

Memorandum

Date: October 31, 2007
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To: Commissioner John Geesman, Presiding Member
Commissioner Jeffrey Byron, Associate Member

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From: California Energy Commission – John S. Kessler *AK*
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Project Manager

Subject: **HUMBOLDT BAY REPOWERING PROJECT (06-AFC-7) STATUS REPORT 4**

The following is staff's Status Report 4 for Pacific Gas and Electric's (PG&E's) proposed Humboldt Bay Repowering Project (HBRP), and also serves as a response to the Committee Order dated October 26, 2007.

Recent Developments & Outstanding Issues

NCUAQMD Issues its PDOC

The North Coast Unified Air Quality Management District (NCUAQMD) issued its Preliminary Determination of Compliance (PDOC) on October 24, 2007. Staff has already begun reviewing and developing comments on the PDOC, and has suggested to the NCUAQMD that it hold a public workshop during the 30-day PDOC public comment period which expires on or about November 26, 2007. NCUAQMD has agreed to conduct the workshop which has been tentatively scheduled for either November 28, 30 or December 3, 2007. Staff's concept for the workshop is for PG&E, staff and the air quality agencies to work through any conditions of the PDOC that may need clarification or that may conflict with one another. Staff's intent is for this workshop to be scheduled in time for its results to be incorporated into the PSA before it is published, which would support a more complete analysis by staff in the PSA and narrow the number of outstanding issues to be resolved before the Final Staff Assessment (FSA).

PG&E Completes its Revised Air Quality Analysis

As of September 2007, PG&E completed its significant revision of the air quality analysis in response to comments it received during May 2007 from staff of the Energy Commission and the air quality agencies including U.S. EPA, California Air Resources Board (ARB), and the North Coast Unified Air Quality Management District (NCUAQMD). Specifically, the HBRP as originally proposed would have caused a violation of the federal standard for PM2.5 for the 24-hour average concentration as well as result in health risks above the significance threshold as defined under California EPA's Air Toxics Hot Spots Program Risk Assessment Guidelines.

In revising its air quality analysis, PG&E has identified the need to modify its proposed project by increasing the height of the exhaust stacks from 75 to 100 feet for the 10 engine-generator units. This change would help improve the dispersion of exhaust emissions, and reduce the project's PM2.5 effects and cancer risk. Another factor contributing to lessening the effects of

project emissions is that the applicant expects PM emissions will be 30% lower than the manufacturer's guaranteed emission rate.

The issues previously identified by staff in its Status Report 3, including those shared by the air quality agencies, and the resulting changes in issue status as a result of PG&E's modified project and revised air quality analysis, are summarized as follows:

PM2.5 Violations – The previous modeling provided by PG&E showed the project would cause a violation of the federal standard for PM2.5 for the 24-hour average concentration. PG&E has indicated in their revised air quality analysis that the proposed project would meet this PM2.5 standard. Given that aspects of the applicant's modeling effort are still not readily transparent, staff is performing its own review and modeling of PG&E's revised project.

Cancer Risk – For the previous project proposed by PG&E, the preliminary results of staff's Health Risk Assessment showed cancer risk considerably above the significance threshold of 10 in one million as defined under California EPA's Air Toxics Hot Spots Program Risk Assessment Guidelines. The initial analysis indicated that the project would result in a cancer risk of 11 in one million for operation under natural gas with diesel pilot, 37 in one million based on 100 hours of diesel operation, and 212 in one million based on 800 hours of annual diesel operation for each engine-generator unit. Staff is conducting additional health risk assessments using the revised project's description of a 100-foot stack height and varying hours of annual diesel fuel use for each engine-generator unit. The scenarios for annual hours of diesel operation for all purposes would include 50 hours per engine (per PG&E for maintenance and testing and no limit for other purposes), 100 (per the PDOC), and a substantiated upper limit as determined by staff or as to be provided by PG&E. These scenarios would be evaluated both with and without the 30 percent reduction in diesel PM as claimed by the applicant.

Modeling Approach Assuming Merged Exhaust Stacks – Previously, PG&E's air dispersion modeling approach assumed it was appropriate to merge two sets of five engine stacks into two equivalent stacks (rather than modeling as 10 individual stacks), which staff and the air quality agencies believed was not consistent with U.S. EPA guidelines given the stack spacing. The merged stack modeling assumption could have led to more favorable emission dispersion conditions as represented by modeling than would have been actually experienced by the project. PG&E has since revised its approach to model the exhaust as 10 individual stacks, and this issue appears to be resolved.

Lack of Emission Factors – Staff and the air quality agencies remain concerned that the lack of specific air pollutant and toxic air containment emission factors for the proposed generation technology, Wärtsilä dual-fueled engines, creates uncertainty regarding emissions and impacts. The use of surrogate ARB database emission factors by both staff and applicant for diesel-fired engines and natural gas-fired engines may not be

representative of these proposed engines that fire natural gas and some diesel pilot fuel simultaneously. While staff has been encouraging PG&E to obtain actual emission factors for the proposed engines, this issue may be resolved by NCUAQMD including conditions, and by staff recommending Conditions of Certification if the HBRP is licensed, that would require emission testing within one year following commercial operation, and if necessary, re-evaluation of permit and license conditions as appropriate. However, the current PDOC leaves it unclear how such testing would be required and conducted.

Inconsistency in Hours of Diesel Operation - Staff remains concerned regarding the potential inconsistency in the proposed hours of diesel operation. Previously, the inconsistency resulted from PG&E's proposal specifying up to 800 hours per year of diesel operation per engine-generator unit in its Prevention of Significant Deterioration permit (for maintenance, testing, operations during gas curtailments and emergencies), and 100 hours per engine in its New Source Review permit and initial Health Risk Assessment (HRA). Under PG&E's latest proposal, the inconsistency results from their interpretation of emergency conditions. PG&E now proposes up to 50 hours of diesel operation for maintenance and testing, with no upper limit on hours for operations during natural gas supply curtailments and emergencies and no HRA for these operations. PG&E appears to be advocating that natural gas curtailments should be considered emergencies, which would be inconsistent with the definition of emergency provided under the Airborne Toxic Control Measure for Stationary Compression Ignition Engines (Section 93115(d)(25), Title 17, California Code of Regulations).

The California Code of Regulations 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 satisfaction to have been beyond the reasonable control of the owner or operator; . . . “ Because HBRP is subject to natural gas curtailment by PG&E's California Public Utilities Commission (CPUC) Gas Tariff Rule 14, the applicant's definition of emergency does not appear to follow that of the Airborne Toxic Control Measure for Stationary Compression Ignition Engines. As such, PG&E's obligation to provide power during a curtailment may not qualify as an emergency.

At this point in time, the NCUAQMD has addressed the inconsistency by proposing a condition in the PDOC that would limit the hours of diesel operation for maintenance, testing and during gas curtailments to a cumulative total of 1,000 hours for the 10 engine-generators, equivalent to each unit operating at up to 100 hours each, while providing PG&E with the flexibility to meet the condition with any combination of individual unit operating hours. Staff is analyzing the potential environmental impacts and LORS conformance with the project's expected hours of diesel operation, recognizing that the task is problematic and more complicated lacking a clear

description of the hourly limits proposed by PG&E. Staff will also work with the NCUAQMD, and will attempt to establish agreement based on a reasonable and well-supported approach for defining the hourly limits of diesel operation, whether it be in the form currently listed as a PDOC condition by the NCUAQMD, or some other mutually agreeable form.

The staffs of the Energy Commission, District, ARB, and U.S. EPA, as well as PG&E, continue to work cooperatively and expeditiously to support the comprehensive review and analysis of the proposed HBRP.

Schedule

The Applicant has requested the Committee to revise its Scheduling Order and require the PSA to be published by November 21, 2007, which is 28 days following the October 24, 2007 publication of the Preliminary Determination of Compliance (PDOC). Staff is respectfully proposing a PSA publication date of Wednesday, December 19, 2007 in consideration of the following issues affecting staff's schedule:

1. PG&E's Air Quality Analysis - Staff's timely analysis of the potential air quality impacts and conformance with LORS has been hindered by a number of apparent inconsistencies and omissions in PG&E's September 2007 analysis with conflicting emission values, case-specific interpretation of regulations, and inadequate documentation of how some of the modeling elements were integrated. Staff submitted data requests on October 31, 2007. In addition, PG&E has not proposed a limit for its diesel hours of operation during natural gas curtailments.
2. PDOC Review - Staff believes there are a number of outstanding issues and inconsistencies to be resolved between PG&E's proposed project, draft conditions of the PDOC, and PSA conditions being developed by staff. Staff is preparing an extensive list of comments on the PDOC engineering analysis and conditions. The public PDOC Workshop that has been tentatively scheduled for either November 28, 30 or December 3, 2007 would provide PG&E, staff and the air quality agencies the opportunity to most efficiently resolve these issues, supporting a more complete analysis in the PSA, and narrowing the outstanding issues to be resolved before the FSA.
3. Determination of Conformance with the Coastal Act - In consideration that the Coastal Commission is no longer available to evaluate the project due to its current workload, staff will now need to recommend determinations for conformance with the Coastal Act, which creates additional, unanticipated workload.
4. Data Requests – Concurrent with this Status Report, staff is issuing Data Requests as of October 31, 2007 seeking clarification of issues identified in PG&E's revised air quality analysis, as well as in Cultural and Visual Resources for addressing issues identified by staff. Considering PG&E's recently-filed revisions to the AFC were extensive, particularly affecting the entire Air Quality section and related appendices of

the AFC, staff believes it is reasonable to expect that data requests are needed and reasonable. In the interest of time, staff has been discussing these issues with PG&E over the past few weeks. Staff believes this information should be made available in time for staff's analysis before publication of the Preliminary Staff Assessment (PSA).

5. Workload and Staffing Issues - Compounding the overall significant workload in the Siting Division, including three other Staff Assessments to complete in November along with the trend in recent months of managing the filing of a new project application every two to four weeks, staff has experienced some hardships among personnel previously assigned to the project. The Cultural Resources person originally assigned to HBRP is no longer with the Energy Commission, and was recently replaced with another member of staff. The Traffic & Transportation and Visual Resources staff member reviewing the HBRP was stricken in September with a serious illness, and will not be returning within the immediate future. We are currently seeking contract support staff and reassigning Commission staff to help expedite our analyses.

Staff has also revisited the concept of bifurcating the PSA as to whether it could help expedite the overall schedule of the licensing process, and believes bifurcation is unlikely to have this benefit. The technical areas requiring additional time for analysis include air quality, public health, cultural resources, traffic and transportation and visual resources. Considering air quality and public health are the areas having greatest potential for unresolved issues or unmitigated impacts, bifurcation would not result in an overall improvement in efficiency. Bifurcation can also be confusing for public review of staff's analysis. However, staff is prepared to bifurcate the PSA if the Committee believes it is appropriate to do so to expedite the review of the project.

The following table summarizes the Committee's schedule in comparison with staff's currently-projected schedule, which has been updated to reflect the most recent activities.

**Committee's Initial & Staff's Projected Schedule
Humboldt Bay Repowering Project**

Committee's Schedule	Staff's Projected Schedule	Event
N/A	January 11, 2007	Staff transmits Data Request Set 2
January 12, 2007	January 12, 2007	Applicant provides Data Responses – Set 1
January 30, 2007	January 30, 2007	Parties file Status Report 1
January 24, 2007	February 1, 2007	Data Response and Issue Resolution Workshop 1
N/A	February 13, 2007	Applicant provides Data Responses – Set 2
N/A	February 28, 2007	Staff transmits Data Request Set 3
N/A	March 12, 2007	Data Response and Issue Resolution Workshop 2
March 14, 2007	March 14, 2007	Parties file Status Report 2
N/A	March 30, 2007	Applicant provides Data Responses – Set 3
N/A	May 4, 2007	CARB provides preliminary Engineering Analysis to NCUAQMD
N/A	May 11, 2007	Staff transmits letter to applicant identifying preliminary air quality & public health issues
May 11, 2007	May 11, 2007	Parties file Status Report 3
N/A	May 18, 2007	Applicant provides response to staff's 5/11/07 letter indicating its plans & schedule for resolving issues
N/A	September 28, 2007	Applicant provides information in support of resolving issues identified in staff's 5/11/07 letter
March 8, 2007 ¹	October 24, 2007 ("N" in the footnote)	Agency draft determinations and NCUAQMD PDOC
N/A	October 31, 2007	Staff issues data requests on revised project description and air modeling
N/A	October 31, 2007	Staff files Status Report 4
N/A	Nov. 28 or 30 or Dec. 3, 2007	PDOD Workshop
N/A	December 5, 2007	Applicant provides Data Responses
April 6, 2007 ²	December 19, 2007	Staff files Preliminary Staff Assessment (PSA)
May 7, 2007 ³	December 21, 2007	Agency final determinations and NCUAQMD FDOC
May 2, 2007	(To be scheduled in early Jan. 2008)	Staff conducts PSA workshop
June 6, 2007 ⁴	February 19, 2008	Staff files FSA

Please Note: Shaded events indicate those already completed

Proof of Service List
Dockets

¹ Actual date of publication designated "N"

² To be issued on N+30 days

³ Actual date of publication designated "M"

⁴ To be issued on M+30 days

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:

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Attn: Docket No. 06-AFC-07
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DECLARATION OF SERVICE

I, Angela Hockaday, declare that on October 31, 2007, I deposited copies of the attached Humboldt Bay Repowering Project – Status Report 4 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.

Original signature in Dockets
Angela Hockaday