection to this line would be a significant impact; and
  - c. The resume of the evaluator.

**Technical Area:** Visual Resources  
**Author:** Mark Hamblin

## **BACKGROUND**

The North Coast Unified Air Quality Management District's Preliminary Determination of Compliance includes a proposed condition requiring the installation of a platform(s) of some sort on the exhaust stacks for emissions testing, yet the exhaust stacks shown in the project's photo simulations do not show a platform(s) and any associated equipment. Staff is attempting to clarify the design, color and finish, location, and size of platform(s) and equipment on the stacks.

## **DATA REQUESTS**

104. Please provide a written description of the design, color and finish, location, and size of platform(s) and associated equipment on the exhaust stacks in accordance to the North Coast Air District requirements.
105. Please provide a revised photo simulation and electronic file of the proposed project for KOP 1 (Figure 8.13-5) and KOP 2 (Figure 8.13-6) showing the design, color and finish, location, and size of platform(s) and associated equipment on the exhaust stacks in individual life-size (approximately tabloid size) photos.



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE  
STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE  
HUMBOLDT BAY REPOWERING PROJECT  
BY PACIFIC GAS AND ELECTRIC COMPANY

Docket No. 06-AFC-7  
PROOF OF SERVICE  
(Revised 10/25/07)

**INSTRUCTIONS:** All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION  
Attn: Docket No. 06-AFC-07  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.state.ca.us](mailto:docket@energy.state.ca.us)

**APPLICANT**

Jon Maring  
PGE  
245 Market Street  
San Francisco, CA 94105  
[J8m4@pge.com](mailto:J8m4@pge.com)

Susan Strachan  
Environmental Manager  
Strachan Consulting  
P.O. Box 1049  
Davis, CA 95617  
[strachan@dcn.org](mailto:strachan@dcn.org)

**APPLICANT'S CONSULTANTS**

\*Gregory Lamberg  
Project Manager,  
Radback Energy  
P.O. Box 1690  
Danville, CA 94526  
[Greg.Lamberg@Radback.com](mailto:Greg.Lamberg@Radback.com)

Douglas M. Davy, Ph.D.  
CH2M HILL Project Manager  
2485 Natomas Park Drive, Suite 600  
Sacramento, CA 95833  
[ddavy@ch2m.com](mailto:ddavy@ch2m.com)

**COUNSEL FOR APPLICANT**

Scott Galati, Project Attorney  
GALATI & BLEK, LLP  
555 Capitol Mall, Suite 600  
Sacramento, CA 95814  
[sgalati@gb-llp.com](mailto:sgalati@gb-llp.com)

**INTERESTED AGENCIES**

Tom Luster  
California Coastal Commission  
45 Fremont, Suite 2000  
San Francisco, CA 94105-2219  
[tluster@coastal.ca.gov](mailto:tluster@coastal.ca.gov)

Paul Didsayabutra  
Ca. Independent System Operator  
151 Blue Ravine Road  
Folsom, CA 95630  
[PDidsayabutra@caiso.com](mailto:PDidsayabutra@caiso.com)

Electricity Oversight Board  
770 L Street, Suite 1250  
Sacramento, CA 95814  
[esaltmarsh@eob.ca.gov](mailto:esaltmarsh@eob.ca.gov)

### **INTERVENORS**

#### **ENERGY COMMISSION**

JEFFREY D. BYRON  
Associate Member  
[jbyron@energy.state.ca.us](mailto:jbyron@energy.state.ca.us)

JOHN L. GEESMAN  
Presiding Member  
[jgeesman@energy.state.ca.us](mailto:jgeesman@energy.state.ca.us)

Gary Fay  
Hearing Officer  
[gfay@energy.state.ca.us](mailto:gfay@energy.state.ca.us)

John Kessler  
Project Manager  
[jkessler@energy.state.ca.us](mailto:jkessler@energy.state.ca.us)

Lisa DeCarlo  
Staff Counsel  
[ldecarlo@energy.state.ca.us](mailto:ldecarlo@energy.state.ca.us)

Mike Monasmith  
Public Adviser's Office  
[pao@energy.state.ca.us](mailto:pao@energy.state.ca.us)

### **DECLARATION OF SERVICE**

I, Terry Piotrowski, declare that on October 31, 2007, I deposited copies of the attached Humboldt Bay Repowering Project – Data Requests #s 86 - 105 in the United States mail at Sacramento, CA with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

**OR**

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

  
Terry Piotrowski